



REPORT TO MAYOR AND THE CITY COUNCIL

FROM: Earle M. Chesley P.E., General Services Director

DATE: March 7, 2023

SUBJECT: Solid Waste and Recycling Collection – Gradual Transition from Manual Collection to Automated Collection

Recommendation

In accordance with the City's Request for Proposals (RFP 08-23), the City has conditionally awarded Solid Waste Collection and Recycling Services to Casella Waste Management of Massachusetts, Inc. ("Casella") for disposal of its solid waste at the Wheelabrator Concord Company, L.P. (Win Waste Innovations) facility located in Concord, NH. This contract is set to start on July 1, 2024.

The award is conditional as to the length of the contract, as it is dependent upon the City Council's authorization for the City to gradually transition from manual solid waste and recycling collection to automated solid waste and recycling collection during term of the contract and for the City to authorize the Wheelabrator Concord Company, L.P. (Win Waste Innovations) facility located in Concord, NH in accordance with RSA 149-M:17, IV.

If the City is unwilling to transition to automated collection, then we can secure a five-year contract for manual collection, which cannot be extended for an additional term. If the City agrees to transition to automated collection, it has the option for a five (5), seven (7), or ten (10) year contract.

For the reasons set forth below, we believe the automated collection for solid waste and recycling collection for a ten (10) year term with disposal of the City's solid waste at the Wheelabrator Concord Company, L.P. (Win Waste Innovations) facility located in Concord, NH is in the best interest of the City.

Accept this report and set for a public hearing as to whether the City should transition to automated collection for a ten (10) year term starting July 1, 2024 Solid Waste Collection and Recycling Services contract.

Background

The present solid waste contract includes provisions for both disposal and collection services to be provided by one entity. With the separation of such services into separate RFPs, the following services that are presently provided to the City were included in the collections RFP. They include, manual curbside collection of solid waste and recycling, containerized (dumpster) collection of multifamily, municipal, and school solid waste and recycling containers, recyclable processing, transportation, Downtown Solid Waste Removal District containerized collection and disposal of solid waste and recycling, spring and fall bagged leaf collection, Christmas tree collection and transfer station operation

and management. Proposals for this wide-ranging solid waste collections RFP were due to the City's Purchasing Division on December 7, 2022.

The City received two responsive proposals to its RFP for collection services.

Casella Waste Management responded to the entirety of the RFP providing pricing for a five-year term for all components requested with a caveat that they would **only operate the City's transfer station if awarded all other contract components**. The proposal was for a five-year period beginning July 1, 2024, and included annual cost increases and adjustments based on various indices. Their proposal provided for five years of manual collection of residential curbside collection of solid waste and recyclables and an alternate for five years of automated residential curbside collection of solid waste and recyclables with two options: (1) Casella would procure, deploy and maintain totes, or (2) the City would procure, deploy and maintain totes. Their proposal included a proprietary index to share the financial risk associated with the present recyclable material market. Their proposal is summarized in Table 1 at the end of this Report.

VENDOR A responded selectively to the request for proposals providing pricing for **only automated** residential curbside collection of solid waste and recyclables, containerized collection of solid waste and recyclable materials from multi-family housing, municipal and school facilities, containerized collection of solid waste (including disposal) and recyclables (including marketing) from the Downtown Solid Waste Removal District, and marketing of recyclable materials collected through the residential curbside collection program and the containerized collection program. Similar to Casella's proposal, VENDOR A included a proprietary index to share the financial risk associated with the present recyclable material market. Their proposal is also summarized in Table 1.

Of note, Casella's proposal included pricing to deliver the City's solid waste to 2 of the 4 potential disposal locations identified in RFP 07-23 and VENDOR A's proposal to 3 of the 4 potential sites. Then, in looking at the combination of disposal and collection service providers, the combination of Casella Waste Management for collections and Win-Waste for disposal resulted in the most favorable combination for the City.

During negotiation, Casella offered a seven-year and ten-year term with the requirement that the City would transition to automated curbside collection during the contract term. For the seven-year term, Casella proposed shifting to automated collection in year 3 after introducing a pilot program in year 1. For the ten-year term, Casella proposed shifting to automated collection in year 4 after introducing a pilot program in year 2. These extended term proposals are summarized in Table 2. Further, based on industry norms, the containerized collection service now includes collection and disposal similar to the Downtown Solid Waste Removal District.

