City of Carroll

112 E. 5th Street Carroll, Iowa 51401-2799 (712) 792-1000 FAX: (712) 792-0139

MEMO TO: Mike Pogge-Weaver, City Manager MSP-W

FROM: Laura A. Schaefer, Finance Director/City Clerk LAS

DATE: February 23, 2017

SUBJECT: City Debt Work Session

Attached is a number of bonding scenarios and summary prepared by Susanne Gerlach, PFM Finanacial Advisors LLC, as a result of the discussion held at the February 13, 2017 Council meeting.

The information contains the following and will be discussed in further detail by Ms. Gerlach at the Council meeting:

1. Scenario 1: Capacity with the Current Tax Rate for the Proposed 2018 GO Bonds. This scenario shows how much debt could be issued in FY 2019 for 20 years ($9,150,000 for project construction costs) and maintain the current debt service levy at $1.28 or less.
2. Scenario 2: Proposed 2018 & 2021 GO Bonds. This scenario assumes issuing debt in FY 2019 for 20 years to have $9,708,500 to complete the following projects (please note any one of these projects could be replaced by another project):
   a. City Hall/Library Project - $5,600,000
   b. Rec Center – East Side Addition - $1,800,000
   c. Street Maintenance Building - $1,933,500
   d. Fire Engine Replacement - $375,000

   And then issuing additional debt in FY 2022 for 20 years based on inflated construction estimates of $9,600,000 to complete the following projects:
   a. Rec Center Indoor Pool Remodel - $8,000,000
   b. Rec Center Locker Rooms - $1,600,000
3. Scenario 3: Proposed 2018 GO Bonds for All Projects. This scenario assumes issuing debt in FY 2019 for 20 years to complete all the projects listed in #2 above. These project costs are not inflated.
4. Scenario 4: Proposed 2018 & 2021 Capacity for GO Bonds. This scenario assumes maintaining the debt service levy at $1.28 or less while issuing debt in FY 2019 for 20 years and FY 2022 for 20 years. This shows that you would have approximately $5,000,000 for projects in FY 2019 and $7,500,000 in FY 2022.

Scenarios 1a – 4a have the same assumptions as scenarios 1 – 4 above except are 10 year issuances instead of 20 year issuances. While keeping to the debt service levy at $1.28, scenarios 1a and 4a have less construction dollars available than compared to the 20 year issuance scenarios. In scenario 1a, there is only $6,340,000 construction dollars available and in 4a, there is $3,000,000 in FY 19 and $5,500,000 in FY 2022.

A summary of the all the bond option scenarios is also included at the beginning of the packet of information.

RECOMMENDATION: Council review and discussion of the debt capacity information.

City of Carroll, Iowa

Bonding Scenarios

PFM Financial Advisors LLC
801 Grand Avenue, Suite 3300
Des Moines, IA 50309

Susanne Gerlach
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February 27, 2017

Summary of Bond Options

Scenario	Timing	Par Amount of Bonds	Construction	Interest	Total Debt Service	Est Annual Tax Impact City Resident
Scenario 1	**2018 Issuance**	**$ 9,315,000**	**$ 9,150,000**	**$ 3,784,876**	**$ 13,099,876**	**$ -**
Scenario 2	2018 Issuance	$ 9,880,000	$ 9,708,500	$ 4,528,570	$ 14,408,570	$ 40.57
	2021 Issuance	$ 9,775,000	$ 9,600,000	$ 5,070,192	$ 14,845,192	$ 33.45
	Total	**$ 19,655,000**	**$ 19,308,500**	**$ 9,598,762**	**$ 29,253,762**	**$ 74.02**
Scenario 3	**2018 Issuance**	**$ 17,475,000**	**$ 17,208,500**	**$ 9,195,221**	**$ 26,670,221**	**$ 66.90**
Scenario 4	2018 Issuance	$ 5,115,000	$ 5,000,000	$ 2,227,258	$ 7,342,258	$ -
	2021 Issuance	$ 7,650,000	$ 7,500,000	$ 4,141,231	$ 11,791,231	$ -
	Total	**$ 12,765,000**	**$ 12,500,000**	**$ 6,368,489**	**$ 19,133,489**	**$ -**
Scenario 1a	**2018 Issuance**	**$ 6,455,000**	**$ 6,340,000**	**$ 1,642,578**	**$ 8,097,578**	**$ -**
Scenario 2a	2018 Issuance	$ 9,860,000	$ 9,708,500	$ 1,807,118	$ 11,667,118	$ 125.27
	2021 Issuance	$ 9,750,000	$ 9,600,000	$ 2,317,987	$ 12,067,987	$ 39.86
	Total	**$ 19,610,000**	**$ 19,308,500**	**$ 4,125,105**	**$ 23,735,105**	**$ 165.13**
Scenario 3a	**2018 Issuance**	**$ 17,435,000**	**$ 17,208,500**	**$ 3,975,300**	**$ 21,410,300**	**$ 170.82**
Scenario 4a	2018 Issuance	$ 3,080,000	$ 3,000,000	$ 575,428	$ 3,655,428	$ -
	2021 Issuance	$ 5,610,000	$ 5,500,000	$ 1,509,780	$ 7,119,780	$ -
	Total	**$ 8,690,000**	**$ 8,500,000**	**$ 2,085,208**	**$ 10,775,208**	**$ -**

Scenario 1:
Capacity within the Current Tax Rate for the Proposed 2018 GO Bonds

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CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1a

Scenario 1 - 2018 GO Bond Capacity within Current Tax Rate

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$0.01
Fiscal Year 18-19	($0.01)

FY18 Pre-Levy => *$ 209,778*

FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements: (1) 2006 Ashwood TIF	Abatements: 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107							2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710						1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070				2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745			2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429		3,000		1,099,524		98,455
2018 - 2019	510,558,300	1.28885	658,034	374,184 *	29,500			1,061,718	0				281,228		292,223	109,433	377,335	1,500		1,061,718		98,455
2019 - 2020	518,636,606	1.28365	665,750	374,184 *	29,500			1,069,434	0				282,978		294,523	112,354	378,080	1,500		1,069,434		98,455
2020 - 2021	512,920,731	1.28865	660,974	374,184 *	29,500			1,064,658	0				284,400		291,498		487,261	1,500		1,064,658		98,455
2021 - 2022	520,343,245	1.28674	669,548	374,184 *	29,500			1,073,232					290,080		298,060		483,592	1,500		1,073,232		98,455
2022 - 2023	503,680,510	1.28401	646,729	374,184 *	29,500			1,050,413					285,180		299,070		464,663	1,500		1,050,413		98,455
2023 - 2024	499,139,414	1.28902	643,403	374,184 *	29,500			1,047,087							299,720		745,867	1,500		1,047,087		98,455
2024 - 2025	499,139,414	1.28168	639,735	374,184 *	29,500			1,043,419									1,042,919	500		1,043,419		98,455
2025 - 2026	499,139,414	1.28354	640,665	374,184 *	29,500			1,044,349									1,043,849	500		1,044,349		98,455
2026 - 2027	499,139,414	1.28118	639,490	374,184 *	29,500			1,043,174									1,042,674	500		1,043,174		98,455
2027 - 2028	499,139,414	1.26389	630,857	374,184 *	0			1,005,041									1,004,541	500		1,005,041		98,455
2028 - 2029	499,139,414	1.26683	632,323	374,184 *				1,006,507									1,006,007	500		1,006,507		98,455
2029 - 2030	499,139,414	1.26625	632,033	374,184 *				1,006,217									1,005,717	500		1,006,217		98,455
2030 - 2031	499,139,414	1.26205	629,941	374,184 *				1,004,125									1,003,625	500		1,004,125		98,455
2031 - 2032	499,139,414	1.26417	630,997	374,184 *				1,005,181									1,004,681	500		1,005,181		98,455
2032 - 2033	499,139,414	1.26208	629,952	374,184 *				1,004,136									1,003,636	500		1,004,136		98,455
2033 - 2034	499,139,414	1.26568	631,750	374,184 *				1,005,934									1,005,434	500		1,005,934		98,455

City of Carroll, Iowa

EXHIBIT 2a

Projection of G.O. Debt Capacity

Scenario 1 - 2018 GO Bond Capacity within Current Tax Rate

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	Proposed Series 2017	FY18 CIP Proposed Series 2018	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000			6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000			5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000			4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000				3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000					3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000					4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000		4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	9,315,000	12,575,000	18,809,032	32.05%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	9,140,000	11,765,000	19,761,240	29.85%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				9,105,000	11,080,000	20,589,159	27.99%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				8,960,000	10,390,000	21,422,793	26.13%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				8,815,000	9,680,000	22,277,145	24.23%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				8,685,000	8,980,000	23,122,218	22.38%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					8,270,000	8,270,000	23,832,218	20.61%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					7,545,000	7,545,000	24,557,218	18.80%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					6,795,000	6,795,000	25,307,218	16.93%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					6,020,000	6,020,000	26,082,218	15.00%	2027
2028 - 2029	802,555,456		40,127,773	32,102,218					5,255,000	5,255,000	26,847,218	13.10%	2028
2029 - 2030	802,555,456		40,127,773	32,102,218					4,460,000	4,460,000	27,642,218	11.11%	2029
2030 - 2031	802,555,456		40,127,773	32,102,218					3,635,000	3,635,000	28,467,218	9.06%	2030
2031 - 2032	802,555,456		40,127,773	32,102,218					2,780,000	2,780,000	29,322,218	6.93%	2031
2032 - 2033	802,555,456		40,127,773	32,102,218					1,890,000	1,890,000	30,212,218	4.71%	2032
2033 - 2034	802,555,456		40,127,773	32,102,218					965,000	965,000	31,137,218	2.40%	2033
2034 - 2035	802,555,456		40,127,773	32,102,218							32,102,218		2034
2035 - 2036	802,555,456		40,127,773	32,102,218							32,102,218		2035
2036 - 2037	802,555,456		40,127,773	32,102,218							32,102,218		2036
2037 - 2038	802,555,456		40,127,773	32,102,218							32,102,218		2037
2038 - 2039	802,555,456		40,127,773	32,102,218							32,102,218		2038
2039 - 2040	802,555,456		40,127,773	32,102,218							32,102,218		2039
2040 - 2041	802,555,456		40,127,773	32,102,218							32,102,218		2040

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**
**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3a

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 1 - 2018 GO Bond Capacity within Current Tax Rate

SOURCES & USES

SOURCES	
Par Amount of Bonds	9,315,000.00
Accrued Interest	
Premium	

Total Sources	9,315,000.00
USES	
Deposit to Construction Account	9,150,000.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($12.50 per bond)	116,437.50
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	562.50

