



# City of Derby, CT

Water Pollution Control Authority

## Valuation Summary and Rate Projections under various Ownership Scenarios

February 6, 2023

# Background and Scope of Our Work

## Scope of Work

1. Prepare appraisal of the Derby WPCA System. The report was delivered in December 2022.
2. Prepare comparison of likely customer rate/bill outcomes of two ownership options under consideration

## 1. Appraisal

Prepared an opinion of the fair market value of the System in accordance with USPAP

## 2. Model Development & Cost/Rate Projection

Prepared a financial model of each ownership scenario  
Projected the financial implications on utility rates and customers

# Appraisal Results

WPCA Appraisal was completed, report issued December 2022.

The valuation considered the results of three approaches:

1. Income Approach
2. Market Approach
3. Asset Approach

Opinion of value of WPCA : **\$21,000,000**



## **Fair Market Value Opinion Report**

Derby Wastewater Utility System

Prepared for:

City of Derby, Connecticut

Report Date: December 15, 2022  
Value as of: December 1, 2022

# Appraisal Results

Description	Value Indicator	Weighting	Total
Asset Approach			
Asset Accumulation Method	\$20,900,000	20%	\$ 4,180,000
Market Approach			
Guideline Transaction Method	27,300,000	20%	5,460,000
Income Approach			
Discounted Cash Flow Method	22,800,000	60%	13,680,000
Subtotal			23,320,000
Discount for Lack of Marketability (DLOM)		10%	<u>(2,332,000)</u>
<b>Value Opinion (Rounded)</b>			<b>\$ 21,000,000</b>

# **Customer Rate /Bill Impacts Under Ownership Scenarios**



# Modeling Considerations

Cost Component	Publicly owned	Investor-owned	Basis
Operation & Maintenance Costs	Current, escalated	Current, escalated (reduced by 10% efficiency assumption)	Budgets & Valuation Report
Current WPCA Debt	Carried in model	Not carried	Budgets, City documentation
Capital Improvements Included	\$53,425,000.00	\$53,425,000.00	Weston & Sampson, escalated, timing per WPCA Staff
Capital Financing Rate	4.25%	5.09%	Current A-rated Corporate yield
Hypothetical Acquisition Cost	None	\$21,000,000.00	Valuation Report
Hypothetical Acquisition Debt	Not carried	Carried in model	Same financing parameters as CIP
Allowable Profit	Not applicable	7.50%	Recent PURA filings
Outstanding Debt Retirement	Not applicable	Upon acquisition	<i>Not included in this assessment</i>