Takeaways

Since 2013, consolidation in the solid waste collection industry has occurred. Labor shortages continue to drive solid waste collection contractors to automated collection which was found in the responses received by the City. Further, recycling markets have become more volatile, moving vendors towards pricing that includes sharing risk with municipalities.

These two issues, recyclable material market index pricing and the onset of automated collection replacing manual collection are discussed below.

Recyclable Material Market Index Pricing

In 2013, when Concord last procured recyclable marketing services all pricing risk associated with the market could be passed onto the vendor. Since that time however, the industry has changed and industry participants are no longer willing to carry all of the risks associated with processing and marketing municipality's recyclable commodities. This has been due in large part to huge market drops associated with the so called "National Sword" policy in China relative to recyclable material imports, issues relative to contamination and broader economic cycles.

As such, vendors have established recyclable material market indices as a means to share the risk of the recyclable market. In brief, the vendor sets a fixed processing fee for breaking down the recyclable material stream into its components (i.e. paper, cardboard, various types of plastic, aluminum cans, steel cans, etc.). The vendor then sells these materials on the market and subtracts the revenues it derives for the material to assess the cost of processing and marketing.

Both responsive proposers included recyclable material market index pricing in their proposals.

Using the Casella index, the pricing that would have been applied to the City's recyclable materials is shown in Table 3 for the thirty-six-month period ending November 2022. The highest monthly cost was \$191.77 per ton; the lowest monthly cost was \$75.45. Annualizing the monthly data with the City's monthly recycling volumes for the three- year period yielded theoretical annual recycling costs of:

- \$577,082 for the first year
- \$372,221 for the second year
- \$407,204 for the most recent year

Recall, the FY23 Solid Waste pro-forma estimated an annual recycling cost of \$500,000 in FY25. For the three-year period, the average annual variance is \$47,832. See Table 3.

Automated Collection

Automated collection uses a collection truck with a vehicle mounted arm that picks up a specific receptacle containing either household solid waste or recyclable materials that the resident places at the curb for collection. Either the municipality or the collection vendor can provide, distribute, and manage the receptacles, referred to as toters. The toter sizes vary and are standardized throughout the City. Each residence is provided their toters. New Hampshire cities that use automated collection include:

- Manchester
- Nashua
- Rochester
- Londonderry
- Bow
- Laconia

Implementation

The solid waste and recycling services procurement process found that a private contract for the manual collection of solid waste will not be available in the future.

One of the two respondent proposers did not offer manual collection; the second proposer indicated they would only provide manual collection for a five-year period.

Clearly, market forces are driving the City to implement automated collection by 2029.

Discussion

In short, the City has the following options to make the inevitable transition to automated collection;

1. An immediate transition on July 1, 2024, as proposed by Casella as an alternate with a five-year term, or
2. A sudden transition on July 1, 2029 at the end of a five-year manual collection term as proposed by Casella, or
3. An orderly transition by July 1, 2027 after a two-year pilot that starts by July 1, 2025 as proposed by Casella's seven-year term, or
4. An orderly transition by July 1, 2028, after a two-year pilot that starts by July 1, 2026 as proposed by Casella's ten-year term.

Of the four schedules, the ten-year term provides the City with an opportunity to engage in an orderly transition at the latest date. This delayed transition, to occur after a two-year pilot program, will allow the City to investigate and develop plans and logistics that will result in a more successful effort than a sudden transition. Of note, the City will need to look at alternative methods of assessing PAYT revenues with the introduction of such a collection method.

Accordingly, the Department recommends the City Manager executes the 10-year contract term with Casella to include procurement, deployment and maintenance of the totes for disposal of its solid waste at the Wheelabrator Concord Company, L.P. (Win Waste Innovations) facility located in Concord, NH.

CC: Tina Waterman, Purchasing Manager

Table 1.

