

EXHIBIT

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2
3 **COMMONWEALTH OF KENTUCKY**
4 **BEFORE THE PUBLIC SERVICE COMMISSION**

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6
7 **IN THE MATTER OF:**

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10 **ELECTRONIC APPLICATION OF)**
11 **BLUEGRASS WATER UTILITY)**
12 **OPERATING COMPANY, LLC FOR AN) Case No. 2025-00354**
13 **ADJUSTMENT TO ITS RATES)**

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18 **DIRECT TESTIMONY**

19
20 **OF**

21
22 **MATTHEW R. HOWARD**

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24
25 **ON BEHALF OF**

26 **BLUEGRASS WATER UTILITY OPERATING COMPANY, LLC**
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38 **FILED: DECEMBER 11, 2025**
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**DIRECT TESTIMONY OF
MATTHEW R. HOWARD**

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**DIRECT TESTIMONY OF
MATTHEW R. HOWARD**

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, AFFILIATION, AND BUSINESS ADDRESS.

A. My name is Matthew R. Howard. I am a Director at ScottMadden, Inc. (“ScottMadden”). My business address is 1 Speen Street, Suite 150, Framingham, Massachusetts 01701.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

A. I am submitting this direct testimony (referred to throughout as my “Direct Testimony”) before the Kentucky Public Service Commission (“KPSC” or the “Commission”) on behalf of Bluegrass Water Utility Operating Company, LLC (“Bluegrass Water” or the “Company”).

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I offer expert testimony on behalf of investor-owned utilities on rate of return issues, including return on common equity (“ROE”),¹ capital structure, and cost of debt. I have also authored and co-authored several fair market valuation reports on behalf of municipalities and investor-owned utilities. On behalf of the American Gas Association (“AGA”), I assist in the calculation of the AGA Gas Index, which serves as the benchmark against which the performance of the American Gas Index

¹ Also referred to throughout this testimony as “cost of common equity”.

1 Fund (“AGIF”) is measured on a monthly basis. The AGA Gas Index and AGIF
2 are a market capitalization weighted index and mutual fund, respectively, comprised
3 of the common stocks of the publicly traded corporate members of the AGA.

4 I am a member of the Society of Utility and Regulatory Financial Analysts
5 (“SURFA”). In May 2022, I was awarded the professional designation “Certified
6 Rate of Return Analyst” by SURFA, which is based on education, experience, and
7 the successful completion of a comprehensive written examination.

8 I am also a member of the National Association of Certified Valuation
9 Analysts (“NACVA”) and was awarded the professional designation “Certified
10 Valuation Analyst” by NACVA in 2024.

11 I hold a bachelor’s degree in Psychology from the University of Colorado at
12 Boulder, and I received a Master of Business Administration degree from Babson
13 College, with honors, and a concentration in Finance.

14 My educational background and regulatory experience are included in
15 Appendix A.

16 **II. PURPOSE OF TESTIMONY**

17 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**
18 **PROCEEDING?**

19 A. The purpose of my Direct Testimony is to present evidence on behalf of Bluegrass
20 Water about the appropriate capital structure and corresponding cost rates the
21 Company should be given the opportunity to earn on its jurisdictional rate base.

1 **Q. Have you prepared any Exhibits in support of your recommendation?**

2 A. Yes. I have prepared Exhibits MRH-1 through MRH-7, which have been prepared
3 by me or under my direct supervision.

4 **III. SUMMARY**

5 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATION WITH RESPECT**
6 **TO THE OVERALL RATE OF RETURN FOR BLUEGRASS WATER?**

7 A. For the period ending March 31, 2026 (Base Year), I recommend that the
8 Commission authorize Bluegrass Water the opportunity to earn an overall rate of
9 return of 9.68 percent based on a capital structure of 52.19 percent total debt at a
10 blended cost rate of 8.02 percent, and 47.81 percent common equity at a common
11 equity cost rate of 11.50 percent. The overall rate of return is summarized on page
12 1 of Exhibit MRH-1 and in Table 1 below:

