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## MEMORANDUM

TO: Chris Chronis, Finance Director

FROM: Kathleen Aho

DATE: July 8, 2015

SUBJECT: Single Family Housing Proposals

George K. Baum has provided the County with a proposal to sell the mortgage-backed securities pledged to the repayment of certain Series 2006 Sedgwick/Shawnee single family revenue bond transactions and applying remaining assets to effect the call of the outstanding bonds. This memo discusses the transaction.

The County, together with Shawnee County, issued a number of bond issues in 2006. Due to current market conditions, the mortgage backed securities (MBSs) that are pledged as security for the bonds are able to be sold at a considerable premium. If sufficient, the proceeds of an MBS sale, together with any other pledged assets held by the trustee, can be used to optionally call the bonds. Any excess funds remaining after the bonds are redeemed and expenses paid, can be released to the counties. The bonds sold in 2006 are summarized in the attached table, however, none of the 2006 bonds are presently callable. The table attached segregates the 2006 bonds into blocks based on their redemption dates. The first block is callable December, 2015. The second block is callable June, 2016. The third block was sold in 2006, but not the subject of the proposal provided by Baum, probably due to the length of time until their redemption dates. The issues are noted only for informational purposes. The third block is not callable until December 2016.

There are three basic questions to ask in reviewing the proposal:

- What is the better outcome for the County, letting the issues run or selling the MBSs and redeeming the bonds early?
- If selling the MBSs is better, is it better to sell in the near future or wait until closer to a call date?
- In any event, what can the money be used for?

### What is the better financial outcome for the County?

If the issues are left to repay over time, MBS income will be used to redeem bonds until the issue has been paid off. After the bonds have been repaid, the counties will be entitled to any MBS income remaining. This can either be received over time or the MBSs can be sold at that time and the sale proceeds distributed to the counties. To be

able to make a comparison of this result versus selling MBSs now and optionally redeeming the bonds, calculations are done to estimate the flow of MBS income and ultimate mortgage income flow to the counties. That income flow is then present valued and compared to the up-front cash received from a current MBS sale.

Baum performed an analysis for the issued listed in the first two blocks of issues discussed above. For each subject issue, an income stream estimated based on the remaining mortgages was produced. As income is received from the mortgage repayments, bonds for the subject issue are redeemed using whatever money is then available to call bonds at par. The resultant redemptions fluctuate based on whether borrowers prepay their mortgages and when. Because of this fluidity, a series of cash flows are produced to test different mortgage prepayment speeds. The mortgage rate is higher than the bond rate and the slower the prepayment speed the more extra money, or residual, will be created and left after all the bonds pay off. I asked for and Baum provided me with their analysis of the 2006 A-1 transaction at 100% prepayment speed, (the slowest speed illustrated), and the analysis of the 2006 A-1 issue if the MBSs are sold and bonds redeemed. The full cash flows are voluminous and I did not ask for more than one example at this time, however, they are available if needed. The schedules provided support the summary recap for the 2006 A-1 issue reviewed.

Baum generated a one page recap containing the results of selling the MBSs compared to letting the issues play out and collecting the residuals once the bonds are paid off. It is attached as the final page of this document. For purposes of this comparison, they ran five sets of cash flows for each issue. The first assumed a sale of MBSs and redemption of the bonds on the next optional call date. The remaining four cash flows assume mortgages pre-pay at varying speeds which are referred to as 100%, 200%, 300%, and 400% PSA, with 100% being the slowest prepayment rate illustrated. Some of the data in the table form below is from, or derived from, the Baum recap. Other information was retrieved from EMMA or Bloomberg.

Table of Values

Issue	Release	PV of Residual				Call Date	Call Premium	GIC Rate
		100%	200%	300%	400%			
2006 A-1	\$ 245,979	\$ 249,286	\$ 234,025	\$ 222,414	\$ 214,197	12/1/2015	101% and 105%	3.75%
2006 A-2	253,092	254,360	238,732	226,990	218,275	12/1/2015	102% and 105%	3.95%
2006 A-3	508,645	326,673	310,367	297,287	287,693	12/1/2015	101% and 103%	4.16%
2006 A-4	449,845	390,878	362,021	341,727	326,910	12/1/2015	103%	3.50%
2006 A-5	423,132	460,742	425,636	399,790	381,242	6/1/2016	103%	4.67%
2006 A-6	134,892	185,746	172,935	164,040	157,504	6/1/2016	103%	4.60%
2006 B-1	224,239	152,336	129,381	114,776	104,290	6/1/2016	103%	4.45%
2006 B-2	286,565	263,205	233,223	212,316	197,739	6/1/2016	103%	4.45%
	\$ 2,526,392	\$ 2,283,227	\$ 2,106,320	\$ 1,979,339	\$ 1,887,851			