Section 1: Curbside Collections		Casella			VENDOR A
		Original Proposals			Original Proposal
		No Automated Collection	Automated Collection	Automated Collection	No Manual Collection
		5-Year Manual	5-Year City Provides Toters	5-Year Toters Included	Toters Included/No Pilot
MSW Curbside Collection	Year 1	\$875,000	\$676,000	\$871,000	\$1,380,600
	Year 2	\$875,000	\$676,000	\$904,800	\$1,449,630
	Year 3	\$875,000	\$676,000	\$940,290	\$1,551,104
	Year 4	\$875,000	\$676,000	\$972,555	\$1,659,681
	Year 5	\$875,000	\$676,000	\$1,016,682	\$1,759,262
Recycling Curbside Collection	Year 1	\$875,000	\$676,000	\$871,000	\$1,486,800
	Year 2	\$875,000	\$676,000	\$904,800	\$1,561,140
	Year 3	\$875,000	\$676,000	\$940,290	\$1,670,420
	Year 4	\$875,000	\$676,000	\$972,555	\$1,787,349
	Year 5	\$875,000	\$676,000	\$1,016,682	\$1,894,590
Section 2: Containerized Collections					
MSW Containerized Collection	Year 1	\$539,000	\$539,000	\$539,000	\$719,980
	Year 2	\$539,000	\$539,000	\$539,000	\$755,979
	Year 3	\$539,000	\$539,000	\$539,000	\$808,898
	Year 4	\$539,000	\$539,000	\$539,000	\$865,520
	Year 5	\$539,000	\$539,000	\$539,000	\$917,452
Recycling Containerized Collection	Year 1	\$47,000	\$47,000	\$47,000	\$94,202
	Year 2	\$47,000	\$47,000	\$47,000	\$98,912
	Year 3	\$47,000	\$47,000	\$47,000	\$105,836
	Year 4	\$47,000	\$47,000	\$47,000	\$113,244
	Year 5	\$47,000	\$47,000	\$47,000	\$120,039
Section 3: Recyclable Processing					
	Year 1	\$170	\$170	\$170	\$135
	Year 2	\$170	\$170	\$170	\$142
	Year 3	\$170	\$170	\$170	\$149
	Year 4	\$170	\$170	\$170	\$159
	Year 5	\$170	\$170	\$170	\$164
Section 4: Transportation to the Disposal Destination					
	Year 1	\$69,000	\$69,000	\$69,000	\$0
	Year 2	\$69,000	\$69,000	\$69,000	\$0
	Year 3	\$69,000	\$69,000	\$69,000	\$0
	Year 4	\$69,000	\$69,000	\$69,000	\$0
	Year 5	\$69,000	\$69,000	\$69,000	\$0

Section 5: Downtown Solid Waste Removal District					
Containerized Collection (Includes disposal and processing)	Year 1	\$395,000	\$395,000	\$395,000	\$418,504
	Year 2	\$395,000	\$395,000	\$395,000	\$439,429
	Year 3	\$395,000	\$395,000	\$395,000	\$470,189
	Year 4	\$395,000	\$395,000	\$395,000	\$503,102
	Year 5	\$395,000	\$395,000	\$395,000	\$533,288
Section 6: Leaf and Yard Waste Collections					
Spring Bagged Leaf Collection	Year 1	\$60,000	\$60,000	\$60,000	No Bid
	Year 2	\$60,000	\$60,000	\$60,000	No Bid
	Year 3	\$60,000	\$60,000	\$60,000	No Bid
	Year 4	\$60,000	\$60,000	\$60,000	No Bid
	Year 5	\$60,000	\$60,000	\$60,000	No Bid
Fall Bagged Leaf Collection	Year 1	\$30,000	\$30,000	\$30,000	No Bid
	Year 2	\$30,000	\$30,000	\$30,000	No Bid
	Year 3	\$30,000	\$30,000	\$30,000	No Bid
	Year 4	\$30,000	\$30,000	\$30,000	No Bid
	Year 5	\$30,000	\$30,000	\$30,000	No Bid
Christmas Tree Collection	Year 1	\$20,000	\$20,000	\$20,000	No Bid
	Year 2	\$20,000	\$20,000	\$20,000	No Bid
	Year 3	\$20,000	\$20,000	\$20,000	No Bid
	Year 4	\$20,000	\$20,000	\$20,000	No Bid
	Year 5	\$20,000	\$20,000	\$20,000	No Bid
Section 7: Transfer Station Operation		Exception #7: Will only operate the TS if ALL other components are awarded.			
	Year 1	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	No Bid
	Year 2	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	No Bid
	Year 3	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	No Bid
	Year 4	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	No Bid
	Year 5	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	No Bid

Table 2.