13 **Table 1: Summary of Overall Rate of Return – Base Year (March 31, 2026)**

Description	Percent Total Capital	Cost Rate	Weighted Cost Rate
Total Debt	52.19%	8.02%	4.18%
Common Equity	<u>47.81%</u>	11.50%	<u>5.50%</u>
Total	<u>100.00%</u>		<u>9.68%</u>

14

15 For the period ending July 31, 2027 (Test Year), I recommend that the Commission
16 authorize Bluegrass Water the opportunity to earn an overall rate of return of 9.77
17 percent based on a capital structure of 49.20 percent total debt at a blended cost rate
18 of 7.98 percent, and 50.80 percent common equity at a common equity cost rate of

1 11.50 percent. The overall rate of return is also summarized on page 1 of Exhibit
2 MRH-1 and in Table 2 below:

3 **Table 2: Summary of Overall Rate of Return – Test Year (July 31, 2027)**

Description	Percent Total Capital	Cost Rate	Weighted Cost Rate
Total Debt	49.20%	7.98%	3.93%
Common Equity	<u>50.80%</u>	11.50%	<u>5.84%</u>
Total	<u>100.00%</u>		<u>9.77%</u>

4 **Q. PLEASE SUMMARIZE YOUR DETERMINATION OF THE**
5 **RECOMMENDED COST OF COMMON EQUITY FOR BLUEGRASS**
6 **WATER.**

7 A. The determination of the recommended cost of common equity for Bluegrass Water
8 is guided in part by the regulatory principles established in *Bluefield Waterworks &*
9 *Imp. Co. v. Public Service Commission of W. Va.*, 262 U.S. 679 (1923)
10 (“*Bluefield*”)² and *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S.
11 591 (1944) (“*Hope*”).³ As discussed more in depth below, *Bluefield* and *Hope*
12 establish the standard, among others, that a utility’s returns should provide it the
13 opportunity to earn a return similar to enterprises of comparable risk. To ensure the
14 cost of common equity reflects enterprises of comparable risk, it is necessary to look
15 to the market data of a proxy group of publicly traded companies comparable in risk
16 to Bluegrass Water’s utility operations (the “Utility Proxy Group”). However, the

² *Bluefield Water Works Improvement Co. v. Public Serv. Comm’n*, 262 U.S. 679 (1923).

³ *Federal Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 Utility Proxy Group is not identical to Bluegrass Water. Therefore, it is necessary
2 to reflect any Company-specific risks not captured by the Utility Proxy Group.

3 **Q. HOW HAVE YOU APPLIED THE APPROACH DESCRIBED ABOVE IN**
4 **ARRIVING AT YOUR RECOMMENDED COST OF COMMON EQUITY**
5 **FOR BLUEGRASS WATER?**

6 A. In arriving at my recommended cost of common equity for Bluegrass Water of 11.50
7 percent, I applied the Discounted Cash Flow (“DCF”) model, the Capital Asset
8 Pricing Model (“CAPM”), and the Risk Premium Model (“RPM”) (as discussed
9 below) to the market data of the Utility Proxy Group as summarized in Table 3
10 below:

11 **Table 3: Summary of ROE Results⁴**

	Equal Weighted Beta Coefficients		<i>Value Line</i> Beta Coefficients	
Discounted Cash Flow ⁵	9.68%	9.34%	9.68%	9.34%
Capital Asset Pricing Model ⁶	10.26%	10.20%	12.20%	12.18%
Risk Premium Model	<u>10.87%</u>		<u>11.14%</u>	
Recommended Range Prior to the Application of a Business Risk Adjustment	10.00% - 11.00%			
Business Risk Adjustment	<u>1.00%</u>			
Recommended Range Applicable to Bluegrass Water	11.00% - 12.00%			
Recommended Return on Equity	11.50%			

12

⁴ Exhibit MRH-1, page 2.

⁵ Mean and median results, respectively.

⁶ Results based on current and projected interest rates, respectively.