The interest rates on the MBS are almost entirely in the mid to high 5%. Again, doing a spot check on MBSs in the 2006 A-1 transaction, prepayment speeds have ranged from around 200% to 400% over the life of the transaction,

but have been substantially 0% for the last year. The validity of the comparison above rests in large measure on the prepayment speed going forward. Recent history suggest a slow prepayment speed is the more valid comparison. As you can see, the difference between the 100% prepayment speed residual and the current release of funds in aggregate is about a \$243,000 advantage to selling now. This advantage will be less at a lower prepayment speed. The difference in return between the two approaches modestly favors a sale now. Another factor to consider is what the value of having cash in hand is versus a potential future return. As an example, the 2006 A-1 bonds under the 100% prepayment scenario are not redeemed until the end of 2028. Between now and then, no residual is released to the counties.

If selling MBSs is better, is it better to sell in the near future or wait until a call date?

The dynamics of selling now or selling later are influenced by i) the changing market value of the MBSs, ii) the negative arbitrage between the sale and the time that bonds can be redeemed, and iii) the call premium necessary to pay the bonds off. The market is currently offering a premium for the MBSs. As time passes, the market can change in either direction. An upward movement in interest rates will generally cause a decrease in the value of the MBSs. The passage of time will also erode the principal amount of the MBSs as people repay their mortgages and shorten the term of the MBS, both of which serve to reduce the dollars of premium that can be received. Evaluating the impact of this factor requires a judgement call on where the market will go during the time that you wait. The price of the MBSs would have to increase to remain even with today because of the passage of time, or put another way, rates would have to go down.

Negative arbitrage impacts the decision in a different, opposite way. The MBSs generate interest at a rate in excess of the bond rate. While they are outstanding, there is positive arbitrage. If they are sold and reinvested to a future call date, there will be negative arbitrage. The amount of negative arbitrage depends on the transaction, the rate on the guaranteed investment contract under which the proceeds will be invested and whether there is any question about acceptance of the deposit of sale proceeds by the investment provider/s. The table of values above relies on funds being invested under the contracts. Applicable rates on contracts remaining in place are shown in the table of values and interest rates on the bonds range from 5.30% to 5.75%. The amount of negative arbitrage will be determined by the amount of money invested, the time until the call date during which it is invested, and the spread between the investment contract rate and the bond rate. If for any reason, funds cannot be invested under the contracts, the negative arbitrage will increase sharply due to the low investment returns available in the current market. This would damage the financial return and the advisability of proceeding would need to be re-evaluated.

In discussions with Kim Wells at Gilmore and Bell, he indicated that a requirement of the transaction will be to "gross fund" the redemption cost of the bonds prior to any release of funds. That means that principal, interest, and call premium will need to be funded with cash at closing in order to release the funds. The table above lists the bond call premiums. They range from 1% to 5% at the first call listed and drop to par over time and have been factored into the Baum analysis.

In any event, what can the money be used for?

For the answer to this question, I spoke with Kim Wells. He indicates that he is unaware of any restrictions on the use of the funds that would be released from the bond issues, whether released now or later. It is possible that for

other single family issues or types of transactions the answer might be different, but in this case they would be available for any lawful purpose of the County.

### Conclusions

The County has benefited from this type of transaction before. Current prepayment levels suggest that waiting or proceeding will probably produce a similar return, but there is no guarantee that prepayment levels will stay at their current levels. If they increase, the residual realized by waiting will decrease. The factors influencing prepayment speeds are too varied to be able to predict them. By proceeding at this time, the County locks in a quantifiable return.

