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MEMORANDUM

GLWA State Revolving Fund Loans
Loan Term Options

July 22, 2021

To: Nicolette Bateson

From: Bart Foster

You have asked for analysis and commentary regarding options available to GLWA regarding upcoming loans from the State Drinking Water Revolving Fund (“DWRF”) and the State Clean Water Revolving Fund (“CWRF”) to finance regional system and local system improvements¹. There are two pending DWRF loans scheduled to close next month, and for which decisions regarding financing terms are required immediately. There are several other SRF loans that are in various phases of the application and review process, and for which decisions will be required as their closing dates approach.

Pending DWRF Loans schedule to close in August 2021:

- GLWA Regional System: Loan 7461-02 for approximately \$104 million to fund Phase II of the 14 Mile Road Transmission Main Project;
- DWSD Local System: Loan 7484-01 for approximately \$11.5 million (after loan forgiveness of ~\$1.3 million) to fund the Jefferson Chalmers Water Main Replacement Project

Loan Term Options:

As documented elsewhere, the State has recently made modifications to available amortization terms regarding SRF loans. Prior to the pending loans, all GLWA Regional System SRF loans were required to have 20-year terms. The SRF loans issued by GLWA on behalf of DWSD had the option of either 20-year terms or 30-year terms, since the local system was considered eligible for subsidized disadvantaged community terms. The “disadvantaged” 30-year loans occasionally carried a higher interest rate than the “normal” 20-year loans.

Starting with the two pending loans, GLWA and DWSD have new options. For the Regional System projects, GLWA can opt for a 20-year loan at a 1.875% interest rate or a 30-year loan at a 2.125% interest rate. DWSD has those same options for loans issued through GLWA, and can also select a 40 year “disadvantaged” community loan at 1.875%.

¹ We’ll collectively refer to the DWRF and CWRF loans as “SRF” for State Revolving Fund.

Analysis of GLWA Regional System Loan 7461-02:

A comparative summary of the debt service schedules for the Regional System Loan is attached to this memorandum. In summary, opting for a 30-year term (at a 0.25% higher interest rate) instead of the traditional 20-year term would:

- Result in slightly higher debt service in the early period of the loan while draws were being made;
 - *The short term interest payments are difficult to forecast due to uncertainties of project draws*
- Result in annual debt service savings of approximately \$1.5 million once principal payments start needing to be funded in FY 2024;
 - *Note that the attachment contains both “Cash” Basis and “Accrual” (Set Aside) Basis debt service requirements. Even though the first principal payment does not occur until FY 2025 it will need to be partially funded via MBO transfers starting in FY 2024.*
- Result in approximately \$16 million more in debt service interest over the life of the loan.
- Result in a higher present value of future payments of approximately \$1 million over the life of the loan
 - *This conclusion could vary based on future interest rate assumptions.*

Discussion and Recommendation:

I believe that both options have merit. The 30-year term would align the GLWA debt portfolio through all liens, since GLWA open market debt has always been issued in 30 year terms. SRF funded projects generally have similar useful asset lives as other GLWA debt funded projects so there is a certain rationale for that option. However the 30-year term would also create (although quite moderate) short term interest requirements. The 20-year term is consistent with GLWA’s financial planning strategies and the long-term goal of deleveraging the Water and Sewer Systems, as it results in lower overall debt service. Further, the SRF debt is subordinate to the Senior Lien and Second Lien bond debt service, so the mid-term higher debt service does not place as much budget pressure on the systems as would short-term debt issued at higher lien status. Finally GLWA has structuring options with its open market debt that it does not have with SRF Loans, and can accommodate overall debt strategies through those vehicles.

For those reasons I believe maintaining the 20-year term for Regional System Loan 7461-02 to fund Phase II of the 14 Mile Road Transmission Main Project is the most appropriate option. As noted, I could support either option and I believe it would be appropriate to review the term options on a case by case basis as future opportunities provide.

It is my understanding that the decision has already been made to opt for a 20-year term for the DWSD Local System Loan 7484-01.