1 Based on the model results, I determined the appropriate ROE for the Utility
2 Proxy Group to be in the range of 10.00 percent to 11.00 percent, prior to any
3 Company-specific adjustments. I then applied a risk premium of 1.00 percent,
4 which considers both Bluegrass Water's smaller size and significant risks relative
5 to the Utility Proxy Group, resulting in a recommended ROE range applicable to
6 Bluegrass Water of 11.00 percent to 12.00 percent. Within that range, I recommend
7 an ROE for Bluegrass Water of 11.50 percent.

8 As Table 3 demonstrates, in determining the applicable ROE range for
9 Bluegrass Water, I relied on multiple analytical models. This reflects two important
10 considerations: (1) it is impossible to know with absolute certainty which methods
11 or approaches best reflect market and economic conditions and investor sentiment
12 at any one point in time; and (2) the indicated results of the models represent the
13 range of opportunity costs for utility equity investors. Because of these
14 considerations, it is necessary to carefully consider the range of results, as the results
15 for individual companies or each specific model are likely to vary. My
16 recommended ROE appropriately balances the range of results with the need to
17 apply careful judgment in assessing those results.

18 **IV. GENERAL PRINCIPLES**

19 **Q. WHAT REGULATORY PRINCIPLES GUIDE THE DETERMINATION OF**
20 **AN ROE TO BE INCLUDED IN THE FAIR RATE OF RETURN?**

21 **A.** As established in *Bluefield* and *Hope*, the fair rate of return, including the cost of
22 common equity, should provide the utility the opportunity to earn returns

1 comparable to other investments with similar risks, at a level sufficient to assure
2 investors that the enterprise will maintain its financial integrity. Because utilities
3 compete for capital with other firms of comparable risk, the return authorized by the
4 regulatory process should provide the utility with the ability to attract capital at a
5 reasonable cost. In addition, the return should enable the utility to fulfill its
6 obligations to the public of providing safe and reliable service at all times.

7 In *Bluefield*, the Court stated:

8 A public utility is entitled to such rates as will permit it to earn a return
9 upon the value of the property which it employs for the convenience
10 of the public equal to that generally being made at the same time and
11 in the same general part of the country on investments in other
12 business undertakings which are attended by corresponding risks and
13 uncertainties; but it has no constitutional right to profits such as are
14 realized or anticipated in highly profitable enterprises or speculative
15 ventures.

16
17 The return should be reasonably sufficient to assure confidence in the
18 financial soundness of the utility, and should be adequate, under
19 efficient and economical management, to maintain and support its
20 credit, and enable it to raise the money necessary for the proper
21 discharge of its public duties.⁷

22
23 Likewise in *Hope*, the Supreme Court noted:

24 The rate-making process under the Act, i.e., the fixing of ‘just and
25 reasonable’ rates, involves a balancing of the investor and the
26 consumer interests. Thus we stated in the *Natural Gas Pipeline Co.*
27 case that ‘regulation does not insure [sic] that the business shall
28 produce net revenues.’ 315 U.S. at page 590, 62 S.Ct. at page 745.
29 But such considerations aside, the investor interest has a legitimate
30 concern with the financial integrity of the company whose rates are
31 being regulated. From the investor or company point of view it is
32 important that there be enough revenue not only for operating
33 expenses but also for the capital costs of the business. These include
34 service on the debt and dividends on the stock. Cf. *Chicago & Grand*

⁷ *Bluefield*, 262 U.S. at 692.

1 Trunk R. Co. v. Wellman, 143 U.S. 339, 345, 346 12 S.Ct. 400, 402.
2 By that standard the return to the equity owner should be
3 commensurate with returns on investments in other enterprises
4 having corresponding risks. That return, moreover, should be
5 sufficient to assure confidence in the financial integrity of the
6 enterprise, so as to maintain its credit and to attract capital.⁸

7 **Q. PLEASE COMMENT ON THE FORWARD-LOOKING NATURE OF**
8 **RATEMAKING AND THE COST OF CAPITAL IN GENERAL.**

9 A. Rates set in this proceeding for Bluegrass Water will be implemented on a going-
10 forward basis, as rates are designed to recover costs that will be incurred in the
11 future. The cost of capital is also forward-looking, as the return (i.e., cost) required
12 by investors is reflective of the risks an investment may face in the future.