Section 1: Curbside Collections		Casella							
		Original Proposals			Negotiated Proposals				
		No Automated Collection	Automated Collection	Automated Collection	No Automated Collection	Automated Transition Year 1 Pilot/Year 3 Citywide		Automated Transition Year 2 Pilot/Year 4 Citywide	
		5-Year Manual	5-Year City Provides Toters	5-Year Toters Included	5-Year Manual	7-Year City Provides Toters	7-Year Toters Included	10-Year City Provides Toters	10-Year Toters Included
MSW Curbside Collection	Year 1	\$875,000	\$676,000	\$871,000	\$875,000	\$875,000	\$875,000	\$875,000	\$875,000
	Year 2	\$918,750	\$709,800	\$904,800	\$918,750	\$918,267	\$987,147	\$918,267	\$918,267
	Year 3	\$964,688	\$745,290	\$940,290	\$964,688	\$964,181	\$1,033,061	\$964,181	\$1,035,581
	Year 4	\$1,012,922	\$782,555	\$972,555	\$1,012,922	\$826,175	\$1,058,399	\$1,012,390	\$1,083,790
	Year 5	\$1,063,568	\$821,682	\$1,016,682	\$1,063,568	\$867,483	\$1,099,707	\$1,020,730	\$1,261,450
	Year 6					\$910,858	\$1,143,082	\$1,071,766	\$1,312,486
	Year 7					\$956,400	\$1,188,624	\$1,125,355	\$1,366,075
	Year 8							\$1,181,622	\$1,422,342
	Year 9							\$1,240,704	\$1,481,424
	Year 10							\$1,302,739	\$1,543,459
Recycling Curbside Collection	Year 1	\$875,000	\$676,000	\$871,000	\$875,000	\$875,000	\$875,000	\$875,000	\$875,000
	Year 2	\$918,750	\$709,800	\$904,800	\$918,750	\$918,267	\$987,147	\$918,267	\$918,267
	Year 3	\$964,688	\$745,290	\$940,290	\$964,688	\$964,181	\$1,033,061	\$964,181	\$1,035,581
	Year 4	\$1,012,922	\$782,555	\$972,555	\$1,012,922	\$826,175	\$1,058,399	\$1,012,390	\$1,083,790
	Year 5	\$1,063,568	\$821,682	\$1,016,682	\$1,063,568	\$867,483	\$1,099,707	\$1,020,730	\$1,261,450
	Year 6					\$910,858	\$1,143,082	\$1,071,766	\$1,312,486
	Year 7					\$956,400	\$1,188,624	\$1,125,355	\$1,366,075
	Year 8							\$1,181,622	\$1,422,342
	Year 9							\$1,240,704	\$1,481,424
	Year 10							\$1,302,739	\$1,543,459
Section 2: Containerized Collections									
MSW Containerized Collection	Year 1	\$539,000	\$539,000	\$539,000	\$785,000	\$785,000	\$785,000	\$785,000	\$785,000
	Year 2	\$565,950	\$565,950	\$565,950	\$824,250	\$824,250	\$824,250	\$824,250	\$824,250
	Year 3	\$594,248	\$594,248	\$594,248	\$865,463	\$865,463	\$865,463	\$865,463	\$865,463
	Year 4	\$623,960	\$623,960	\$623,960	\$908,736	\$908,736	\$908,736	\$908,736	\$908,736
	Year 5	\$655,158	\$655,158	\$655,158	\$954,172	\$954,172	\$954,172	\$954,172	\$954,172
	Year 6					\$1,001,881	\$1,001,881	\$1,001,881	\$1,001,881
	Year 7					\$1,051,975	\$1,051,975	\$1,051,975	\$1,051,975
	Year 8							\$1,104,574	\$1,104,574
	Year 9							\$1,159,803	\$1,159,803
	Year 10							\$1,217,793	\$1,217,793