Total Uses	9,315,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2034

Arbitrage Yield	3.85450%
TIC	4.00408%
AIC	4.06646%
Average Life	10.49 Years

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	175,000	2.160%	202,335	377,335	377,335
	12/1/2019			171,540	171,540	
1.58	6/1/2020	35,000	2.340%	171,540	206,540	378,080
	12/1/2020			171,130	171,130	
2.58	6/1/2021	145,000	2.530%	171,130	316,130	487,261
	12/1/2021			169,296	169,296	
3.58	6/1/2022	145,000	2.710%	169,296	314,296	483,592
	12/1/2022			167,331	167,331	
4.58	6/1/2023	130,000	2.920%	167,331	297,331	464,663
	12/1/2023			165,433	165,433	
5.58	6/1/2024	415,000	3.120%	165,433	580,433	745,867
	12/1/2024			158,959	158,959	
6.58	6/1/2025	725,000	3.320%	158,959	883,959	1,042,919
	12/1/2025			146,924	146,924	
7.58	6/1/2026	750,000	3.490%	146,924	896,924	1,043,849
	12/1/2026			133,837	133,837	
8.58	6/1/2027	775,000	3.630%	133,837	908,837	1,042,674
	12/1/2027			119,771	119,771	
9.58	6/1/2028	765,000	3.730%	119,771	884,771	1,004,541
	12/1/2028			105,503	105,503	
10.58	6/1/2029	795,000	3.810%	105,503	900,503	1,006,007
	12/1/2029			90,359	90,359	
11.58	6/1/2030	825,000	3.890%	90,359	915,359	1,005,717
	12/1/2030			74,312	74,312	
12.58	6/1/2031	855,000	3.970%	74,312	929,312	1,003,625
	12/1/2031			57,341	57,341	
13.58	6/1/2032	890,000	4.050%	57,341	947,341	1,004,681
	12/1/2032			39,318	39,318	
14.58	6/1/2033	925,000	4.130%	39,318	964,318	1,003,636
	12/1/2033			20,217	20,217	
15.58	6/1/2034	965,000	4.190%	20,217	985,217	1,005,434
	12/1/2034					
16.58	6/1/2035					
	12/1/2035					
17.58	6/1/2036					
	12/1/2036					
18.58	6/1/2037					
	12/1/2037					
19.58	6/1/2038					
	12/1/2038					
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		9,315,000		3,784,876	13,099,876	13,099,876

Scale : MMD as of 2-15-2017 + 45 bps for credit (Aa2/BQ) + 100 bps timing.

Scenario 2:
Proposed 2018 & 2021 GO Bonds

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CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1b

Scenario 2 - GO Bonds Issued in 2018 & 2021

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$0.58
Fiscal Year 18-19	($0.00)

FY18 Pre-Levy => *$ 209,778*

FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements (1) 2006 Ashwood TIF	Abatements 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Proposed GO Series 2021	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107								2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710							1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070					2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745				2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429			3,000		1,099,524		98,455
2018 - 2019	510,558,300	1.85922	949,240	374,184 *	29,500			1,352,924	0				281,228		292,223	109,433	668,541		1,500		1,352,924		98,455
2019 - 2020	518,636,606	1.85855	963,913	374,184 *	29,500			1,367,597	0				282,978		294,523	112,354	676,243		1,500		1,367,597		98,455
2020 - 2021	512,920,731	1.85695	952,469	374,184 *	29,500			1,356,153	0				284,400		291,498		778,755		1,500		1,356,153		98,455
2021 - 2022	520,343,245	2.31641	1,205,329	374,184 *	29,500			1,609,013					290,080		298,060		687,876	331,497	1,500		1,609,013		98,455
2022 - 2023	503,680,510	2.31277	1,164,899	374,184 *	29,500			1,568,583					285,180		299,070		488,391	494,442	1,500		1,568,583		98,455
2023 - 2024	499,139,414	2.31019	1,153,107	374,184 *	29,500			1,556,791							299,720		738,719	516,852	1,500		1,556,791		98,455
2024 - 2025	499,139,414	2.30690	1,151,464	374,184 *	29,500			1,555,148									740,771	813,377	1,000		1,555,148		98,455
2025 - 2026	499,139,414	2.31320	1,154,608	374,184 *	29,500			1,558,292									741,495	815,797	1,000		1,558,292		98,455
2026 - 2027	499,139,414	2.32426	1,160,129	374,184 *	29,500			1,563,813									740,965	821,849	1,000		1,563,813		98,455
2027 - 2028	499,139,414	2.31885	1,157,429	374,184 *	0			1,531,613									739,267	791,347	1,000		1,531,613		98,455
2028 - 2029	499,139,414	2.32165	1,158,825	374,184 *				1,533,009									741,549	790,460	1,000		1,533,009		98,455
2029 - 2030	499,139,414	2.31952	1,157,762	374,184 *				1,531,946									742,690	788,256	1,000		1,531,946		98,455
2030 - 2031	499,139,414	2.32259	1,159,298	374,184 *				1,533,482									742,656	789,826	1,000		1,533,482		98,455
2031 - 2032	499,139,414	2.32071	1,158,358	374,184 *				1,532,542									741,417	790,125	1,000		1,532,542		98,455
2032 - 2033	499,139,414	2.31392	1,154,971	374,184 *				1,529,155									738,939	789,216	1,000		1,529,155		98,455
2033 - 2034	499,139,414	2.32215	1,159,075	374,184 *				1,533,259									740,192	792,067	1,000		1,533,259		98,455
2034 - 2035	499,139,414	2.31459	1,155,303	374,184 *				1,529,487									740,052	788,435	1,000		1,529,487		98,455
2035 - 2036	499,139,414	2.31158	1,153,800	374,184 *				1,527,984									738,489	788,495	1,000		1,527,984		98,455
2036 - 2037	499,139,414	2.31268	1,154,351	374,184 *				1,528,535									740,539	786,996	1,000		1,528,535		98,455
2037 - 2038	499,139,414	2.31772	1,156,867	374,184 *				1,531,051									741,027	789,024	1,000		1,531,051		98,455
2038 - 2039	499,139,414	0.83271	415,640	374,184 *				789,824										789,324	500		789,824		98,455
2039 - 2040	499,139,414	0.82992	414,245	374,184 *				788,429										787,929	500		788,429		98,455
2040 - 2041	499,139,414	0.83383	416,197	374,184 *				790,381										789,881	500		790,381		98,455

City of Carroll, Iowa

EXHIBIT 2b

Projection of G.O. Debt Capacity

Scenario 2 - GO Bonds Issued in 2018 & 2021

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	Proposed Series 2017	Proposed Series 2018 (FY18 CIP)	Proposed Series 2021	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000				6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000				5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000				4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000					3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000						3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000						4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000			4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	9,880,000		13,140,000	18,244,032	33.49%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	9,425,000		12,050,000	19,476,240	30.58%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				9,105,000		11,080,000	20,589,159	27.99%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				8,675,000	9,775,000	19,880,000	11,932,793	49.99%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				8,325,000	9,675,000	18,865,000	13,092,145	47.23%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				8,165,000	9,575,000	18,035,000	14,067,218	44.94%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					7,750,000	9,450,000	17,200,000	14,902,218	42.86%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					7,320,000	9,025,000	16,345,000	15,757,218	40.73%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					6,875,000	8,585,000	15,460,000	16,642,218	38.53%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					6,415,000	8,125,000	14,540,000	17,562,218	36.23%	2027
2028 - 2029	802,555,456		40,127,773	32,102,218					5,940,000	7,680,000	13,620,000	18,482,218	33.94%	2028
2029 - 2030	802,555,456		40,127,773	32,102,218					5,445,000	7,220,000	12,665,000	19,437,218	31.56%	2029
2030 - 2031	802,555,456		40,127,773	32,102,218					4,930,000	6,745,000	11,675,000	20,427,218	29.09%	2030
2031 - 2032	802,555,456		40,127,773	32,102,218					4,395,000	6,250,000	10,645,000	21,457,218	26.53%	2031
2032 - 2033	802,555,456		40,127,773	32,102,218					3,840,000	5,735,000	9,575,000	22,527,218	23.86%	2032
2033 - 2034	802,555,456		40,127,773	32,102,218					3,265,000	5,200,000	8,465,000	23,637,218	21.10%	2033
2034 - 2035	802,555,456		40,127,773	32,102,218					2,665,000	4,640,000	7,305,000	24,797,218	18.20%	2034
2035 - 2036	802,555,456		40,127,773	32,102,218					2,040,000	4,060,000	6,100,000	26,002,218	15.20%	2035
2036 - 2037	802,555,456		40,127,773	32,102,218					1,390,000	3,455,000	4,845,000	27,257,218	12.07%	2036
2037 - 2038	802,555,456		40,127,773	32,102,218					710,000	2,825,000	3,535,000	28,567,218	8.81%	2037
2038 - 2039	802,555,456		40,127,773	32,102,218						2,165,000	2,165,000	29,937,218	5.40%	2038
2039 - 2040	802,555,456		40,127,773	32,102,218						1,475,000	1,475,000	30,627,218	3.68%	2039
2040 - 2041	802,555,456		40,127,773	32,102,218						755,000	755,000	31,347,218	1.88%	2040

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**
**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3b

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 2 - GO Bonds Issued in 2018 & 2021

SOURCES & USES

SOURCES	
Par Amount of Bonds	9,880,000.00
Accrued Interest	
Premium	

Total Sources	9,880,000.00
USES	
Deposit to Construction Account	9,708,500.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($12.50 per bond)	123,500.00
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	

Total Uses	9,880,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2038

Arbitrage Yield	3.99479%	
TIC	4.13954%	
AIC	4.19653%	
Average Life	11.38	Years

Estimated Annual Tax Impact for City Resident	
Average 100% Value for Homes	$125,000
FY 2017-18 Residential Rollback %	56.9391%
Average Taxable Value for Homes	$71,174
Maximum Debt Service Levy Increase	$0.57
Estimated Annual Tax Impact:	**$40.57**

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	455,000	2.160%	213,541	668,541	668,541
	12/1/2019			178,122	178,122	
1.58	6/1/2020	320,000	2.340%	178,122	498,122	676,243
	12/1/2020			174,378	174,378	
2.58	6/1/2021	430,000	2.530%	174,378	604,378	778,755
	12/1/2021			168,938	168,938	
3.58	6/1/2022	350,000	2.710%	168,938	518,938	687,876
	12/1/2022			164,196	164,196	
4.58	6/1/2023	160,000	2.920%	164,196	324,196	488,391
	12/1/2023			161,860	161,860	
5.58	6/1/2024	415,000	3.120%	161,860	576,860	738,719
	12/1/2024			155,386	155,386	
6.58	6/1/2025	430,000	3.320%	155,386	585,386	740,771
	12/1/2025			148,248	148,248	
7.58	6/1/2026	445,000	3.490%	148,248	593,248	741,495
	12/1/2026			140,482	140,482	
8.58	6/1/2027	460,000	3.630%	140,482	600,482	740,965
	12/1/2027			132,133	132,133	
9.58	6/1/2028	475,000	3.730%	132,133	607,133	739,267
	12/1/2028			123,275	123,275	
10.58	6/1/2029	495,000	3.810%	123,275	618,275	741,549
	12/1/2029			113,845	113,845	
11.58	6/1/2030	515,000	3.890%	113,845	628,845	742,690
	12/1/2030			103,828	103,828	
12.58	6/1/2031	535,000	3.970%	103,828	638,828	742,656
	12/1/2031			93,208	93,208	
13.58	6/1/2032	555,000	4.050%	93,208	648,208	741,417
	12/1/2032			81,970	81,970	
14.58	6/1/2033	575,000	4.130%	81,970	656,970	738,939
	12/1/2033			70,096	70,096	
15.58	6/1/2034	600,000	4.190%	70,096	670,096	740,192
	12/1/2034			57,526	57,526	
16.58	6/1/2035	625,000	4.250%	57,526	682,526	740,052
	12/1/2035			44,245	44,245	
17.58	6/1/2036	650,000	4.300%	44,245	694,245	738,489
	12/1/2036			30,270	30,270	
18.58	6/1/2037	680,000	4.340%	30,270	710,270	740,539
	12/1/2037			15,514	15,514	
19.58	6/1/2038	710,000	4.370%	15,514	725,514	741,027
	12/1/2038					
		9,880,000		4,528,570	14,408,570	14,408,570

Scale : MMD as of 2-15-2017 + 30 bps for credit (Aa2/BQ) + 100 bps timing.