13 **Q. PLEASE COMMENT ON THE USE OF MULTIPLE ANALYTICAL**
14 **MODELS IN DETERMINING THE APPROPRIATE ROE APPLICABLE**
15 **TO BLUEGRASS WATER.**

16 A. Unlike the costs of debt or preferred stock, which are generally contractually
17 defined, the cost of common equity is not directly observable in the market.
18 Therefore, analysts must look to multiple financial and economic models using
19 market data to estimate the investor required ROE. Further, no model is perfect,
20 and all models have strengths and weaknesses. Generally, however, it is difficult to
21 determine which model/models best reflect investor sentiment at any one time. The
22 use of multiple models is therefore preferable to the selection of any single model
23 at any one point in time. Further, to avoid an assessment of current market and

⁸ Hope, 320 U.S. 591 at 603 (emphasis added).

1 economic conditions that over- or underemphasizes any one model, the use of
2 multiple models is necessary.

3 The use of multiple models is also well supported in financial literature, as is
4 the need to exercise judgment in assessing those models and their results. For
5 example, Morin⁹ states:

6 Each methodology requires the exercise of considerable judgment on
7 the reasonableness of the assumptions underlying the methodology
8 and on the reasonableness of the proxies used to validate a theory.
9 The inability of the DCF model to account for changes in relative
10 market valuation, discussed below, is a vivid example of the potential
11 shortcomings of the DCF model when applied to a given company.
12 Similarly, the inability of the CAPM to account for variables that
13 affect security returns other than beta tarnishes its use.

14
15 No one individual method provides the necessary level of precision
16 for determining a fair return, but each method provides useful
17 evidence to facilitate the exercise of an informed judgment. Reliance
18 on any single method or preset formula is inappropriate when dealing
19 with investor expectations because of possible measurement
20 difficulties and vagaries in individual companies' market data.¹⁰

21 Based on the above, the use of multiple analytical models, as well as the
22 application of careful judgment, should be used in determining the appropriate ROE
23 for Bluegrass Water.

⁹ Dr. Roger A. Morin is Emeritus Professor of Finance at the College of Business Administration, Georgia State University, and Distinguished Professor of Finance for Regulated Industry at the Center for the Study of Regulated Industry at Georgia State University. Dr. Morin has published four widely used treatises on regulatory finance: Utilities' Cost of Capital, Regulatory Finance, New Regulatory Finance, and more recently, Modern Regulatory Finance. Dr. Morin is a leading expert witness in matters of corporate finance and has appeared as an expert witness in some 200 cases before some 50 federal and provincial/state regulatory boards in the United States, Canada, and abroad, including the Federal Energy Regulatory Commission and the Federal Communications Commission.

¹⁰ Roger A. Morin, Modern Regulatory Finance, PUR Books 2021, at 476. ("Morin").

1 **V. PROXY GROUP SELECTION**

2 **Q. PLEASE DESCRIBE BLUEGRASS WATER'S OPERATIONS.**

3 A. Bluegrass Water is headquartered in St. Louis, Missouri, and provides service to
4 four water and twenty-two wastewater service areas in Kentucky, representing
5 2,812 water and wastewater connections.

6 **Q. PLEASE DESCRIBE THE SELECTION PROCESS FOR THE UTILITY**
7 **PROXY GROUP.**

8 A. The basis of selection for the Utility Proxy Group was to select those companies
9 which met the following criteria:

- 10 (i) I exclude any water utilities not covered by *Value Line Investment Survey's*
11 (*Value Line*) Standard and Small & Mid-Cap Edition (October 3, 2025);
- 12 (ii) I exclude any water utilities for which *Value Line* does not report a Beta
13 coefficient;
- 14 (iii) I exclude any water utilities which do not have an earnings growth projection
15 from at least one of the following sources: *Zacks*, *Value Line*, or S&P Capital
16 IQ;
- 17 (iv) I exclude any water utilities that have recently cut or suspended dividend
18 payments; and
- 19 (v) I exclude any water utilities that did not derive either 60.00 percent or greater
20 of operating income, or 60.00 percent or greater of total assets attributable
21 to, regulated water utility operations in the most recent fiscal year.