Recycling Containerized Collection	Year 1	\$47,000	\$47,000	\$47,000	\$60,000	\$60,000	\$60,000
	Year 2	\$49,350	\$49,350	\$49,350	\$63,000	\$63,000	\$63,000
	Year 3	\$51,818	\$51,818	\$51,818	\$66,150	\$66,150	\$66,150
	Year 4	\$54,408	\$54,408	\$54,408	\$69,458	\$69,458	\$69,458
	Year 5	\$57,129	\$57,129	\$57,129	\$72,930	\$72,930	\$72,930
	Year 6					\$76,577	\$76,577
	Year 7					\$80,406	\$80,406
	Year 8						\$84,426
	Year 9						\$88,647
	Year 10						\$93,080
Section 3: Recyclable Processing					Processing Fee per Ton. Each Vendor has it's own proprietary index.		
	Year 1	\$170	\$170	\$170	\$170	\$170	\$170
	Year 2	\$179	\$179	\$179	\$179	\$179	\$179
	Year 3	\$187	\$187	\$187	\$187	\$187	\$187
	Year 4	\$197	\$197	\$197	\$197	\$197	\$197
	Year 5	\$207	\$207	\$207	\$207	\$207	\$207
	Year 6					\$217	\$217
	Year 7					\$228	\$228
	Year 8						\$239
	Year 9						\$251
	Year 10						\$264
Section 4: Transportation to the Disposal Destination							
	Year 1	\$69,000	\$69,000	\$69,000	\$69,000	\$69,000	\$69,000
	Year 2	\$72,450	\$72,450	\$72,450	\$72,450	\$72,450	\$72,450
	Year 3	\$76,073	\$76,073	\$76,073	\$76,073	\$76,073	\$76,073
	Year 4	\$79,876	\$79,876	\$79,876	\$79,876	\$79,876	\$79,876
	Year 5	\$83,870	\$83,870	\$83,870	\$83,870	\$83,870	\$83,870
	Year 6					\$88,063	\$88,063
	Year 7					\$92,467	\$92,467
	Year 8						\$97,090
	Year 9						\$101,944
	Year 10						\$107,042
Section 5: Downtown Solid Waste Removal District							
Containerized Collection (Includes disposal and processing)	Year 1	\$395,000	\$395,000	\$395,000	\$395,000	\$395,000	\$395,000
	Year 2	\$414,750	\$414,750	\$414,750	\$414,750	\$414,750	\$414,750
	Year 3	\$435,488	\$435,488	\$435,488	\$435,488	\$435,488	\$435,488
	Year 4	\$457,262	\$457,262	\$457,262	\$457,262	\$457,262	\$457,262
	Year 5	\$480,125	\$480,125	\$480,125	\$480,125	\$480,125	\$480,125
	Year 6					\$504,131	\$504,131
	Year 7					\$529,338	\$529,338
	Year 8						\$555,805
	Year 9						\$583,595
	Year 10						\$612,775

Section 6: Leaf and Yard Waste Collections							
Spring Bagged Leaf Collection	Year 1	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000	\$60,000
	Year 2	\$63,000	\$63,000	\$63,000	\$63,000	\$63,000	\$63,000
	Year 3	\$66,150	\$66,150	\$66,150	\$66,150	\$66,150	\$66,150
	Year 4	\$69,458	\$69,458	\$69,458	\$69,458	\$69,458	\$69,458
	Year 5	\$72,930	\$72,930	\$72,930	\$72,930	\$72,930	\$72,930
	Year 6					\$76,577	\$76,577
	Year 7					\$80,406	\$80,406
	Year 8						\$84,426
	Year 9						\$88,647
	Year 10						\$93,080
Fall Bagged Leaf Collection	Year 1	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
	Year 2	\$31,500	\$31,500	\$31,500	\$31,500	\$31,500	\$31,500
	Year 3	\$33,075	\$33,075	\$33,075	\$33,075	\$33,075	\$33,075
	Year 4	\$34,729	\$34,729	\$34,729	\$34,729	\$34,729	\$34,729
	Year 5	\$36,465	\$36,465	\$36,465	\$36,465	\$36,465	\$36,465
	Year 6					\$38,288	\$38,288
	Year 7					\$40,203	\$40,203
	Year 8						\$42,213
	Year 9						\$44,324
	Year 10						\$46,540
Christmas Tree Collection	Year 1	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
	Year 2	\$21,000	\$21,000	\$21,000	\$21,000	\$21,000	\$21,000
	Year 3	\$22,050	\$22,050	\$22,050	\$22,050	\$22,050	\$22,050
	Year 4	\$23,153	\$23,153	\$23,153	\$23,153	\$23,153	\$23,153
	Year 5	\$24,310	\$24,310	\$24,310	\$24,310	\$24,310	\$24,310
	Year 6					\$25,526	\$25,526
	Year 7					\$26,802	\$26,802
	Year 8						\$28,142
	Year 9						\$29,549
	Year 10						\$31,027