# Financial Model Output

## City Retains Ownership Scenario

### Pro Forma Income Statement

Description	Budget FY 2023	Fiscal Year Ending June 30th									
		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
<b>Revenues:</b>											
Sewer Fees	\$ 4,191,534	\$ 4,191,534	\$ 4,191,534	\$ 6,056,565	\$ 7,449,088	\$ 8,509,717	\$ 8,573,942	\$ 8,630,692	\$ 8,689,957	\$ 8,753,216	\$ 8,820,824
Other Miscellaneous Revenues	202,489	212,949	222,166	294,842	322,823	343,886	335,184	336,400	337,638	338,794	339,845
<b>Total Revenues</b>	<b>\$ 4,394,023</b>	<b>\$ 4,404,483</b>	<b>\$ 4,413,700</b>	<b>\$ 6,351,407</b>	<b>\$ 7,771,911</b>	<b>\$ 8,853,602</b>	<b>\$ 8,909,126</b>	<b>\$ 8,967,092</b>	<b>\$ 9,027,596</b>	<b>\$ 9,092,010</b>	<b>\$ 9,160,669</b>
<b>Total Operating Expenses</b>	<b>\$ 2,252,998</b>	<b>\$ 2,329,600</b>	<b>\$ 2,408,806</b>	<b>\$ 2,490,706</b>	<b>\$ 2,575,390</b>	<b>\$ 2,662,953</b>	<b>\$ 2,753,493</b>	<b>\$ 2,847,112</b>	<b>\$ 2,943,914</b>	<b>\$ 3,044,007</b>	<b>\$ 3,147,503</b>
<b>Debt Service:</b>											
Existing GO Debt	\$ 1,402,300	\$ 1,481,990	\$ 1,438,215	\$ 1,403,265	\$ 1,370,165	\$ 1,337,065	\$ 1,303,734	\$ 1,269,940	\$ 1,235,684	\$ 1,202,240	\$ 1,169,840
New GO Debt	-	44,188	197,358	2,347,216	3,717,501	4,746,250	4,746,250	4,746,250	4,746,250	4,746,250	4,746,250
<b>Total Debt Service</b>	<b>\$ 1,402,300</b>	<b>\$ 1,526,178</b>	<b>\$ 1,635,573</b>	<b>\$ 3,750,481</b>	<b>\$ 5,087,666</b>	<b>\$ 6,083,314</b>	<b>\$ 6,049,983</b>	<b>\$ 6,016,189</b>	<b>\$ 5,981,933</b>	<b>\$ 5,948,489</b>	<b>\$ 5,916,089</b>
<b>Capital Projects Funded with Cash</b>	<b>\$ 172,425</b>	<b>\$ 180,184</b>	<b>\$ 342,350</b>	<b>\$ 196,766</b>	<b>\$ 205,620</b>	<b>\$ 214,873</b>	<b>\$ 224,542</b>	<b>\$ 234,647</b>	<b>\$ 245,206</b>	<b>\$ 256,240</b>	<b>\$ 267,771</b>
<b>Total Revenue Requirements</b>	<b>\$ 3,827,723</b>	<b>\$ 4,035,962</b>	<b>\$ 4,386,729</b>	<b>\$ 6,437,952</b>	<b>\$ 7,868,675</b>	<b>\$ 8,961,140</b>	<b>\$ 9,028,019</b>	<b>\$ 9,097,948</b>	<b>\$ 9,171,053</b>	<b>\$ 9,248,737</b>	<b>\$ 9,331,364</b>
<b>Revenues Over (Under) Expenditures</b>	<b>\$ 566,300</b>	<b>\$ 368,521</b>	<b>\$ 26,970</b>	<b>\$ (86,545)</b>	<b>\$ (96,764)</b>	<b>\$ (107,538)</b>	<b>\$ (118,893)</b>	<b>\$ (130,857)</b>	<b>\$ (143,458)</b>	<b>\$ (156,727)</b>	<b>\$ (170,695)</b>
<b>Beginning Balance</b>	<b>\$ 6,484,612</b>	<b>\$ 7,050,912</b>	<b>\$ 7,419,433</b>	<b>\$ 7,446,404</b>	<b>\$ 7,359,858</b>	<b>\$ 7,263,094</b>	<b>\$ 7,155,556</b>	<b>\$ 7,036,663</b>	<b>\$ 6,905,807</b>	<b>\$ 6,762,349</b>	<b>\$ 6,605,622</b>
<b>Revenues Over (Under) Expenditures</b>	<b>566,300</b>	<b>368,521</b>	<b>26,970</b>	<b>(86,545)</b>	<b>(96,764)</b>	<b>(107,538)</b>	<b>(118,893)</b>	<b>(130,857)</b>	<b>(143,458)</b>	<b>(156,727)</b>	<b>(170,695)</b>
<b>Ending Balance</b>	<b>\$ 7,050,912</b>	<b>\$ 7,419,433</b>	<b>\$ 7,446,404</b>	<b>\$ 7,359,858</b>	<b>\$ 7,263,094</b>	<b>\$ 7,155,556</b>	<b>\$ 7,036,663</b>	<b>\$ 6,905,807</b>	<b>\$ 6,762,349</b>	<b>\$ 6,605,622</b>	<b>\$ 6,434,928</b>
<b>Minimum Operating Reserve Target</b>	<b>\$ 563,250</b>	<b>\$ 582,400</b>	<b>\$ 602,202</b>	<b>\$ 622,676</b>	<b>\$ 643,847</b>	<b>\$ 665,738</b>	<b>\$ 688,373</b>	<b>\$ 711,778</b>	<b>\$ 735,978</b>	<b>\$ 761,002</b>	<b>\$ 786,876</b>
<b>Debt Service Coverage (All-in, 1.0x DS)</b>	<b>145%</b>	<b>129%</b>	<b>116%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Projected Rate Revenue Increase</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>44.5%</b>	<b>23.0%</b>	<b>14.2%</b>	<b>0.8%</b>	<b>0.7%</b>	<b>0.7%</b>	<b>0.7%</b>	<b>0.8%</b>
<b>Capital Project Funding:</b>											
Cash - Rates/Reserves/Grants	\$ 172,425	\$ 180,184	\$ 530,642	\$ 196,766	\$ 205,620	\$ 214,873	\$ 224,542	\$ 234,647	\$ 245,206	\$ 256,240	\$ 267,771
Debt - GO Bonds	-	578,773	2,006,205	28,158,617	17,947,852	13,474,446	-	-	-	-	-
<b>Total</b>	<b>\$ 172,425</b>	<b>\$ 758,957</b>	<b>\$ 2,536,847</b>	<b>\$ 28,355,383</b>	<b>\$ 18,153,472</b>	<b>\$ 13,689,319</b>	<b>\$ 224,542</b>	<b>\$ 234,647</b>	<b>\$ 245,206</b>	<b>\$ 256,240</b>	<b>\$ 267,771</b>