1 The following seven companies met these criteria: American States Water
2 Company, American Water Works Company, Inc. (“AWK”), California Water
3 Service Group, Essential Utilities, Inc. (“WTRG”), Global Water Resources, Inc.,
4 H2O America (“HTO”), and Middlesex Water Company.

5 **Q. ARE ANY OF THE COMPANIES IN YOUR UTILITY PROXY GROUP**
6 **CURRENTLY SUBJECT TO A MERGER OR INVOLVED IN ANY**
7 **TRANSACTIONS?**

8 A. Yes. On July 8, 2025, HTO announced that it will purchase Quadvest, L.P. and
9 Quadvest Wholesale LLC, a combined regulated water and wastewater utility in
10 Texas, for a combined transaction value of \$540 million.¹¹ In addition, on October
11 27, 2025, AWK and WTRG announced plans to merge.¹²

12 **Q. HAVE YOU CONDUCTED AN ANALYSIS OF HTO’S MARKET DATA TO**
13 **DETERMINE WHETHER IT HAS BEEN AFFECTED BY ITS**
14 **ACQUISITION ANNOUNCEMENT?**

15 A. Yes, I have. Because stock prices reflect investor’s perception of risk, it is possible
16 to determine whether HTO’s stock price currently reflects speculation
17 accompanying the proposed transaction, and not its underlying operations. To
18 determine whether HTO’s market data still reflected its operations, I examined the
19 correlation between the daily returns of HTO’s stock price and the daily returns of

¹¹ <https://www.h2o-america.com/news-releases/news-release-details/h2o-america-significantly-expands-texas-footprint-texas>

¹² <https://ir.amwater.com/news-and-events/financial-releases/financial-release-details/2025/American-Water-and-Essential-Utilities-to-Merge-as-a-Leading-Regulated-U-S--Water-and-Wastewater-Utility/default.aspx>

1 the stock prices of the remaining six members of the Utility Proxy Group for the
2 six-month period leading up to the announced transaction (July 8, 2025), and since
3 the announcement through October 31, 2025 (my spot date). As shown in Table 4
4 below, since the announcement, the relationship between HTO's stock price and the
5 stock prices of the Utility Proxy Group is little changed from the period prior to the
6 transaction. This indicates that HTO's stock price does not incorporate any risks
7 due to the transaction. Given this, their inclusion in the Utility Proxy Group is
8 appropriate.

9 **Table 4: HTO Transaction Study**

Period	Correlation
January 8, 2025 – July 7, 2025 (Prior to	0.81
July 8, 2025 – October 31, 2025 (After	0.85

10 **Q. HAVE YOU MADE THIS SAME DETERMINATION FOR AWK AND**
11 **WTRG?**

12 **A.** No. Because AWK and WTRG's merger was announced five days before my spot
13 date of October 31, 2025, there is not sufficient market data to conduct a similar
14 study or draw any meaningful conclusions. I also note that the Value Line data I
15 rely on for the Utility Proxy Group was published on October 3, 2025, meaning that
16 the AWK/WTRG transaction would not be reflected in that data (Beta coefficients
17 and projected EPS growth rates). During the course of this proceeding, I will
18 monitor the market data of AWK and WTRG and determine whether they should
19 remain in my Utility Proxy Group.

1 **VI. CAPITAL STRUCTURE AND COST OF DEBT**

2 **A. CAPITAL STRUCTURE**

3 **Q. WHAT CAPITAL STRUCTURE DO YOU PROPOSE FOR THE COMPANY**
4 **FROM A RATEMAKING PERSPECTIVE?**

5 A. I propose a capital structure comprised of 52.19 percent total debt and 47.81 percent
6 common equity for the Company, which is the forecasted capital structure for the
7 period ending March 31, 2026. For the period ending July 31, 2027, I propose a
8 capital structure comprised of 49.20 percent total debt and 50.80 percent common
9 equity, which is the forecasted capital structure for the Company for that period.