The open question remains, what is the right time to execute the sale or sales? Should the transaction be split between the December 1, 2015 calls and the June 1, 2016 calls to reduce negative arbitrage? The finance team should address this issue in more detail. Additionally, comfort regarding the ability to invest under the investment contracts needs to be received prior to executing a sale. The economics of the transaction/s as presented relies heavily on the ability to keep the funds invested at the higher levels of return under the contracts. Receiving authorization to proceed from the Board should be followed by additional discussions to resolve the timing question and set the parameters for any sale/s to follow.

Bonds Sold in 2006

Series	Matures	Original Par	Outstanding*	Coupon	Call date/price
First callable December 1, 2016					
2006 A-1	12/1/2028	\$ 7,500,000	\$ 715,000	5.50%	12/1/2015 @101 DTP 12/1/2016
	6/1/2037	1,300,000	0	4.50%	12/1/2015 @ par
	12/1/2037	6,200,000	1,110,000	5.75%	12/1/2015 @ 105% DTP 12/1/2025
2006 A-2	6/1/2029	\$ 6,000,000	710,000	5.60%	12/1/2015 @ 102% DTP 12/1/2017
	6/1/2037	1,040,000	0	4.60%	12/1/2015 @ par
	12/1/2037	4,960,000	1,080,000	5.75%	12/1/2015 @105% DTP 12/1/2025
2006 A-3	12/1/2028	\$10,000,000	1,500,000	5.30%	12/1/2015 @101% DTP 12/1/2016
	12/1/2036	1,735,000	0	4.625%	12/1/2015 @ 100%
	12/1/2037	8,265,000	2,400,000	5.50%	12/1/2015 @103% DTP 12/1/2027
2006 A-4	12/1/2028	\$28,000,000	2,680,000	5.40%	12/1/2015 @103% DTP 12/1/2021
First callable June 1, 2016					
2006 A-5	6/1/2038	\$30,000,000	3,320,000	5.45%	6/1/2016 @103% DTP 6/1/2022
2006 A-6	6/1/2038	\$25,000,000	1,190,000	5.55%	6/1/2016 @ 103% DTP 6/1/2022
2006 B-1	12/1/2038	\$40,000,000	3,350,000	5.30%	6/1/2016 @103% DTP 6/1/2022
2006 B-2	12/1/2038	\$40,000,000	4,210,000	5.25%	6/1/2016 @ 103% DTP 6/1/2022
First callable December 2016					
2006 B-3	12/1/2038	\$30,000,000	\$ 1,195,000	5.25%	12/1/2016 @ 104% DTP 12/1/2024
2006 B-4	6/1/2023	\$12,270,000	0	4.25%	12/1/2016 @ par
	12/1/2038	\$27,280,000	\$ 4,070,000	5.55%	12/1/2016 @ 104% DTP 12/1/2020
2006 B-5	12/1/2023	\$ 8,350,000	0	4.10%	12/1/2016 @104% DTP 12/1/2020
	12/1/2038	16,650,000	410,000	5.35%	12/1/2016 @ par

\* Per trustee 12/31/2014 disclosure.



George K. Baum & Company  
INVESTMENT BANKERS SINCE 1928

Sedgwick and Shawnee Counties, Kansas  
Single Family Mortgage Revenue Bonds  
MBS Program  
Series 2006A-1, 2006A-2, 2006A-3, 2006A-4, 2006A-5, 2006A-6, 2006B-1, and 2006B-2