# Financial Model Output

## Private Company Ownership Scenario

City of Derby, CT - WPCA  
Pro Forma Income Statement - Investor-ownership

Description	Fiscal Year Ending June 30th										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
<b>Revenues:</b>											
<i>User Rates, Fees, and Charges-</i>											
Cost Recovery - O&M	\$ 2,436,291	\$ 2,513,404	\$ 2,593,025	\$ 2,675,237	\$ 2,760,124	\$ 2,847,777	\$ 2,938,285	\$ 3,031,745	\$ 3,128,254	\$ 3,227,912	\$ 3,330,825
Cost Recovery - Depreciation	527,155	538,798	579,995	966,148	1,547,509	1,945,544	2,119,467	2,125,207	2,131,205	2,137,473	2,144,023
Return on Rate Base	1,962,932	1,985,226	2,171,689	4,757,916	6,340,512	7,459,288	7,289,418	7,113,053	6,937,198	6,761,876	6,587,109
Bad Debt Expense	(55,132)	(56,510)	(59,551)	(86,392)	(103,337)	(115,731)	(115,410)	(115,070)	(114,782)	(114,547)	(114,367)
<i>Total Rates, Fees, and Charges-</i>	\$ 4,871,246	\$ 4,980,918	\$ 5,285,159	\$ 8,312,909	\$ 10,544,809	\$ 12,136,877	\$ 12,231,760	\$ 12,154,935	\$ 12,081,875	\$ 12,012,714	\$ 11,947,589
Penalties and Lien Fees	57,644	58,220	58,803	59,391	59,985	60,584	61,190	61,802	62,420	63,044	63,675
Interest Earnings	4,568	4,713	4,862	5,016	5,175	5,340	5,509	5,685	5,865	6,052	6,245
Total Revenues	\$ 4,933,458	\$ 5,043,851	\$ 5,348,823	\$ 8,377,315	\$ 10,609,969	\$ 12,202,801	\$ 12,298,459	\$ 12,222,421	\$ 12,150,161	\$ 12,081,811	\$ 12,017,509
Total Revenues	\$ 4,933,458	\$ 5,043,851	\$ 5,348,823	\$ 8,377,315	\$ 10,609,969	\$ 12,202,801	\$ 12,298,459	\$ 12,222,421	\$ 12,150,161	\$ 12,081,811	\$ 12,017,509
Adjustment for Allowable Increase <sup>1</sup>	(655,924)	(766,317)	(1,071,289)	-	-	-	-	-	-	-	-
<b>Total Adjusted Revenues</b>	\$ 4,277,534	\$ 4,277,534	\$ 4,277,534	\$ 8,377,315	\$ 10,609,969	\$ 12,202,801	\$ 12,298,459	\$ 12,222,421	\$ 12,150,161	\$ 12,081,811	\$ 12,017,509
<b>General and Administrative Expenses:</b>											
	2,436,291	2,513,404	2,593,025	2,675,237	2,760,124	2,847,777	2,938,285	3,031,745	3,128,254	3,227,912	3,330,825
<b>EBITDA</b>	\$ 1,841,243	\$ 1,764,130	\$ 1,684,509	\$ 5,702,079	\$ 7,849,844	\$ 9,355,024	\$ 9,360,174	\$ 9,190,676	\$ 9,021,907	\$ 8,853,899	\$ 8,686,685
Depreciation Expense	527,155	538,798	579,995	966,148	1,547,509	1,945,544	2,119,467	2,125,207	2,131,205	2,137,473	2,144,023
<b>EBIT</b>	\$ 1,314,088	\$ 1,225,332	\$ 1,104,514	\$ 4,735,931	\$ 6,302,336	\$ 7,409,480	\$ 7,240,707	\$ 7,065,469	\$ 6,890,702	\$ 6,716,426	\$ 6,542,662
Interest Expense	518,196	523,722	572,839	1,260,309	1,677,119	1,971,888	1,924,325	1,876,872	1,829,533	1,782,314	1,735,220
<b>EBT</b>	\$ 795,892	\$ 701,610	\$ 531,674	\$ 3,475,622	\$ 4,625,217	\$ 5,437,593	\$ 5,316,382	\$ 5,188,598	\$ 5,061,169	\$ 4,934,111	\$ 4,807,441
Federal and State Income Tax	214,294	188,908	143,153	935,811	1,245,340	1,464,072	1,431,436	1,397,030	1,362,720	1,328,509	1,294,404
<b>Net Income</b>	\$ 581,598	\$ 512,702	\$ 388,521	\$ 2,539,811	\$ 3,379,877	\$ 3,973,521	\$ 3,884,946	\$ 3,791,568	\$ 3,698,449	\$ 3,605,602	\$ 3,513,038