City of Carroll, Iowa

Proposed G. O. Capital Loan Notes, Series 2021

EXHIBIT 4b

Scenario 2 - GO Bonds Issued in 2018 & 2021

SOURCES & USES

SOURCES	
Par Amount of Notes	9,775,000.00
Accrued Interest	
Premium	
Total Sources	9,775,000.00
USES	
Deposit to Construction Account	9,600,000.00
Deposit to Reserve Account	
Capitalized Interest Account	(0.00)
Municipal Bond Insurance	0.00
Underwriters' Discount ($12.50 per bond)	122,187.50
Costs of Issuance	51,000.00
Accrued Interest	
Rounding Amount	1,812.50
Total Uses	9,775,000.00
ASSUMPTIONS	
Dated Date	11/1/2021
Delivery Date	11/1/2021
First Interest Date	6/1/2022
First Principal Date	6/1/2022
Last Principal Date	6/1/2041

Yield Calculations:

Arbitrage Yield	4.25177%
TIC	4.39026%
AIC	4.44880%
Average Life	12.11 Years

Estimated Annual Tax Impact for City Resident	
Average 100% Value for Homes	$125,000
FY 2017-18 Residential Rollback %	56.9391%
Average Taxable Value for Homes	$71,174
Maximum Debt Service Levy Increase	$0.47
Estimated Annual Tax Impact:	**$33.45**

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2022	100,000	2.410%	231,497	331,497	331,497
	12/1/2022			197,221	197,221	
1.58	6/1/2023	100,000	2.590%	197,221	297,221	494,442
	12/1/2023			195,926	195,926	
2.58	6/1/2024	125,000	2.780%	195,926	320,926	516,852
	12/1/2024			194,188	194,188	
3.58	6/1/2025	425,000	2.960%	194,188	619,188	813,377
	12/1/2025			187,898	187,898	
4.58	6/1/2026	440,000	3.170%	187,898	627,898	815,797
	12/1/2026			180,924	180,924	
5.58	6/1/2027	460,000	3.370%	180,924	640,924	821,849
	12/1/2027			173,173	173,173	
6.58	6/1/2028	445,000	3.570%	173,173	618,173	791,347
	12/1/2028			165,230	165,230	
7.58	6/1/2029	460,000	3.740%	165,230	625,230	790,460
	12/1/2029			156,628	156,628	
8.58	6/1/2030	475,000	3.880%	156,628	631,628	788,256
	12/1/2030			147,413	147,413	
9.58	6/1/2031	495,000	3.980%	147,413	642,413	789,826
	12/1/2031			137,563	137,563	
10.58	6/1/2032	515,000	4.060%	137,563	652,563	790,125
	12/1/2032			127,108	127,108	
11.58	6/1/2033	535,000	4.140%	127,108	662,108	789,216
	12/1/2033			116,034	116,034	
12.58	6/1/2034	560,000	4.220%	116,034	676,034	792,067
	12/1/2034			104,218	104,218	
13.58	6/1/2035	580,000	4.300%	104,218	684,218	788,435
	12/1/2035			91,748	91,748	
14.58	6/1/2036	605,000	4.380%	91,748	696,748	788,495
	12/1/2036			78,498	78,498	
15.58	6/1/2037	630,000	4.440%	78,498	708,498	786,996
	12/1/2037			64,512	64,512	
16.58	6/1/2038	660,000	4.500%	64,512	724,512	789,024
	12/1/2038			49,662	49,662	
17.58	6/1/2039	690,000	4.550%	49,662	739,662	789,324
	12/1/2039			33,965	33,965	
18.58	6/1/2040	720,000	4.590%	33,965	753,965	787,929
	12/1/2040			17,441	17,441	
19.58	6/1/2041	755,000	4.620%	17,441	772,441	789,881
	12/1/2041					
		9,775,000		5,070,192	14,845,192	14,845,192

Scale : MMD as of 2-15-17 + 30 bps for credit (Aa2/BQ) + 125 bps timing.

Scenario 3:
Proposed 2018 GO Bonds for All Projects

© PFM

CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1c

Scenario 3 - GO Bonds for All Projects Issued in 2018

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$0.95
Fiscal Year 18-19	$0.00

FY18 Pre-Levy => *$ 209,778*

FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements (1) 2006 Ashwood TIF	Abatements 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107							2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710						1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070				2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745			2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429		3,000		1,099,524		98,455
2018 - 2019	510,558,300	2.23056	1,138,829	374,184 *	29,500			1,542,513	0				281,228		292,223	109,433	858,130	1,500		1,542,513		98,455
2019 - 2020	518,636,606	2.23071	1,156,927	374,184 *	29,500			1,560,611	0				282,978		294,523	112,354	869,257	1,500		1,560,611		98,455
2020 - 2021	512,920,731	2.22937	1,143,488	374,184 *	29,500			1,547,172	0				284,400		291,498		969,775	1,500		1,547,172		98,455
2021 - 2022	520,343,245	2.21602	1,153,093	374,184 *	29,500			1,556,777					290,080		298,060		967,137	1,500		1,556,777		98,455
2022 - 2023	503,680,510	2.22544	1,120,909	374,184 *	29,500			1,524,593					285,180		299,070		938,843	1,500		1,524,593		98,455
2023 - 2024	499,139,414	2.22000	1,108,090	374,184 *	29,500			1,511,774							299,720		1,210,554	1,500		1,511,774		98,455
2024 - 2025	499,139,414	2.22360	1,109,885	374,184 *	29,500			1,513,569									1,512,569	1,000		1,513,569		98,455
2025 - 2026	499,139,414	2.22322	1,109,696	374,184 *	29,500			1,513,380									1,512,380	1,000		1,513,380		98,455
2026 - 2027	499,139,414	2.22771	1,111,936	374,184 *	29,500			1,515,620									1,514,620	1,000		1,515,620		98,455
2027 - 2028	499,139,414	2.22602	1,111,093	374,184 *	0			1,485,277									1,484,277	1,000		1,485,277		98,455
2028 - 2029	499,139,414	2.22307	1,109,621	374,184 *				1,483,805									1,482,805	1,000		1,483,805		98,455
2029 - 2030	499,139,414	2.22585	1,111,011	374,184 *				1,485,195									1,484,195	1,000		1,485,195		98,455
2030 - 2031	499,139,414	2.22384	1,110,005	374,184 *				1,484,189									1,483,189	1,000		1,484,189		98,455
2031 - 2032	499,139,414	2.22691	1,111,539	374,184 *				1,485,723									1,484,723	1,000		1,485,723		98,455
2032 - 2033	499,139,414	2.22451	1,110,339	374,184 *				1,484,523									1,483,523	1,000		1,484,523		98,455
2033 - 2034	499,139,414	2.22650	1,111,333	374,184 *				1,485,517									1,484,517	1,000		1,485,517		98,455
2034 - 2035	499,139,414	2.22276	1,109,470	374,184 *				1,483,654									1,482,654	1,000		1,483,654		98,455
2035 - 2036	499,139,414	2.22321	1,109,690	374,184 *				1,483,874									1,482,874	1,000		1,483,874		98,455
2036 - 2037	499,139,414	2.21750	1,106,840	374,184 *				1,481,024									1,480,024	1,000		1,481,024		98,455
2037 - 2038	499,139,414	2.22583	1,111,000	374,184 *				1,485,184									1,484,184	1,000		1,485,184		98,455

City of Carroll, Iowa

EXHIBIT 2c

Projection of G.O. Debt Capacity

Scenario 3 - GO Bonds for All Projects Issued in 2018

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	Proposed Series 2017	FY18 CIP Proposed Series 2018	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000			6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000			5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000			4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000				3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000					3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000					4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000		4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	17,475,000	20,735,000	10,649,032	52.85%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	17,025,000	19,650,000	11,876,240	49.86%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				16,845,000	18,820,000	12,849,159	47.54%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				16,560,000	17,990,000	13,822,793	45.24%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				16,270,000	17,135,000	14,822,145	42.89%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				16,000,000	16,295,000	15,807,218	40.61%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					15,450,000	15,450,000	16,652,218	38.50%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					14,580,000	14,580,000	17,522,218	36.33%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					13,680,000	13,680,000	18,422,218	34.09%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					12,745,000	12,745,000	19,357,218	31.76%	2027
2028 - 2029	802,555,456		40,127,773	32,102,218					11,805,000	11,805,000	20,297,218	29.42%	2028
2029 - 2030	802,555,456		40,127,773	32,102,218					10,830,000	10,830,000	21,272,218	26.99%	2029
2030 - 2031	802,555,456		40,127,773	32,102,218					9,815,000	9,815,000	22,287,218	24.46%	2030
2031 - 2032	802,555,456		40,127,773	32,102,218					8,760,000	8,760,000	23,342,218	21.83%	2031
2032 - 2033	802,555,456		40,127,773	32,102,218					7,660,000	7,660,000	24,442,218	19.09%	2032
2033 - 2034	802,555,456		40,127,773	32,102,218					6,515,000	6,515,000	25,587,218	16.24%	2033
2034 - 2035	802,555,456		40,127,773	32,102,218					5,320,000	5,320,000	26,782,218	13.26%	2034
2035 - 2036	802,555,456		40,127,773	32,102,218					4,075,000	4,075,000	28,027,218	10.16%	2035
2036 - 2037	802,555,456		40,127,773	32,102,218					2,775,000	2,775,000	29,327,218	6.92%	2036
2037 - 2038	802,555,456		40,127,773	32,102,218					1,420,000	1,420,000	30,682,218	3.54%	2037
2038 - 2039	802,555,456		40,127,773	32,102,218							32,102,218		2038
2039 - 2040	802,555,456		40,127,773	32,102,218							32,102,218		2039
2040 - 2041	802,555,456		40,127,773	32,102,218							32,102,218		2040