Great Lakes Water Authority
SRF Loan Comparison: DWRF 7461-02 - 14 Mile Transmission Project

FY	20-Year Term @ 1.875%						30-Year Term @ 2.125%						Impact of 30-Year Term					
	Cash Basis			Accrual (Set Aside) Basis			Cash Basis			Accrual (Set Aside) Basis			Cash Basis			Accrual (Set Aside) Basis		
	Principal	Interest	Total P&I	Principal	Interest	Total P&I	Principal	Interest	Total P&I	Principal	Interest	Total P&I	Principal	Interest	Total P&I	Principal	Interest	Total P&I
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
2022	0	37,500	37,500	0	150,000	150,000	0	42,500	42,500	0	170,000	170,000	0	5,000	5,000	0	20,000	20,000
2023	0	637,500	637,500	0	825,000	825,000	0	722,500	722,500	0	935,000	935,000	0	85,000	85,000	0	110,000	110,000
2024	0	1,387,500	1,387,500	3,266,250	1,578,398	4,844,648	0	1,572,500	1,572,500	1,893,750	1,788,852	3,682,602	0	185,000	185,000	(1,372,500)	210,453	(1,162,047)
2025	4,355,000	1,922,766	6,277,766	4,418,750	1,902,352	6,321,102	2,525,000	2,198,578	4,723,578	2,566,250	2,185,164	4,751,414	(1,830,000)	275,813	(1,554,188)	(1,852,500)	282,813	(1,569,688)
2026	4,440,000	1,840,313	6,280,313	4,503,750	1,819,500	6,323,250	2,580,000	2,144,338	4,724,338	2,621,250	2,130,631	4,751,881	(1,860,000)	304,025	(1,555,975)	(1,882,500)	311,131	(1,571,369)
2027	4,525,000	1,756,266	6,281,266	4,588,750	1,735,055	6,323,805	2,635,000	2,088,928	4,723,928	2,676,250	2,074,930	4,751,180	(1,890,000)	332,663	(1,557,338)	(1,912,500)	339,875	(1,572,625)
2028	4,610,000	1,670,625	6,280,625	4,673,750	1,649,016	6,322,766	2,690,000	2,032,350	4,722,350	2,735,000	2,018,059	4,753,059	(1,920,000)	361,725	(1,558,275)	(1,938,750)	369,044	(1,569,706)
2029	4,695,000	1,583,391	6,278,391	4,762,500	1,561,383	6,323,883	2,750,000	1,974,550	4,724,550	2,795,000	1,959,941	4,754,941	(1,945,000)	391,159	(1,553,841)	(1,967,500)	398,558	(1,568,942)
2030	4,785,000	1,494,516	6,279,516	4,852,500	1,472,086	6,324,586	2,810,000	1,915,475	4,725,475	2,855,000	1,900,547	4,755,547	(1,975,000)	420,959	(1,554,041)	(1,997,500)	428,461	(1,569,039)
2031	4,875,000	1,403,953	6,278,953	4,946,250	1,381,102	6,327,352	2,870,000	1,855,125	4,725,125	2,915,000	1,839,878	4,754,878	(2,005,000)	451,172	(1,553,828)	(2,031,250)	458,777	(1,572,473)
2032	4,970,000	1,311,656	6,281,656	5,037,500	1,288,359	6,325,859	2,930,000	1,793,500	4,723,500	2,978,750	1,777,934	4,756,684	(2,040,000)	481,844	(1,558,156)	(2,058,750)	489,575	(1,569,175)
2033	5,060,000	1,217,625	6,277,625	5,131,250	1,193,906	6,325,156	2,995,000	1,730,547	4,725,547	3,040,000	1,714,636	4,754,636	(2,065,000)	512,922	(1,552,078)	(2,091,250)	520,730	(1,570,520)
2034	5,155,000	1,121,859	6,276,859	5,230,000	1,097,695	6,327,695	3,055,000	1,666,266	4,721,266	3,107,500	1,650,036	4,757,536	(2,100,000)	544,406	(1,555,594)	(2,122,500)	552,341	(1,570,159)
2035	5,255,000	1,024,266	6,279,266	5,330,000	999,633	6,329,633	3,125,000	1,600,603	4,725,603	3,173,750	1,584,002	4,757,752	(2,130,000)	576,338	(1,553,663)	(2,156,250)	584,369	(1,571,881)
2036	5,355,000	924,797	6,279,797	5,430,000	899,695	6,329,695	3,190,000	1,533,506	4,723,506	3,242,500	1,516,559	4,759,059	(2,165,000)	608,709	(1,556,291)	(2,187,500)	616,864	(1,570,636)