<sup>1</sup>Assumes no wastewater rate increases applied in the first year of new ownership.

### Net Income Check:

Required Return on Rate Base %	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Derby RES monthly bill - adjusted	\$ 54.41	\$ 54.41	\$ 54.41	\$ 106.55	\$ 134.95	\$ 155.21	\$ 156.43	\$ 155.46	\$ 154.54	\$ 153.67	\$ 152.85
Annual % increase	0.0%	0.0%	0.0%	95.8%	26.7%	15.0%	0.8%	-0.6%	-0.6%	-0.6%	-0.5%
Net Income (Before Interest)	\$ 1,099,794	\$ 1,036,424	\$ 961,360	\$ 3,800,120	\$ 5,056,996	\$ 5,945,408	\$ 5,809,271	\$ 5,668,440	\$ 5,527,982	\$ 5,387,916	\$ 5,248,258
Rate Base	\$ 21,054,806	\$ 21,285,467	\$ 23,256,066	\$ 50,668,261	\$ 67,426,613	\$ 79,272,113	\$ 77,456,948	\$ 75,579,193	\$ 73,706,431	\$ 71,838,881	\$ 69,976,774
Return on Rate Base	5.22%	4.87%	4.13%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%



# Projected Customer Wastewater Bills

## Under Each WPCA Ownership Scenario

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
<u>Derby WPCA Fin Plan Model:</u>											
Derby RES monthly bill	\$54.41	\$54.41	\$54.41	\$78.61	\$96.69	\$110.46	\$111.29	\$112.03	\$112.80	\$113.62	\$114.50
Annual % increase	0.0%	0.0%	0.0%	44.5%	23.0%	14.2%	0.8%	0.7%	0.7%	0.7%	0.8%
Cumulative % increase	0.0%	0.0%	0.0%	44.5%	67.5%	81.7%	82.5%	83.1%	83.8%	84.6%	85.3%
<u>Investor-owned Acquisition Fin Plan Model:</u>											
Aquarion RES monthly bill	\$54.41	\$54.41	\$54.41	\$106.55	\$134.95	\$155.21	\$156.43	\$155.46	\$154.54	\$153.67	\$152.85
Annual % increase	0.0%	0.0%	0.0%	95.8%	26.7%	15.0%	0.8%	-0.6%	-0.6%	-0.6%	-0.5%
Cumulative % increase	0.0%	0.0%	0.0%	95.8%	122.5%	137.5%	138.3%	137.7%	137.1%	136.5%	136.0%



# Ownership Option Trade-Offs

Consideration	Public Ownership	Private Ownership
Acquisition Payment	\$0	\$21 million
Customer Bills (Year 10)	Lower	35% Higher
City control over system decisions	Full control	Very limited
City ownership risk	City bears full risk	Risk to City mitigated
Financing of capital needs	City's responsibility	No City responsibility
Ability to secure low-cost debt	Yes	Less likely
Control of timing and terms of debt	Yes	No



# Q&A

**Contact:**

Toby Fedder, PE

603.817.7441 / [tfedder@raftelis.com](mailto:tfedder@raftelis.com)

John Mastracchio, ASA, CFA, PE

518.391.8944 / [jmastracchio@raftelis.com](mailto:jmastracchio@raftelis.com)