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**
**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3c

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 3 - GO Bonds for All Projects Issued in 2018

SOURCES & USES

SOURCES	
Par Amount of Bonds	17,475,000.00
Accrued Interest	
Premium	

Total Sources	17,475,000.00
USES	
Deposit to Construction Account	17,208,500.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($12.50 per bond)	218,437.50
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	62.50

Total Uses	17,475,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2038

Arbitrage Yield	4.18461%	
TIC	4.31902%	
AIC	4.34888%	
Average Life	12.49	Years

Estimated Annual Tax Impact for City Resident	
Average 100% Value for Homes	$125,000
FY 2017-18 Residential Rollback %	56.9391%
Average Taxable Value for Homes	$71,174
Maximum Debt Service Levy Increase	$0.94
Estimated Annual Tax Impact:	**$66.90**

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	450,000	2.310%	408,130	858,130	858,130
	12/1/2019			344,628	344,628	
1.58	6/1/2020	180,000	2.490%	344,628	524,628	869,257
	12/1/2020			342,387	342,387	
2.58	6/1/2021	285,000	2.680%	342,387	627,387	969,775
	12/1/2021			338,568	338,568	
3.58	6/1/2022	290,000	2.860%	338,568	628,568	967,137
	12/1/2022			334,421	334,421	
4.58	6/1/2023	270,000	3.070%	334,421	604,421	938,843
	12/1/2023			330,277	330,277	
5.58	6/1/2024	550,000	3.270%	330,277	880,277	1,210,554
	12/1/2024			321,284	321,284	
6.58	6/1/2025	870,000	3.470%	321,284	1,191,284	1,512,569
	12/1/2025			306,190	306,190	
7.58	6/1/2026	900,000	3.640%	306,190	1,206,190	1,512,380
	12/1/2026			289,810	289,810	
8.58	6/1/2027	935,000	3.780%	289,810	1,224,810	1,514,620
	12/1/2027			272,138	272,138	
9.58	6/1/2028	940,000	3.880%	272,138	1,212,138	1,484,277
	12/1/2028			253,902	253,902	
10.58	6/1/2029	975,000	3.960%	253,902	1,228,902	1,482,805
	12/1/2029			234,597	234,597	
11.58	6/1/2030	1,015,000	4.040%	234,597	1,249,597	1,484,195
	12/1/2030			214,094	214,094	
12.58	6/1/2031	1,055,000	4.120%	214,094	1,269,094	1,483,189
	12/1/2031			192,361	192,361	
13.58	6/1/2032	1,100,000	4.200%	192,361	1,292,361	1,484,723
	12/1/2032			169,261	169,261	
14.58	6/1/2033	1,145,000	4.280%	169,261	1,314,261	1,483,523
	12/1/2033			144,758	144,758	
15.58	6/1/2034	1,195,000	4.340%	144,758	1,339,758	1,484,517
	12/1/2034			118,827	118,827	
16.58	6/1/2035	1,245,000	4.400%	118,827	1,363,827	1,482,654
	12/1/2035			91,437	91,437	
17.58	6/1/2036	1,300,000	4.450%	91,437	1,391,437	1,482,874
	12/1/2036			62,512	62,512	
18.58	6/1/2037	1,355,000	4.490%	62,512	1,417,512	1,480,024
	12/1/2037			32,092	32,092	
19.58	6/1/2038	1,420,000	4.520%	32,092	1,452,092	1,484,184
	12/1/2038					
		17,475,000		9,195,221	26,670,221	26,670,221

Scale : MMD as of 2-15-2017 + 45 bps for credit (Aa2/NonBQ) + 100 bps timing.

Scenario 4:
Proposed 2018 & 2021 Capacity for GO Bonds

© PFM

CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1d

Scenario 4 - GO Bonds Issue Capacity in 2018 & 2021

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$0.00
Fiscal Year 18-19	($0.00)

FY18 Pre-Levy => *$ 209,778*

FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements (1) 2006 Ashwood TIF	Abatements 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Proposed GO Series 2021	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107								2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710							1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070					2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745				2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429			3,000		1,099,524		98,455
2018 - 2019	510,558,300	1.28330	655,200	374,184 *	29,500			1,058,884	0				281,228		292,223	109,433	374,501		1,500		1,058,884		98,455
2019 - 2020	518,636,606	1.28156	664,662	374,184 *	29,500			1,068,346	0				282,978		294,523	112,354	376,992		1,500		1,068,346		98,455
2020 - 2021	512,920,731	1.28898	661,142	374,184 *	29,500			1,064,826	0				284,400		291,498		487,429		1,500		1,064,826		98,455
2021 - 2022	520,343,245	1.28629	669,314	374,184 *	29,500			1,072,998					290,080		298,060		299,586	183,772	1,500		1,072,998		98,455
2022 - 2023	503,680,510	1.31664	663,167	374,184 *	29,500			1,066,851					285,180		299,070		166,063	315,039	1,500		1,066,851		98,455
2023 - 2024	499,139,414	1.28949	643,637	374,184 *	29,500			1,047,321							299,720		331,063	415,039	1,500		1,047,321		98,455
2024 - 2025	499,139,414	1.29320	645,489	374,184 *	29,500			1,049,173									410,915	637,259	1,000		1,049,173		98,455
2025 - 2026	499,139,414	1.28735	642,569	374,184 *	29,500			1,046,253									407,615	637,639	1,000		1,046,253		98,455
2026 - 2027	499,139,414	1.28832	643,050	374,184 *	29,500			1,046,734									408,715	637,019	1,000		1,046,734		98,455
2027 - 2028	499,139,414	1.28482	641,304	374,184 *	0			1,015,488									409,096	605,393	1,000		1,015,488		98,455
2028 - 2029	499,139,414	1.28109	639,444	374,184 *				1,013,628									408,838	603,790	1,000		1,013,628		98,455
2029 - 2030	499,139,414	1.27431	636,057	374,184 *				1,010,241									407,980	601,261	1,000		1,010,241		98,455
2030 - 2031	499,139,414	1.27458	636,195	374,184 *				1,010,379									406,504	602,875	1,000		1,010,379		98,455
2031 - 2032	499,139,414	1.28172	639,759	374,184 *				1,013,943									409,396	603,547	1,000		1,013,943		98,455
2032 - 2033	499,139,414	1.27534	636,574	374,184 *				1,010,758									406,436	603,322	1,000		1,010,758		98,455
2033 - 2034	499,139,414	1.27579	636,799	374,184 *				1,010,983									407,807	602,176	1,000		1,010,983		98,455
2034 - 2035	499,139,414	1.28271	640,252	374,184 *				1,014,436									408,351	605,085	1,000		1,014,436		98,455
2035 - 2036	499,139,414	1.27555	636,677	374,184 *				1,010,861									408,051	601,810	1,000		1,010,861		98,455
2036 - 2037	499,139,414	1.27475	636,280	374,184 *				1,010,464									406,926	602,538	1,000		1,010,464		98,455
2037 - 2038	499,139,414	1.20994	603,930	374,184 *				978,114										977,114	1,000		978,114		98,455
2038 - 2039	499,139,414	1.21200	604,955	374,184 *				979,139										978,639	500		979,139		98,455
2039 - 2040	499,139,414	1.21055	604,233	374,184 *				978,417										977,917	500		978,417		98,455

City of Carroll, Iowa

EXHIBIT 2d

Projection of G.O. Debt Capacity

Scenario 4 - GO Bonds Issue Capacity in 2018 & 2021

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	Proposed Series 2017	Proposed Series 2018 (FY18 CIP)	Proposed Series 2021	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000				6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000				5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000				4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000					3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000						3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000						4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000			4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	5,115,000		8,375,000	23,009,032	21.35%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	4,850,000		7,475,000	24,051,240	18.97%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				4,655,000		6,630,000	25,039,159	16.75%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				4,345,000	7,650,000	13,425,000	18,387,793	33.76%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				4,215,000	7,650,000	12,730,000	19,227,145	31.87%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				4,215,000	7,650,000	12,160,000	19,942,218	30.30%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					4,050,000	7,550,000	11,600,000	20,502,218	28.91%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					3,800,000	7,225,000	11,025,000	21,077,218	27.47%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					3,545,000	6,890,000	10,435,000	21,667,218	26.00%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					3,280,000	6,545,000	9,825,000	22,277,218	24.48%	2027
2028 - 2029	802,555,456		40,127,773	32,102,218					3,005,000	6,220,000	9,225,000	22,877,218	22.99%	2028
2029 - 2030	802,555,456		40,127,773	32,102,218					2,720,000	5,885,000	8,605,000	23,497,218	21.44%	2029
2030 - 2031	802,555,456		40,127,773	32,102,218					2,425,000	5,540,000	7,965,000	24,137,218	19.85%	2030
2031 - 2032	802,555,456		40,127,773	32,102,218					2,120,000	5,180,000	7,300,000	24,802,218	18.19%	2031
2032 - 2033	802,555,456		40,127,773	32,102,218					1,800,000	4,805,000	6,605,000	25,497,218	16.46%	2032
2033 - 2034	802,555,456		40,127,773	32,102,218					1,470,000	4,415,000	5,885,000	26,217,218	14.67%	2033
2034 - 2035	802,555,456		40,127,773	32,102,218					1,125,000	4,010,000	5,135,000	26,967,218	12.80%	2034
2035 - 2036	802,555,456		40,127,773	32,102,218					765,000	3,585,000	4,350,000	27,752,218	10.84%	2035
2036 - 2037	802,555,456		40,127,773	32,102,218					390,000	3,145,000	3,535,000	28,567,218	8.81%	2036
2037 - 2038	802,555,456		40,127,773	32,102,218						2,685,000	2,685,000	29,417,218	6.69%	2037
2038 - 2039	802,555,456		40,127,773	32,102,218						1,830,000	1,830,000	30,272,218	4.56%	2038
2039 - 2040	802,555,456		40,127,773	32,102,218						935,000	935,000	31,167,218	2.33%	2039
2040 - 2041	802,555,456		40,127,773	32,102,218								32,102,218		2040

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**
**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3d

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 4 - GO Bonds Issue Capacity in 2018 & 2021

SOURCES & USES

SOURCES	
Par Amount of Bonds	5,115,000.00
Accrued Interest	
Premium	

Total Sources	5,115,000.00
USES	
Deposit to Construction Account	5,000,000.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($12.50 per bond)	63,937.50
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	3,062.50