10 **Q. WHAT ARE THE CAPITAL STRUCTURES MAINTAINED BY THE**
11 **UTILITY PROXY GROUP?**

12 A. As shown on Exhibit MRH-2, the range of common equity ratios maintained by the
13 Utility Proxy Group is between 27.99 percent and 54.24 percent in 2024. The
14 ratemaking common equity ratios of 47.81 percent (Base Year) and 50.80 percent
15 (Forecasted Test Year) for Bluegrass Water are consistent with the range of
16 common equity ratios maintained by the Utility Proxy Group on which I base my
17 recommended cost of common equity. Given this, I recommend the Commission
18 approve the proposed capital structure for Bluegrass Water.

1 **B. COST OF DEBT**

2 **Q. WHAT COST OF DEBT DO YOU RECOMMEND BE AUTHORIZED FOR**
3 **BLUEGRASS WATER?**

4 A. In this proceeding, I recommend a debt cost of 8.02 percent for the period ending
5 March 31, 2026, and 7.98 percent for the period ending July 31, 2027, both of which
6 reflect the blended debt costs for the Company for the respective periods. The
7 calculation of the blended debt cost rates is set forth in page 1 of Exhibit MRH-3.

8 **VII. COST OF COMMON EQUITY ESTIMATION**

9 **Q. PLEASE SUMMARIZE YOUR COST OF COMMON EQUITY ANALYSIS.**

10 A. The cost of common equity reflects the return investors require to make an equity
11 investment in a given enterprise. In making that determination, investors are guided
12 by the financial principle that the return required must compensate for their
13 perceived level of risk, with that level of risk reflected in the market prices they are
14 willing to pay, and with greater risk requiring a greater return.¹³ Thus, multiple
15 financial analytical models have been developed to estimate the relationship
16 between investors' perception of risk and the return they require to bear that risk.
17 Because regulation acts as a substitute for marketplace competition, the assessment
18 of the appropriate ROE must look to the capital markets in which investors make
19 their pricing decisions. Therefore, in my determination of the appropriate ROE for
20 Bluegrass Water, I have applied three financial models that are generally accepted

¹³ *See, for example, Morin, at 27-29.*

1 academically¹⁴ and commonly applied in regulatory proceedings to the Utility
2 Proxy Group: The DCF, the CAPM, and the RPM. I discuss each of these models
3 and their results in more detail below.

4 Lastly, because the Utility Proxy Group is comparable in risk but not
5 identical to Bluegrass Water, I have examined the applicable risk adjustments based
6 on Bluegrass Water's size and significant risk relative to that of the Utility Proxy
7 Group as discussed in Section VIII below.

8 **A. CONSTANT GROWTH DISCOUNTED CASH FLOW MODEL**

9 **Q. PLEASE DESCRIBE THE CONSTANT GROWTH DISCOUNTED CASH**
10 **FLOW MODEL.**

11 A. The DCF is based on the theory that the price of a stock is dependent on the present
12 value of the future cash-flows for the company in question. In conducting my DCF
13 analysis, I have applied the Constant Growth DCF, which takes the following form:

14
$$k = \frac{D_0 (1+g)}{P} + g \text{ Equation [1]}$$

15 where:

16 K = the required return on common equity;

17 D_0 = the annualized dividend per share;

18 P = the current stock price; and

19 g = the *expected* growth rate.

¹⁴ See, for example, Morin at 477-478.

1 **Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN YOUR**
2 **APPLICATION OF THE CONSTANT GROWTH DCF MODEL.**

3 A. The unadjusted dividend yields are based on each proxy group company's
4 annualized dividends per share as of October 31, 2025, divided by the 30-day
5 average closing market prices for the period ending October 31, 2025. However,
6 because dividends are paid periodically throughout the year, as opposed to
7 continuously, an adjustment must be made to the dividend yield.¹⁵ Further, because
8 utilities increase their quarterly dividend at various times during the year, it is a
9 reasonable assumption to reflect one-half of the annual dividend growth rate in the
10 dividend yield component. This adjustment has been applied in Column [4] of
11 Exhibit MRH-4.