Combined Sources and Uses of Funds

Series	2006A-1	2006A-2	2006A-3	2006A-4	2006A-5	2006A-6	2006B-1	2006B-2	Total
<b>Sources</b>									
Estimated Sale of MBS Certificates (1)	\$1,926,951.75	\$2,018,909.44	\$4,352,481.07	\$3,056,925.63	\$3,680,726.47	\$1,307,854.68	\$3,445,794.60	\$4,600,722.50	\$24,390,366.14
Certificate Accrued Interest	\$8,041.95	\$8,454.12	\$17,174.95	\$12,312.62	\$15,165.05	\$5,476.60	\$13,878.89	\$18,361.65	\$98,865.84
April FNMA MBS Payments (Principal & Interest)	\$1,606.26	\$45,089.64	\$3,847.79	\$1,742.98	\$3,875.86	\$1,744.31	\$1,699.63	\$2,555.16	\$62,161.63
Fund Balances (As of April 23, 2015) (2)	\$350,679.37	\$193,569.29	\$384,624.14	\$330,629.23	\$445,282.54	\$193,081.72	\$506,580.83	\$371,413.38	\$2,775,860.50
<b>Total Sources</b>	<b>\$2,287,279.32</b>	<b>\$2,266,022.49</b>	<b>\$4,758,127.95</b>	<b>\$3,401,610.46</b>	<b>\$4,145,049.93</b>	<b>\$1,508,157.31</b>	<b>\$3,967,953.95</b>	<b>\$4,993,052.70</b>	<b>\$27,327,254.10</b>
<b>Uses</b>									
Total Bonds Outstanding as of 04/30/2015	\$1,825,000.00	\$1,790,000.00	\$3,900,000.00	\$2,680,000.00	\$3,320,000.00	\$1,190,000.00	\$3,350,000.00	\$4,210,000.00	\$22,265,000.00
Call Premium	\$59,850.00	\$64,500.00	\$84,050.00	\$72,450.00	\$88,850.00	\$31,050.00	\$87,900.00	\$117,900.00	\$606,150.00
Total Interest Due	\$94,900.00	\$96,680.00	\$203,682.50	\$137,565.00	\$251,517.50	\$90,465.00	\$244,065.00	\$316,837.50	\$1,435,712.50
Transaction Fees	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$60,000.00	\$480,000.00
Trustee Fees	\$1,750.00	\$1,750.00	\$1,750.00	\$1,750.00	\$1,750.00	\$1,750.00	\$1,750.00	\$1,750.00	\$14,000.00
<b>Release to Issuer</b>	<b>\$245,979.32</b>	<b>\$253,092.49</b>	<b>\$508,645.45</b>	<b>\$449,845.46</b>	<b>\$423,132.43</b>	<b>\$134,892.31</b>	<b>\$224,238.95</b>	<b>\$286,565.20</b>	<b>\$2,526,391.60</b>
<b>Total Uses</b>	<b>\$2,287,279.32</b>	<b>\$2,266,022.49</b>	<b>\$4,758,127.95</b>	<b>\$3,401,610.46</b>	<b>\$4,145,049.93</b>	<b>\$1,508,157.31</b>	<b>\$3,967,953.95</b>	<b>\$4,993,052.70</b>	<b>\$27,327,254.10</b>
<b>Other Information</b>									
Total Bonds Outstanding	\$1,825,000.00	\$1,790,000.00	\$3,900,000.00	\$2,680,000.00	\$3,320,000.00	\$1,190,000.00	\$3,350,000.00	\$4,210,000.00	\$22,265,000.00
Total Certificates Outstanding	\$1,699,251.98	\$1,778,774.84	\$3,841,554.34	\$2,681,513.71	\$3,245,790.54	\$1,152,294.87	\$3,022,626.84	\$4,058,864.14	\$21,480,671.26
Optional Redemption Date	12/1/2015	12/1/2015	12/1/2015	12/1/2015	6/1/2016	6/1/2016	6/1/2016	6/1/2016	
Call Premium	101%/105%	102%/105%	101%/103%	103%	103%	103%	103%	103%	
<b>Net Benefit to Issuer (Release to Issuer Less Do Nothing) (3)</b>									
100% PSA	(\$3,306.90)	(\$1,267.65)	\$181,972.40	\$58,967.18	(\$37,609.07)	(\$50,854.03)	\$71,902.73	\$23,359.96	
200% PSA	\$11,953.93	\$14,360.40	\$198,278.74	\$87,824.91	(\$2,503.16)	(\$38,042.70)	\$94,857.69	\$53,342.10	
300% PSA	\$23,565.46	\$26,102.76	\$211,358.18	\$108,118.15	\$23,342.81	(\$29,147.30)	\$109,462.98	\$74,249.55	
400% PSA	\$31,782.15	\$34,817.50	\$220,952.20	\$122,935.05	\$41,890.43	(\$22,612.12)	\$119,948.54	\$88,826.44	

(1) See each issue's Sources & Uses for MBS price. Based on indications as of 4/28/2015. Subject to change.

(2) Balances provided by UMB Bank as Trustee as of 4/23/15.

(3) Assumes PV to 5/01/2015 at 4.00%