Total Uses	5,115,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2037

Arbitrage Yield	3.96471%	
TIC	4.11407%	
AIC	4.22804%	
Average Life	10.90	Years

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	265,000	2.160%	109,501	374,501	374,501
	12/1/2019			90,996	90,996	
1.58	6/1/2020	195,000	2.340%	90,996	285,996	376,992
	12/1/2020			88,714	88,714	
2.58	6/1/2021	310,000	2.530%	88,714	398,714	487,429
	12/1/2021			84,793	84,793	
3.58	6/1/2022	130,000	2.710%	84,793	214,793	299,586
	12/1/2022			83,031	83,031	
4.58	6/1/2023	0	2.920%	83,031	83,031	166,063
	12/1/2023			83,031	83,031	
5.58	6/1/2024	165,000	3.120%	83,031	248,031	331,063
	12/1/2024			80,457	80,457	
6.58	6/1/2025	250,000	3.320%	80,457	330,457	410,915
	12/1/2025			76,307	76,307	
7.58	6/1/2026	255,000	3.490%	76,307	331,307	407,615
	12/1/2026			71,858	71,858	
8.58	6/1/2027	265,000	3.630%	71,858	336,858	408,715
	12/1/2027			67,048	67,048	
9.58	6/1/2028	275,000	3.730%	67,048	342,048	409,096
	12/1/2028			61,919	61,919	
10.58	6/1/2029	285,000	3.810%	61,919	346,919	408,838
	12/1/2029			56,490	56,490	
11.58	6/1/2030	295,000	3.890%	56,490	351,490	407,980
	12/1/2030			50,752	50,752	
12.58	6/1/2031	305,000	3.970%	50,752	355,752	406,504
	12/1/2031			44,698	44,698	
13.58	6/1/2032	320,000	4.050%	44,698	364,698	409,396
	12/1/2032			38,218	38,218	
14.58	6/1/2033	330,000	4.130%	38,218	368,218	406,436
	12/1/2033			31,403	31,403	
15.58	6/1/2034	345,000	4.190%	31,403	376,403	407,807
	12/1/2034			24,176	24,176	
16.58	6/1/2035	360,000	4.250%	24,176	384,176	408,351
	12/1/2035			16,526	16,526	
17.58	6/1/2036	375,000	4.300%	16,526	391,526	408,051
	12/1/2036			8,463	8,463	
18.58	6/1/2037	390,000	4.340%	8,463	398,463	406,926
	12/1/2037					
19.58	6/1/2038					
	12/1/2038					
		5,115,000		2,227,258	7,342,258	7,342,258

Scale : MMD as of 2-15-2017 + 30 bps for credit (Aa2/BQ) + 100 bps timing.

City of Carroll, Iowa

Proposed G. O. Capital Loan Notes, Series 2021

EXHIBIT 4d

Scenario 4 - GO Bonds Issue Capacity in 2018 & 2021

SOURCES & USES

SOURCES	
Par Amount of Notes	7,650,000.00
Accrued Interest	
Premium	

Total Sources	7,650,000.00
USES	
Deposit to Construction Account	7,500,000.00
Deposit to Reserve Account	
Capitalized Interest Account	(0.00)
Municipal Bond Insurance	0.00
Underwriters' Discount ($12.50 per bond)	95,625.00
Costs of Issuance	51,000.00
Accrued Interest	
Rounding Amount	3,375.00

Total Uses	7,650,000.00
ASSUMPTIONS	
Dated Date	11/1/2021
Delivery Date	11/1/2021
First Interest Date	6/1/2022
First Principal Date	6/1/2022
Last Principal Date	6/1/2040

Yield Calculations:

Arbitrage Yield	4.27523%
TIC	4.40923%
AIC	4.48166%
Average Life	12.58 Years

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2022	0	2.410%	183,772	183,772	183,772
	12/1/2022			157,519	157,519	
1.58	6/1/2023	0	2.590%	157,519	157,519	315,039
	12/1/2023			157,519	157,519	
2.58	6/1/2024	100,000	2.780%	157,519	257,519	415,039
	12/1/2024			156,129	156,129	
3.58	6/1/2025	325,000	2.960%	156,129	481,129	637,259
	12/1/2025			151,319	151,319	
4.58	6/1/2026	335,000	3.170%	151,319	486,319	637,639
	12/1/2026			146,010	146,010	
5.58	6/1/2027	345,000	3.370%	146,010	491,010	637,019
	12/1/2027			140,196	140,196	
6.58	6/1/2028	325,000	3.570%	140,196	465,196	605,393
	12/1/2028			134,395	134,395	
7.58	6/1/2029	335,000	3.740%	134,395	469,395	603,790
	12/1/2029			128,131	128,131	
8.58	6/1/2030	345,000	3.880%	128,131	473,131	601,261
	12/1/2030			121,438	121,438	
9.58	6/1/2031	360,000	3.980%	121,438	481,438	602,875
	12/1/2031			114,274	114,274	
10.58	6/1/2032	375,000	4.060%	114,274	489,274	603,547
	12/1/2032			106,661	106,661	
11.58	6/1/2033	390,000	4.140%	106,661	496,661	603,322
	12/1/2033			98,588	98,588	
12.58	6/1/2034	405,000	4.220%	98,588	503,588	602,176
	12/1/2034			90,043	90,043	
13.58	6/1/2035	425,000	4.300%	90,043	515,043	605,085
	12/1/2035			80,905	80,905	
14.58	6/1/2036	440,000	4.380%	80,905	520,905	601,810
	12/1/2036			71,269	71,269	
15.58	6/1/2037	460,000	4.440%	71,269	531,269	602,538
	12/1/2037			61,057	61,057	
16.58	6/1/2038	855,000	4.500%	61,057	916,057	977,114
	12/1/2038			41,820	41,820	
17.58	6/1/2039	895,000	4.550%	41,820	936,820	978,639
	12/1/2039			21,458	21,458	
18.58	6/1/2040	935,000	4.590%	21,458	956,458	977,917
	12/1/2040					
19.58	6/1/2041					
	12/1/2041					
		7,650,000		4,141,231	11,791,231	11,791,231

Scale : MMD as of 2-15-17 + 30 bps for credit (Aa2/BQ) + 125 bps timing.

Scenario 1a: *10 Year Bonds*
Capacity within the Current Tax Rate for the Proposed 2018 GO Bonds

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CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1a

Scenario 1a - 2018 GO Bond Capacity within Current Tax Rate

10 Year Bonds

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$0.00
Fiscal Year 18-19	$0.00

FY18 Pre-Levy => *$ 209,778*

FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements (1) 2006 Ashwood TIF	Abatements 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107							2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710						1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070				2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745			2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429		3,000		1,099,524		98,455
2018 - 2019	510,558,300	1.28698	657,080	374,184 *	29,500			1,060,764	0				281,228		292,223	109,433	376,381	1,500		1,060,764		98,455
2019 - 2020	518,636,606	1.28977	668,924	374,184 *	29,500			1,072,608	0				282,978		294,523	112,354	381,254	1,500		1,072,608		98,455
2020 - 2021	512,920,731	1.28868	660,989	374,184 *	29,500			1,064,673	0				284,400		291,498		487,276	1,500		1,064,673		98,455
2021 - 2022	520,343,245	1.28982	671,148	374,184 *	29,500			1,074,832					290,080		298,060		485,192	1,500		1,074,832		98,455
2022 - 2023	503,680,510	1.28958	649,534	374,184 *	29,500			1,053,218					285,180		299,070		467,468	1,500		1,053,218		98,455
2023 - 2024	499,139,414	1.28616	641,974	374,184 *	29,500			1,045,658							299,720		744,438	1,500		1,045,658		98,455
2024 - 2025	499,139,414	1.27977	638,782	374,184 *	29,500			1,042,466									1,041,966	500		1,042,466		98,455
2025 - 2026	499,139,414	1.28167	639,732	374,184 *	29,500			1,043,416									1,042,916	500		1,043,416		98,455
2026 - 2027	499,139,414	1.28851	643,148	374,184 *	29,500			1,046,832									1,046,332	500		1,046,832		98,455
2027 - 2028	499,139,414	1.27925	638,526	374,184 *	0			1,012,710									1,012,210	500		1,012,710		98,455
2028 - 2029	499,139,414	1.27913	638,464	374,184 *				1,012,648									1,012,148	500		1,012,648		98,455

City of Carroll, Iowa

Projection of G.O. Debt Capacity

EXHIBIT 2a

Scenario 1a - 2018 GO Bond Capacity within Current Tax Rate
10 Year Bonds

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	Proposed Series 2017	FY18 CIP Proposed Series 2018	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000			6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000			5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000			4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000				3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000					3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000					4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000		4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	6,455,000	9,715,000	21,669,032	24.76%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	6,205,000	8,830,000	22,696,240	22.41%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				6,035,000	8,010,000	23,659,159	20.23%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				5,755,000	7,185,000	24,627,793	18.07%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				5,470,000	6,335,000	25,622,145	15.86%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				5,195,000	5,490,000	26,612,218	13.68%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					4,635,000	4,635,000	27,467,218	11.55%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					3,760,000	3,760,000	28,342,218	9.37%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					2,855,000	2,855,000	29,247,218	7.11%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					1,915,000	1,915,000	30,187,218	4.77%	2027
2028 - 2029	802,555,456		40,127,773	32,102,218					975,000	975,000	31,127,218	2.43%	2028
2029 - 2030	802,555,456		40,127,773	32,102,218							32,102,218		2029

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**
**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3a

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 1a - 2018 GO Bond Capacity within Current Tax Rate

10 Year Bonds

SOURCES & USES

SOURCES	
Par Amount of Bonds	6,455,000.00
Accrued Interest	
Premium	

Total Sources	6,455,000.00
USES	
Deposit to Construction Account	6,340,000.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($10.00 per bond)	64,550.00
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	2,450.00

Total Uses	6,455,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2029

Arbitrage Yield	3.51620%	
TIC	3.67752%	
AIC	3.79886%	
Average Life	7.21	Years

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	250,000	2.160%	126,381	376,381	376,381
	12/1/2019			105,627	105,627	
1.58	6/1/2020	170,000	2.340%	105,627	275,627	381,254
	12/1/2020			103,638	103,638	
2.58	6/1/2021	280,000	2.530%	103,638	383,638	487,276
	12/1/2021			100,096	100,096	
3.58	6/1/2022	285,000	2.710%	100,096	385,096	485,192
	12/1/2022			96,234	96,234	
4.58	6/1/2023	275,000	2.920%	96,234	371,234	467,468
	12/1/2023			92,219	92,219	
5.58	6/1/2024	560,000	3.120%	92,219	652,219	744,438
	12/1/2024			83,483	83,483	
6.58	6/1/2025	875,000	3.320%	83,483	958,483	1,041,966
	12/1/2025			68,958	68,958	
7.58	6/1/2026	905,000	3.490%	68,958	973,958	1,042,916
	12/1/2026			53,166	53,166	
8.58	6/1/2027	940,000	3.630%	53,166	993,166	1,046,332
	12/1/2027			36,105	36,105	
9.58	6/1/2028	940,000	3.730%	36,105	976,105	1,012,210
	12/1/2028			18,574	18,574	
10.58	6/1/2029	975,000	3.810%	18,574	993,574	1,012,148
	12/1/2029					
11.58	6/1/2030					
	12/1/2030					
12.58	6/1/2031					
	12/1/2031					
13.58	6/1/2032					
	12/1/2032					
14.58	6/1/2033					
	12/1/2033					
15.58	6/1/2034					
	12/1/2034					
16.58	6/1/2035					
	12/1/2035					
17.58	6/1/2036					
	12/1/2036					
18.58	6/1/2037					
	12/1/2037					
19.58	6/1/2038					
	12/1/2038					
		6,455,000		1,642,578	8,097,578	8,097,578

Scale : MMD as of 2-15-2017 + 30 bps for credit (Aa2/BQ) + 100 bps timing.