12 **Q. WHY DO YOU RELY ON A 30-DAY AVERAGE STOCK PRICE IN**
13 **CALCULATING YOUR DIVIDEND YIELDS?**

14 A. Because anomalous events can affect the stock price on any particular trading day,
15 it is important to use an averaging period that mitigates the effects of any such
16 events, while also accounting for current market conditions. As such, a 30-day
17 average reasonably accomplishes this objective.

¹⁵ See, for example, Myron J. Gordon and Eli Shapiro, *Capital Equipment Analysis: The Required Rate of Profit*, School of Industrial Management, Massachusetts Institute of Technology, at 106.

1 **Q. PLEASE DESCRIBE THE GROWTH RATES USED IN YOUR CONSTANT**
2 **GROWTH DCF.**

3 A. Because the ROE is forward-looking in nature, it is important that the models and
4 their inputs reflect the use of forward-looking data. As such, I have relied on the
5 five-year earnings per share (“EPS”) growth estimates as published by S&P Capital
6 IQ, Zacks, and *Value Line*, all three of which are widely available to investors.

7 **Q. WHY ARE PROJECTED EPS GROWTH RATES APPROPRIATE FOR**
8 **USE IN THE CONSTANT GROWTH DCF MODEL?**

9 A. Over the long run, a utility’s dividends, cash flow, or book value cannot grow
10 without a corresponding growth in earnings. Specifically, over time, if a utility’s
11 earnings do not grow commensurately with dividends or cash flow then it will be
12 forced to rely on alternative sources of cash, primarily depreciation. Because
13 depreciation reflects the level of capital expenditures (or replacements) necessary to
14 maintain a safe and reliable system, the utility will ultimately face a shortfall in its
15 ability to both maintain dividends and capital expenditures if earnings growth is not
16 maintained. In addition, any earnings not paid out as dividends or allocated to
17 capital expenditures will be recorded as retained earnings, which increases book
18 value. As such, book value, dividends, and cash flow are all dependent on earnings
19 growth.

20 Clearly, earnings growth is the appropriate measure of growth moving
21 forward, and more specifically, the use of projected earnings growth based on
22 analysts’ forecasts. It is also well supported in academic research that analyst

1 earnings forecasts are reflected in the market. For example, research by Harris notes
2 that “a growing body of knowledge shows that analysts’ earnings forecasts are
3 indeed reflected in stock prices.”¹⁶ Further, Vander Weide and Carleton have
4 demonstrated that earnings growth projections have a statistically significant
5 relationship to stock valuation levels.¹⁷ As such, the use of analyst projected
6 earnings growth rates are appropriate for use as the growth component of the
7 Constant Growth DCF.

8 **Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF**
9 **ANALYSIS?**

10 A. My Constant Growth DCF analysis results in a mean and median estimated cost of
11 common equity of 9.68 percent and 9.34 percent, as shown on Exhibit MRH-4.

12 **B. CAPITAL ASSET PRICING MODEL**

13 **Q. PLEASE DESCRIBE THE CAPITAL ASSET PRICING MODEL.**

14 A. The CAPM is a risk premium-based method of estimating the cost of common
15 equity in which the ROE is determined by adding a risk premium to an estimate of
16 the risk-free rate. The risk premium is defined as the difference between the return
17 required to invest in the broad market, less the risk-free rate ($r_m - r_f$). This is

¹⁶ Robert S. Harris, *Using Analysts’ Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management (Spring 1986), at 59.

¹⁷ James H. Vander Weide and Willard T. Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988), at 81. The Vander Weide and Carleton study was updated in 2004 under the direction of Dr. Vander Weide. The results of the updated study were consistent with the original study’s conclusions.

1 commonly referred to as the Market Risk Premium (“MRP”) and is discussed in
2 more detail below. The CAPM is defined as:

$$3 \quad K_e = r_f + B(r_m - r_f) \quad \text{Equation [2]}$$

4 where:

5 k = the required market ROE for a security;

6 β = the Beta coefficient of that security;

7 r_f = the risk-free rate of return; and

8 r_m = the required return on the market as a whole.