Section 7: Transfer Station Operation		Exception #7: Will only operate the TS if ALL other components are awarded.			Exception #7: Will only operate the TS if ALL other components are awarded.		
	Year 1	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates
	Year 2	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates
	Year 3	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates
	Year 4	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates
	Year 5	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates	Please submit disposal rates
	Year 6					Please submit disposal rates	Please submit disposal rates
	Year 7					Please submit disposal rates	Please submit disposal rates
	Year 8						Please submit disposal rates
	Year 9						Please submit disposal rates
	Year 10						Please submit disposal rates

Table 3.

Casella

ACR	Processing Fee	Per Ton Cost	Annual Cost	12 Month Average	Pro Forma Adjustment	Variance From Pro Forma
-\$15.97	\$170.00	-\$185.97	-\$622,999.50			
-\$21.77	\$170.00	-\$191.77	-\$642,429.50			
-\$16.95	\$170.00	-\$186.95	-\$626,282.50			
-\$14.63	\$170.00	-\$184.63	-\$618,510.50			
-\$4.63	\$170.00	-\$174.63	-\$585,010.50			
\$3.35	\$170.00	-\$166.65	-\$558,277.50			
\$2.05	\$170.00	-\$167.95	-\$562,632.50			
-\$5.47	\$170.00	-\$175.47	-\$587,824.50			
-\$2.70	\$170.00	-\$172.70	-\$578,545.00			
\$9.43	\$170.00	-\$160.57	-\$537,909.50			
\$13.62	\$170.00	-\$156.38	-\$523,873.00			
\$26.51	\$170.00	-\$143.49	-\$480,691.50	-\$577,082.17	\$500,000.00	-\$77,082.17
\$23.50	\$170.00	-\$146.50	-\$490,775.00			
\$31.43	\$170.00	-\$138.57	-\$464,209.50			
\$31.38	\$170.00	-\$138.62	-\$464,377.00			
\$35.17	\$170.00	-\$134.83	-\$451,680.50			
\$50.50	\$170.00	-\$119.50	-\$400,325.00			
\$59.35	\$170.00	-\$110.65	-\$370,677.50			
\$70.20	\$170.00	-\$99.80	-\$334,330.00			
\$71.79	\$170.00	-\$98.21	-\$329,003.50			
\$68.07	\$170.00	-\$101.93	-\$341,465.50			
\$83.02	\$170.00	-\$86.98	-\$291,383.00			
\$94.55	\$170.00	-\$75.45	-\$252,757.50			
\$87.71	\$170.00	-\$82.29	-\$275,671.50	-\$372,221.29	\$500,000.00	\$127,778.71
\$58.24	\$170.00	-\$111.76	-\$374,396.00			
\$67.55	\$170.00	-\$102.45	-\$343,207.50			
\$68.23	\$170.00	-\$101.77	-\$340,929.50			
\$72.57	\$170.00	-\$97.43	-\$326,390.50			
\$85.44	\$170.00	-\$84.56	-\$283,276.00			
\$87.72	\$170.00	-\$82.28	-\$275,638.00			
\$78.54	\$170.00	-\$91.46	-\$306,391.00			
\$56.58	\$170.00	-\$113.42	-\$379,957.00			
\$25.34	\$170.00	-\$144.66	-\$484,611.00			
-\$0.13	\$170.00	-\$170.13	-\$569,935.50			
-\$10.73	\$170.00	-\$180.73	-\$605,445.50			
-\$7.99	\$170.00	-\$177.99	-\$596,266.50	-\$407,203.67	\$500,000.00	\$92,796.33
					Average Annual Variance	\$47,830.96