Scenario 2a: *10 Year Bonds*
Proposed 2018 & 2021 GO Bonds

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CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1b

Scenario 2a - GO Bonds Issued in 2018 & 2021
10 Year Bonds

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$1.71
Fiscal Year 18-19	$0.02

FY18 Pre-Levy => *$ 209,778*
FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements: (1) 2006 Ashwood TIF	Abatements: 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Proposed GO Series 2021	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107								2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710							1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070					2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745				2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429			3,000		1,099,524		98,455
2018 - 2019	510,558,300	2.98765	1,525,369	374,184 *	29,500			1,929,053	0				281,228		292,223	109,433	1,244,670		1,500		1,929,053		98,455
2019 - 2020	518,636,606	3.00594	1,558,993	374,184 *	29,500			1,962,677	0				282,978		294,523	112,354	1,271,323		1,500		1,962,677		98,455
2020 - 2021	512,920,731	3.04482	1,561,753	374,184 *	29,500			1,965,437	0				284,400		291,498		1,388,040		1,500		1,965,437		98,455
2021 - 2022	520,343,245	3.60832	1,877,563	374,184 *	29,500			2,281,247					290,080		298,060		969,324	722,283	1,500		2,281,247		98,455
2022 - 2023	503,680,510	3.57716	1,801,748	374,184 *	29,500			2,205,432					285,180		299,070		969,135	650,548	1,500		2,205,432		98,455
2023 - 2024	499,139,414	3.60914	1,801,463	374,184 *	29,500			2,205,147							299,720		971,797	932,130	1,500		2,205,147		98,455
2024 - 2025	499,139,414	3.59518	1,794,498	374,184 *	29,500			2,198,182									972,149	1,225,033	1,000		2,198,182		98,455
2025 - 2026	499,139,414	3.58629	1,790,060	374,184 *	29,500			2,193,744									970,091	1,222,653	1,000		2,193,744		98,455
2026 - 2027	499,139,414	3.58743	1,790,629	374,184 *	29,500			2,194,313									970,775	1,222,538	1,000		2,194,313		98,455
2027 - 2028	499,139,414	3.57720	1,785,522	374,184 *	0			2,159,706									969,194	1,189,512	1,000		2,159,706		98,455
2028 - 2029	499,139,414	3.58009	1,786,966	374,184 *				2,161,150									970,624	1,189,526	1,000		2,161,150		98,455
2029 - 2030	499,139,414	1.72974	863,381	374,184 *				1,237,565										1,236,565	1,000		1,237,565		98,455
2030 - 2031	499,139,414	1.73439	865,701	374,184 *				1,239,885										1,238,885	1,000		1,239,885		98,455
2031 - 2032	499,139,414	1.73324	865,130	374,184 *				1,239,314										1,238,314	1,000		1,239,314		98,455

City of Carroll, Iowa

Projection of G.O. Debt Capacity

EXHIBIT 2b

Scenario 2a - GO Bonds Issued in 2018 & 2021

10 Year Bonds

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	FY18 CIP Proposed Series 2017	Proposed Series 2018	Proposed Series 2021	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000				6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000				5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000				4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000					3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000						3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000						4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000			4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	9,860,000		13,120,000	18,264,032	33.44%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	8,790,000		11,415,000	20,111,240	28.97%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				7,795,000		9,770,000	21,899,159	24.68%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				6,660,000	9,750,000	17,840,000	13,972,793	44.86%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				5,915,000	9,225,000	16,005,000	15,952,145	40.07%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				5,150,000	8,900,000	14,345,000	17,757,218	35.75%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					4,360,000	8,285,000	12,645,000	19,457,218	31.51%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					3,545,000	7,360,000	10,905,000	21,197,218	27.18%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					2,705,000	6,410,000	9,115,000	22,987,218	22.71%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					1,835,000	5,430,000	7,265,000	24,837,218	18.10%	2027
2028 - 2029	802,555,456		40,127,773	32,102,218					935,000	4,450,000	5,385,000	26,717,218	13.42%	2028
2029 - 2030	802,555,456		40,127,773	32,102,218						3,435,000	3,435,000	28,667,218	8.56%	2029
2030 - 2031	802,555,456		40,127,773	32,102,218						2,335,000	2,335,000	29,767,218	5.82%	2030
2031 - 2032	802,555,456		40,127,773	32,102,218						1,190,000	1,190,000	30,912,218	2.97%	2031

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**
**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3b

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 2a - GO Bonds Issued in 2018 & 2021

10 Year Bonds

SOURCES & USES

SOURCES	
Par Amount of Bonds	9,860,000.00
Accrued Interest	
Premium	

Total Sources	9,860,000.00
USES	
Deposit to Construction Account	9,708,500.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($10.00 per bond)	98,600.00
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	4,900.00

Total Uses	9,860,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2029

Arbitrage Yield	3.36171%	
TIC	3.57182%	
AIC	3.67528%	
Average Life	5.42	Years

Estimated Annual Tax Impact for City Resident	
Average 100% Value for Homes	$125,000
FY 2017-18 Residential Rollback %	56.9391%
Average Taxable Value for Homes	$71,174
Maximum Debt Service Levy Increase	$1.76
Estimated Annual Tax Impact:	**$125.27**

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	1,070,000	2.160%	174,670	1,244,670	1,244,670
	12/1/2019			138,161	138,161	
1.58	6/1/2020	995,000	2.340%	138,161	1,133,161	1,271,323
	12/1/2020			126,520	126,520	
2.58	6/1/2021	1,135,000	2.530%	126,520	1,261,520	1,388,040
	12/1/2021			112,162	112,162	
3.58	6/1/2022	745,000	2.710%	112,162	857,162	969,324
	12/1/2022			102,067	102,067	
4.58	6/1/2023	765,000	2.920%	102,067	867,067	969,135
	12/1/2023			90,898	90,898	
5.58	6/1/2024	790,000	3.120%	90,898	880,898	971,797
	12/1/2024			78,574	78,574	
6.58	6/1/2025	815,000	3.320%	78,574	893,574	972,149
	12/1/2025			65,045	65,045	
7.58	6/1/2026	840,000	3.490%	65,045	905,045	970,091
	12/1/2026			50,387	50,387	
8.58	6/1/2027	870,000	3.630%	50,387	920,387	970,775
	12/1/2027			34,597	34,597	
9.58	6/1/2028	900,000	3.730%	34,597	934,597	969,194
	12/1/2028			17,812	17,812	
10.58	6/1/2029	935,000	3.810%	17,812	952,812	970,624
	12/1/2029					
11.58	6/1/2030					
	12/1/2030					
12.58	6/1/2031					
	12/1/2031					
13.58	6/1/2032					
	12/1/2032					
14.58	6/1/2033					
	12/1/2033					
15.58	6/1/2034					
	12/1/2034					
16.58	6/1/2035					
	12/1/2035					
17.58	6/1/2036					
	12/1/2036					
18.58	6/1/2037					
	12/1/2037					
19.58	6/1/2038					
	12/1/2038					
		9,860,000		1,807,118	11,667,118	11,667,118

Scale : MMD as of 2-15-2017 + 30 bps for credit (Aa2/BQ) + 100 bps timing.

City of Carroll, Iowa

Proposed G. O. Capital Loan Notes, Series 2021

EXHIBIT 4b

Scenario 2a - GO Bonds Issued in 2018 & 2021

10 Year Bonds

SOURCES & USES

SOURCES	
Par Amount of Notes	9,750,000.00
Accrued Interest	
Premium	
Total Sources	9,750,000.00
USES	
Deposit to Construction Account	9,600,000.00
Deposit to Reserve Account	
Capitalized Interest Account	(0.00)
Municipal Bond Insurance	0.00
Underwriters' Discount ($10.00 per bond)	97,500.00
Costs of Issuance	51,000.00
Accrued Interest	
Rounding Amount	1,500.00
Total Uses	9,750,000.00
ASSUMPTIONS	
Dated Date	11/1/2021
Delivery Date	11/1/2021
First Interest Date	6/1/2022
First Principal Date	6/1/2022
Last Principal Date	6/1/2032

Yield Calculations:

Arbitrage Yield	3.68003%
TIC	3.86049%
AIC	3.95589%
Average Life	6.43 Years

Estimated Annual Tax Impact for City Resident	
Average 100% Value for Homes	$125,000
FY 2017-18 Residential Rollback %	56.9391%
Average Taxable Value for Homes	$71,174
Maximum Debt Service Levy Increase	$0.56
Estimated Annual Tax Impact:	**$39.86**

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2022	525,000	2.410%	197,283	722,283	722,283
	12/1/2022			162,774	162,774	
1.58	6/1/2023	325,000	2.590%	162,774	487,774	650,548
	12/1/2023			158,565	158,565	
2.58	6/1/2024	615,000	2.780%	158,565	773,565	932,130
	12/1/2024			150,017	150,017	
3.58	6/1/2025	925,000	2.960%	150,017	1,075,017	1,225,033
	12/1/2025			136,327	136,327	
4.58	6/1/2026	950,000	3.170%	136,327	1,086,327	1,222,653
	12/1/2026			121,269	121,269	
5.58	6/1/2027	980,000	3.370%	121,269	1,101,269	1,222,538
	12/1/2027			104,756	104,756	
6.58	6/1/2028	980,000	3.570%	104,756	1,084,756	1,189,512
	12/1/2028			87,263	87,263	
7.58	6/1/2029	1,015,000	3.740%	87,263	1,102,263	1,189,526
	12/1/2029			68,283	68,283	
8.58	6/1/2030	1,100,000	3.880%	68,283	1,168,283	1,236,565
	12/1/2030			46,943	46,943	
9.58	6/1/2031	1,145,000	3.980%	46,943	1,191,943	1,238,885
	12/1/2031			24,157	24,157	
10.58	6/1/2032	1,190,000	4.060%	24,157	1,214,157	1,238,314
	12/1/2032					
11.58	6/1/2033					
	12/1/2033					
12.58	6/1/2034					
	12/1/2034					
13.58	6/1/2035					
	12/1/2035					
14.58	6/1/2036					
	12/1/2036					
15.58	6/1/2037					
	12/1/2037					
16.58	6/1/2038					
	12/1/2038					
17.58	6/1/2039					
	12/1/2039					
18.58	6/1/2040					
	12/1/2040					
19.58	6/1/2041					
	12/1/2041					
		9,750,000		2,317,987	12,067,987	12,067,987

Scale : MMD as of 2-15-17 + 30 bps for credit (Aa2/BQ) + 125 bps timing.