2037	5,455,000	823,453	6,278,453	5,533,750	797,883	6,331,633	3,260,000	1,464,975	4,724,975	3,312,500	1,447,656	4,760,156	(2,195,000)	641,522	(1,553,478)	(2,221,250)	649,773	(1,571,477)
2038	5,560,000	720,188	6,280,188	5,638,750	694,125	6,332,875	3,330,000	1,394,956	4,724,956	3,382,500	1,377,266	4,759,766	(2,230,000)	674,769	(1,555,231)	(2,256,250)	683,141	(1,573,109)
2039	5,665,000	614,953	6,279,953	5,743,750	588,398	6,332,148	3,400,000	1,323,450	4,723,450	3,456,250	1,305,388	4,761,638	(2,265,000)	708,497	(1,556,503)	(2,287,500)	716,989	(1,570,511)
2040	5,770,000	507,750	6,277,750	5,852,500	480,703	6,333,203	3,475,000	1,250,403	4,725,403	3,531,250	1,231,942	4,763,192	(2,295,000)	742,653	(1,552,347)	(2,321,250)	751,239	(1,570,011)
2041	5,880,000	398,531	6,278,531	5,962,500	370,969	6,333,469	3,550,000	1,175,763	4,725,763	3,606,250	1,156,903	4,763,153	(2,330,000)	777,231	(1,552,769)	(2,356,250)	785,934	(1,570,316)
2042	5,990,000	287,250	6,277,250	6,076,250	259,172	6,335,422	3,625,000	1,099,528	4,724,528	3,685,000	1,080,270	4,765,270	(2,365,000)	812,278	(1,552,722)	(2,391,250)	821,098	(1,570,152)
2043	6,105,000	173,859	6,278,859	6,191,250	145,242	6,336,492	3,705,000	1,021,647	4,726,647	3,765,000	1,001,964	4,766,964	(2,400,000)	847,788	(1,552,213)	(2,426,250)	856,722	(1,569,528)
2044	6,220,000	58,313	6,278,313	1,555,000	29,156	1,584,156	3,785,000	942,066	4,727,066	3,845,000	921,958	4,766,958	(2,435,000)	883,753	(1,551,247)	2,290,000	892,802	3,182,802
2045	0	0	0	0	0	0	3,865,000	860,784	4,725,784	3,925,000	840,252	4,765,252	3,865,000	860,784	4,725,784	3,925,000	840,252	4,765,252
2046	0	0	0	0	0	0	3,945,000	777,803	4,722,803	4,008,750	756,845	4,765,595	3,945,000	777,803	4,722,803	4,008,750	756,845	4,765,595
2047	0	0	0	0	0	0	4,030,000	693,069	4,723,069	4,097,500	671,659	4,769,159	4,030,000	693,069	4,723,069	4,097,500	671,659	4,769,159
2048	0	0	0	0	0	0	4,120,000	606,475	4,726,475	4,183,750	584,588	4,768,338	4,120,000	606,475	4,726,475	4,183,750	584,588	4,768,338
2049	0	0	0	0	0	0	4,205,000	518,022	4,723,022	4,272,500	495,683	4,768,183	4,205,000	518,022	4,723,022	4,272,500	495,683	4,768,183
2050	0	0	0	0	0	0	4,295,000	427,709	4,722,709	4,366,250	404,892	4,771,142	4,295,000	427,709	4,722,709	4,366,250	404,892	4,771,142
2051	0	0	0	0	0	0	4,390,000	335,431	4,725,431	4,461,250	312,109	4,773,359	4,390,000	335,431	4,725,431	4,461,250	312,109	4,773,359
2052	0	0	0	0	0	0	4,485,000	241,134	4,726,134	4,518,750	217,308	4,736,058	4,485,000	241,134	4,726,134	4,518,750	217,308	4,736,058
2053	0	0	0	0	0	0	4,530,000	145,350	4,675,350	4,563,750	121,284	4,685,034	4,530,000	145,350	4,675,350	4,563,750	121,284	4,685,034
2054	0	0	0	0	0	0	4,575,000	48,609	4,623,609	1,143,750	24,305	1,168,055	4,575,000	48,609	4,623,609	1,143,750	24,305	1,168,055
Total	104,725,000	22,918,828	127,643,828	104,725,000	22,918,828	127,643,828	104,725,000	39,198,441	143,923,441	104,725,000	39,198,441	143,923,441	0	16,279,613	16,279,613	0	16,279,613	16,279,613
NPV @	2.50%		92,829,000			94,344,200			93,946,600			95,351,100			1,117,600			1,006,900