Scenario 3a: *10 Year Bonds*
Proposed 2018 GO Bonds for All Projects

© PFM

CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1c

Scenario 3a - GO Bonds for All Projects Issued in 2018
10 Year Bonds

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$2.39
Fiscal Year 18-19	$0.00

FY18 Pre-Levy => *$ 209,778*
FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements: (1) 2006 Ashwood TIF	Abatements: 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107							2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710						1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070				2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745			2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429		3,000		1,099,524		98,455
2018 - 2019	510,558,300	3.67462	1,876,105	374,184 *	29,500			2,279,789	0				281,228		292,223	109,433	1,595,406	1,500		2,279,789		98,455
2019 - 2020	518,636,606	3.67740	1,907,233	374,184 *	29,500			2,310,917	0				282,978		294,523	112,354	1,619,563	1,500		2,310,917		98,455
2020 - 2021	512,920,731	3.67846	1,886,758	374,184 *	29,500			2,290,442	0				284,400		291,498		1,713,045	1,500		2,290,442		98,455
2021 - 2022	520,343,245	3.67496	1,912,243	374,184 *	29,500			2,315,927					290,080		298,060		1,726,287	1,500		2,315,927		98,455
2022 - 2023	503,680,510	3.67927	1,853,175	374,184 *	29,500			2,256,859					285,180		299,070		1,671,109	1,500		2,256,859		98,455
2023 - 2024	499,139,414	3.68834	1,840,998	374,184 *	29,500			2,244,682							299,720		1,943,962	1,000		2,244,682		98,455
2024 - 2025	499,139,414	3.67848	1,836,074	374,184 *	29,500			2,239,758									2,239,258	500		2,239,758		98,455
2025 - 2026	499,139,414	3.67905	1,836,358	374,184 *	29,500			2,240,042									2,239,542	500		2,240,042		98,455
2026 - 2027	499,139,414	3.67854	1,836,106	374,184 *	29,500			2,239,790									2,239,290	500		2,239,790		98,455
2027 - 2028	499,139,414	3.68636	1,840,006	374,184 *	0			2,214,190									2,213,690	500		2,214,190		98,455
2028 - 2029	499,139,414	3.67726	1,835,466	374,184 *				2,209,650									2,209,150	500		2,209,650		98,455

City of Carroll, Iowa

Projection of G.O. Debt Capacity

EXHIBIT 2c

Scenario 3a - GO Bonds for All Projects Issued in 2018
10 Year Bonds

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	Proposed Series 2017	FY18 CIP Proposed Series 2018	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000			6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000			5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000			4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000				3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000					3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000					4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000		4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	17,435,000	20,695,000	10,689,032	52.75%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	16,180,000	18,805,000	12,721,240	47.72%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				15,115,000	17,090,000	14,579,159	43.17%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				13,930,000	15,360,000	16,452,793	38.63%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				12,700,000	13,565,000	18,392,145	33.96%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				11,490,000	11,785,000	20,317,218	29.37%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					9,970,000	9,970,000	22,132,218	24.85%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					8,105,000	8,105,000	23,997,218	20.20%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					6,175,000	6,175,000	25,927,218	15.39%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					4,175,000	4,175,000	27,927,218	10.40%	2027

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**
**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3c

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 3a - GO Bonds for All Projects Issued in 2018

10 Year Bonds

SOURCES & USES

SOURCES	
Par Amount of Bonds	17,435,000.00
Accrued Interest	
Premium	

Total Sources	17,435,000.00
USES	
Deposit to Construction Account	17,208,500.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($10.00 per bond)	174,350.00
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	4,150.00

Total Uses	17,435,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2029

Arbitrage Yield	3.59323%	
TIC	3.77662%	
AIC	3.82756%	
Average Life	6.32	Years

Estimated Annual Tax Impact for City Resident	
Average 100% Value for Homes	$125,000
FY 2017-18 Residential Rollback %	56.9391%
Average Taxable Value for Homes	$71,174
Maximum Debt Service Levy Increase	$2.40
Estimated Annual Tax Impact:	**$170.82**

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	1,255,000	2.310%	340,406	1,595,406	1,595,406
	12/1/2019			277,282	277,282	
1.58	6/1/2020	1,065,000	2.490%	277,282	1,342,282	1,619,563
	12/1/2020			264,022	264,022	
2.58	6/1/2021	1,185,000	2.680%	264,022	1,449,022	1,713,045
	12/1/2021			248,143	248,143	
3.58	6/1/2022	1,230,000	2.860%	248,143	1,478,143	1,726,287
	12/1/2022			230,554	230,554	
4.58	6/1/2023	1,210,000	3.070%	230,554	1,440,554	1,671,109
	12/1/2023			211,981	211,981	
5.58	6/1/2024	1,520,000	3.270%	211,981	1,731,981	1,943,962
	12/1/2024			187,129	187,129	
6.58	6/1/2025	1,865,000	3.470%	187,129	2,052,129	2,239,258
	12/1/2025			154,771	154,771	
7.58	6/1/2026	1,930,000	3.640%	154,771	2,084,771	2,239,542
	12/1/2026			119,645	119,645	
8.58	6/1/2027	2,000,000	3.780%	119,645	2,119,645	2,239,290
	12/1/2027			81,845	81,845	
9.58	6/1/2028	2,050,000	3.880%	81,845	2,131,845	2,213,690
	12/1/2028			42,075	42,075	
10.58	6/1/2029	2,125,000	3.960%	42,075	2,167,075	2,209,150
	12/1/2029					
11.58	6/1/2030					
	12/1/2030					
12.58	6/1/2031					
	12/1/2031					
13.58	6/1/2032					
	12/1/2032					
14.58	6/1/2033					
	12/1/2033					
15.58	6/1/2034					
	12/1/2034					
16.58	6/1/2035					
	12/1/2035					
17.58	6/1/2036					
	12/1/2036					
18.58	6/1/2037					
	12/1/2037					
19.58	6/1/2038					
	12/1/2038					
		---	---	---	---	---
		17,435,000		3,975,300	21,410,300	21,410,300

Scale : MMD as of 2-15-2017 + 45 bps for credit (Aa2/NonBQ) + 100 bps timing.

Scenario 4a: *10 Year Bonds*
Proposed 2018 & 2021 Capacity for GO Bonds

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CITY OF CARROLL, IOWA

Projection of Debt Service Levy & Tax Rate Impact

EXHIBIT 1b

Scenario 4a - GO Bonds Issue Capacity in 2018 & 2021
10 Year Bonds

TAX RATE IMPACT	
Fiscal Year 16-17	($0.00)
Fiscal Year 17-18	($0.01)
Fiscal Year 18-19	$0.00
Fiscal Year 18-19	($0.00)

FY18 Pre-Levy => *$ 209,778*
FY18 CIP

Fiscal Year Payable	Total Tax Valuation	Tax Rate Per $1,000	Current Taxes Levied	LOST Revenues	Abatements (1) 2006 Ashwood TIF	Abatements 2008 Assisted Living TIF	Other Sources	TOTAL Resources	Outstanding Debt Issues: TIF Series 2006	TIF/Taxes Series 2008	Series 2010A/13	Ref & Streets Series 2014	Advance Ref 2008 Series 2015A	GO Series 2016A	GO Series 2016B	Proposed GO Series 2017	Proposed GO Series 2018	Proposed GO Series 2021	Fiscal Fees	Other Uses	TOTAL Uses	Surplus (Deficit)	Ending Balance
2013 - 2014	436,313,737	1.31482	573,673	375,661 *	31,660	53,413	84,224	1,118,631	54,938	385,518	580,107								2,000	27,033	1,049,595	69,035	125,773
2014 - 2015	509,745,241	1.31502	670,325	346,694 *	35,439	56,838	16,285	1,125,581	2,922	231,068	428,205	509,710							1,500	(1,747,680)	(574,275)	1,699,856	1,825,629
2015 - 2016	505,407,544	1.28846	651,197	399,730 *	34,318		35,328	1,120,573	0	170,953	236,293	308,848	0	386,070					2,500	1,746,128	2,850,790	(1,730,217)	95,412
2016 - 2017	507,314,135	1.28762	653,228	352,736 *	28,800		30,616	1,065,380	0			312,170	179,990	268,933	298,745				2,500		1,062,337	3,043	98,455
2017 - 2018	515,496,419	1.28237	661,056	379,255 *	31,705		27,508	1,099,524	0				283,828	262,210	340,058	210,429			3,000		1,099,524		98,455
2018 - 2019	510,558,300	1.28403	655,572	374,184 *	29,500			1,059,256	0				281,228		292,223	109,433	374,873		1,500		1,059,256		98,455
2019 - 2020	518,636,606	1.28187	664,827	374,184 *	29,500			1,068,511	0				282,978		294,523	112,354	377,157		1,500		1,068,511		98,455
2020 - 2021	512,920,731	1.28496	659,084	374,184 *	29,500			1,062,768	0				284,400		291,498		485,371		1,500		1,062,768		98,455
2021 - 2022	520,343,245	1.28526	668,778	374,184 *	29,500			1,072,462					290,080		298,060		265,124	217,698	1,500		1,072,462		98,455
2022 - 2023	503,680,510	1.28308	646,263	374,184 *	29,500			1,049,947					285,180		299,070		164,840	299,358	1,500		1,049,947		98,455
2023 - 2024	499,139,414	1.28466	641,223	374,184 *	29,500			1,044,907							299,720		446,920	296,768	1,500		1,044,907		98,455
2024 - 2025	499,139,414	1.28463	641,211	374,184 *	29,500			1,044,895									309,908	733,988	1,000		1,044,895		98,455
2025 - 2026	499,139,414	1.28540	641,595	374,184 *	29,500			1,045,279									311,276	733,004	1,000		1,045,279		98,455
2026 - 2027	499,139,414	1.28136	639,579	374,184 *	29,500			1,043,263									306,853	735,410	1,000		1,043,263		98,455
2027 - 2028	499,139,414	1.28164	639,719	374,184 *	0			1,013,903									306,870	706,033	1,000		1,013,903		98,455
2028 - 2029	499,139,414	1.29006	643,918	374,184 *				1,018,102									306,240	710,862	1,000		1,018,102		98,455
2029 - 2030	499,139,414	1.04302	520,612	374,184 *				894,796										893,796	1,000		894,796		98,455
2030 - 2031	499,139,414	1.05134	524,766	374,184 *				898,950										897,950	1,000		898,950		98,455
2031 - 2032	499,139,414	1.04526	521,732	374,184 *				895,916										894,916	1,000		895,916		98,455

City of Carroll, Iowa

Projection of G.O. Debt Capacity

EXHIBIT 2b

Scenario 4a - GO Bonds Issue Capacity in 2018 & 2021

10 Year Bonds

Valuation Growth & Debt Limit Assumptions	
Legal Debt Limit	5.00%
Effective Limit	4.00%

Beginning of Fiscal Year	Actual Valuation	Historical Valuation Growth	Gross Debt Limit	Effective Debt Limit	DEBT ISSUES SUBJECT TO DEBT LIMIT * G.O. - TAXES -	G.O. - TIF -	Sales Tax Bonds	Proposed Series 2017	Proposed Series 2018 (FY18 CIP)	Proposed Series 2021	TOTAL G.O. DEBT OUTST'NDG	Available Effective Capacity	Percent /Debt Gross Debt Limit	Beginning of Fiscal Year
2011 - 2012	632,429,951	1.89%	31,621,498	25,297,198	4,235,000	945,000	1,650,000				6,830,000	18,467,198	21.60%	2011
2012 - 2013	648,166,368	2.49%	32,408,318	25,926,655	3,520,000	655,000	1,110,000				5,285,000	20,641,655	16.31%	2012
2013 - 2014	654,646,146	1.00%	32,732,307	26,185,846	3,400,000	455,000	560,000				4,415,000	21,770,846	13.49%	2013
2014 - 2015	752,235,898	14.91%	37,611,795	30,089,436	3,750,000	55,000					3,805,000	26,284,436	10.12%	2014
2015 - 2016	757,631,838	0.72%	37,881,592	30,305,274	3,630,000						3,630,000	26,675,274	9.58%	2015
2016 - 2017	775,612,596	2.37%	38,780,630	31,024,504	4,895,000						4,895,000	26,129,504	12.62%	2016
2017 - 2018	781,063,284	0.70%	39,053,164	31,242,531	3,880,000			420,000			4,300,000	26,942,531	11.01%	2017
2018 - 2019	784,600,798	0.45%	39,230,040	31,384,032	3,045,000			215,000	3,080,000		6,340,000	25,044,032	16.16%	2018
2019 - 2020	788,155,999	0.45%	39,407,800	31,526,240	2,515,000			110,000	2,760,000		5,385,000	26,141,240	13.66%	2019
2020 - 2021	791,728,977	0.45%	39,586,449	31,669,159	1,975,000				2,470,000		4,445,000	27,224,159	11.23%	2020
2021 - 2022	795,319,819	0.45%	39,765,991	31,812,793	1,430,000				2,065,000	5,610,000	9,105,000	22,707,793	22.90%	2021
2022 - 2023	798,928,616	0.45%	39,946,431	31,957,145	865,000				1,870,000	5,510,000	8,245,000	23,712,145	20.64%	2022
2023 - 2024	802,555,456	0.45%	40,127,773	32,102,218	295,000				1,770,000	5,410,000	7,475,000	24,627,218	18.63%	2023
2024 - 2025	802,555,456		40,127,773	32,102,218					1,385,000	5,310,000	6,695,000	25,407,218	16.68%	2024
2025 - 2026	802,555,456		40,127,773	32,102,218					1,125,000	4,770,000	5,895,000	26,207,218	14.69%	2025
2026 - 2027	802,555,456		40,127,773	32,102,218					855,000	4,215,000	5,070,000	27,032,218	12.63%	2026
2027 - 2028	802,555,456		40,127,773	32,102,218					580,000	3,640,000	4,220,000	27,882,218	10.52%	2027
2028 - 2029	802,555,456		40,127,773	32,102,218					295,000	3,075,000	3,370,000	28,732,218	8.40%	2028
2029 - 2030	802,555,456		40,127,773	32,102,218						2,485,000	2,485,000	29,617,218	6.19%	2029
2030 - 2031	802,555,456		40,127,773	32,102,218						1,690,000	1,690,000	30,412,218	4.21%	2030
2031 - 2032	802,555,456		40,127,773	32,102,218						860,000	860,000	31,242,218	2.14%	2031
2032 - 2033	802,555,456		40,127,773	32,102,218								32,102,218		2032
2033 - 2034	802,555,456		40,127,773	32,102,218								32,102,218		2033
2034 - 2035	802,555,456		40,127,773	32,102,218								32,102,218		2034
2035 - 2036	802,555,456		40,127,773	32,102,218								32,102,218		2035
2036 - 2037	802,555,456		40,127,773	32,102,218								32,102,218		2036
2037 - 2038	802,555,456		40,127,773	32,102,218								32,102,218		2037
2038 - 2039	802,555,456		40,127,773	32,102,218								32,102,218		2038
2039 - 2040	802,555,456		40,127,773	32,102,218								32,102,218		2039
2040 - 2041	802,555,456		40,127,773	32,102,218								32,102,218		2040

*** - Represents G.O. principal outstanding as of the BEGINNING of the fiscal year.**

**** - Project is subject to voter approval.**

City of Carroll, Iowa

EXHIBIT 3b

Proposed G. O. Capital Loan Notes, Series 2018

Scenario 4a - GO Bonds Issue Capacity in 2018 & 2021

10 Year Bonds

SOURCES & USES

SOURCES	
Par Amount of Bonds	3,080,000.00
Accrued Interest	
Premium	

Total Sources	3,080,000.00
USES	
Deposit to Construction Account	3,000,000.00
Deposit to Reserve Account	
Capitalized Interest Account	0.00
Municipal Bond Insurance	
Underwriters' Discount ($10.00 per bond)	30,800.00
Costs of Issuance	48,000.00
Accrued Interest	
Rounding Amount	1,200.00

Total Uses	3,080,000.00
ASSUMPTIONS	
Dated Date	11/1/2018
Delivery Date	11/1/2018
First Interest Date	6/1/2019
First Principal Date	6/1/2019
Last Principal Date	6/1/2029

Arbitrage Yield	3.37147%
TIC	3.57838%
AIC	3.90726%
Average Life	5.51 Years

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2019	320,000	2.160%	54,873	374,873	374,873
	12/1/2019			43,578	43,578	
1.58	6/1/2020	290,000	2.340%	43,578	333,578	377,157
	12/1/2020			40,185	40,185	
2.58	6/1/2021	405,000	2.530%	40,185	445,185	485,371
	12/1/2021			35,062	35,062	
3.58	6/1/2022	195,000	2.710%	35,062	230,062	265,124
	12/1/2022			32,420	32,420	
4.58	6/1/2023	100,000	2.920%	32,420	132,420	164,840
	12/1/2023			30,960	30,960	
5.58	6/1/2024	385,000	3.120%	30,960	415,960	446,920
	12/1/2024			24,954	24,954	
6.58	6/1/2025	260,000	3.320%	24,954	284,954	309,908
	12/1/2025			20,638	20,638	
7.58	6/1/2026	270,000	3.490%	20,638	290,638	311,276
	12/1/2026			15,926	15,926	
8.58	6/1/2027	275,000	3.630%	15,926	290,926	306,853
	12/1/2027			10,935	10,935	
9.58	6/1/2028	285,000	3.730%	10,935	295,935	306,870
	12/1/2028			5,620	5,620	
10.58	6/1/2029	295,000	3.810%	5,620	300,620	306,240
	12/1/2029					
11.58	6/1/2030					
	12/1/2030					
12.58	6/1/2031					
	12/1/2031					
13.58	6/1/2032					
	12/1/2032					
14.58	6/1/2033					
	12/1/2033					
15.58	6/1/2034					
	12/1/2034					
16.58	6/1/2035					
	12/1/2035					
17.58	6/1/2036					
	12/1/2036					
18.58	6/1/2037					
	12/1/2037					
19.58	6/1/2038					
	12/1/2038					
		3,080,000		575,428	3,655,428	3,655,428

Scale : MMD as of 2-15-2017 + 30 bps for credit (Aa2/BQ) + 100 bps timing.

City of Carroll, Iowa

Proposed G. O. Capital Loan Notes, Series 2021

EXHIBIT 4b

Scenario 4a - GO Bonds Issue Capacity in 2018 & 2021

10 Year Bonds

SOURCES & USES

SOURCES	
Par Amount of Notes	5,610,000.00
Accrued Interest	
Premium	

Total Sources	5,610,000.00
USES	
Deposit to Construction Account	5,500,000.00
Deposit to Reserve Account	
Capitalized Interest Account	(0.00)
Municipal Bond Insurance	0.00
Underwriters' Discount ($10.00 per bond)	56,100.00
Costs of Issuance	51,000.00
Accrued Interest	
Rounding Amount	2,900.00

Total Uses	5,610,000.00
ASSUMPTIONS	
Dated Date	11/1/2021
Delivery Date	11/1/2021
First Interest Date	6/1/2022
First Principal Date	6/1/2022
Last Principal Date	6/1/2032

Yield Calculations:

Arbitrage Yield	3.73843%
TIC	3.90171%
AIC	4.05200%
Average Life	7.17 Years

DEBT SERVICE SCHEDULE

	Date	Principal	Coupon	Interest	Debt Service	Annual Debt Service
0.58	6/1/2022	100,000	2.410%	117,698	217,698	217,698
	12/1/2022			99,679	99,679	
1.58	6/1/2023	100,000	2.590%	99,679	199,679	299,358
	12/1/2023			98,384	98,384	
2.58	6/1/2024	100,000	2.780%	98,384	198,384	296,768
	12/1/2024			96,994	96,994	
3.58	6/1/2025	540,000	2.960%	96,994	636,994	733,988
	12/1/2025			89,002	89,002	
4.58	6/1/2026	555,000	3.170%	89,002	644,002	733,004
	12/1/2026			80,205	80,205	
5.58	6/1/2027	575,000	3.370%	80,205	655,205	735,410
	12/1/2027			70,516	70,516	
6.58	6/1/2028	565,000	3.570%	70,516	635,516	706,033
	12/1/2028			60,431	60,431	
7.58	6/1/2029	590,000	3.740%	60,431	650,431	710,862
	12/1/2029			49,398	49,398	
8.58	6/1/2030	795,000	3.880%	49,398	844,398	893,796
	12/1/2030			33,975	33,975	
9.58	6/1/2031	830,000	3.980%	33,975	863,975	897,950
	12/1/2031			17,458	17,458	
10.58	6/1/2032	860,000	4.060%	17,458	877,458	894,916
	12/1/2032					
11.58	6/1/2033					
	12/1/2033					
12.58	6/1/2034					
	12/1/2034					
13.58	6/1/2035					
	12/1/2035					
14.58	6/1/2036					
	12/1/2036					
15.58	6/1/2037					
	12/1/2037					
16.58	6/1/2038					
	12/1/2038					
17.58	6/1/2039					
	12/1/2039					
18.58	6/1/2040					
	12/1/2040					
19.58	6/1/2041					
	12/1/2041					
		5,610,000		1,509,780	7,119,780	7,119,780

Scale : MMD as of 2-15-17 + 30 bps for credit (Aa2/BQ) + 125 bps timing.