9 According to the underlying theory of the CAPM, unsystematic risk can be
10 diversified away, meaning investors should only be compensated for systematic
11 risk. Systematic, or non-diversifiable risk, is measured by the Beta coefficient (“ β ”),
12 which is defined as:

$$13 \quad \beta_j = \frac{\sigma_j}{\sigma_m} \times \rho_{j,m} \quad \text{Equation [3]}$$

14 Where σ_j is the standard deviation of returns for company “ j ,” σ_m is the
15 standard deviation of returns for the broad market (as measured, for example, by the
16 S&P 500 Index (“S&P 500”)), and $\rho_{j,m}$ is the correlation of returns between company
17 j and the broad market. The Beta coefficient therefore represents both relative
18 volatility (i.e., the standard deviation) of returns, and the correlation in returns
19 between the subject company and the overall market.

1 **Q. HAVE YOU ALSO RELIED ON AN ALTERNATIVE FORM OF THE**
2 **CAPM?**

3 A. Yes. In addition to relying on the traditional CAPM as defined in Equation [2]
4 above, I also rely on the empirical CAPM (“ECAPM”). The ECAPM reflects the
5 reality that, although the results of numerous studies support the notion that the Beta
6 coefficient is related to security returns, the empirical Security Market Line
7 (“SML”) described by the CAPM formula is not as steeply sloped as the predicted
8 SML. Morin¹⁸ states:

9 With few exceptions, the empirical studies agree that ... low-beta
10 securities earn returns somewhat higher than the CAPM would
11 predict, and high-beta securities earn less than predicted.

12 * * *

13 Therefore, the empirical evidence suggests that the expected return on
14 a security is related to its risk by the following approximation:

15
$$K = R_F + x \beta(R_M - R_F) + (1-x) \beta(R_M - R_F)$$

16 where x is a fraction to be determined empirically. The value of x that
17 best explains the observed relationship $\text{Return} = 0.0829 + 0.0520 \beta$ is
18 between 0.25 and 0.30. If $x = 0.25$, the equation becomes:

19
$$K = R_F + 0.25(R_M - R_F) + 0.75 \beta(R_M - R_F)$$

20 Considering the theoretical and practical support, I have relied on both the CAPM
21 and ECAPM and have applied the inputs described below in both forms.

22
23

¹⁸ Morin, at 207, 221.

1 **1. Risk-Free Rate**

2 **Q. HOW HAVE YOU CALCULATED THE RISK-FREE RATES IN YOUR**
3 **CAPM ANALYSIS?**

4 A. The risk-free rates applied in my CAPM analyses are based on: (1) a current, 30-
5 day average yield on 30-year Treasury bonds (4.67 percent); and (2) a projected 30-
6 year Treasury yield based on projections from *Blue Chip Financial Forecasts*
7 (*"Blue Chip"*) for the six quarters ending with the first-calendar quarter of 2027,
8 and long-term projections for the periods 2027-2031 and 2032-2036 (4.53
9 percent).¹⁹

10 **Q. WHY HAVE YOU RELIED ON THE 30-YEAR TREASURY YIELD IN**
11 **YOUR CAPM ANALYSIS?**

12 A. Because equity investments are assumed to continue into perpetuity, the appropriate
13 risk-free rate selected should ideally match the life of the underlying investment.
14 Therefore, it is appropriate to rely on 30-year Treasury yields as the risk-free rate in
15 applying the CAPM.

16 **Q. HAVE YOU APPLIED BOTH A CURRENT AND PROJECTED MEASURE**
17 **OF THE RISK-FREE RATE IN YOUR CAPM ANALYSIS?**

18 A. Yes, I have. I rely on both current and projected measures of 30-year Treasury
19 yields because the extent to which current interest rates may be better estimators of
20 future interest rates than analyst expectations can vary. Therefore, the use of both

¹⁹ Bloomberg Professional ("Bloomberg"), *Blue Chip Financial Forecasts*, Vol. 44, No. 6, June 2, 2025 at 14, and Vol. 44, No. 11, October 31, 2025 at 2.

1 current and projected interest rates best captures the range of expected risk-free
2 rates.²⁰

3 **2. Beta Coefficients**

4 **Q. WHAT BETA COEFFICIENTS DID YOU USE IN YOUR CAPM**
5 **ANALYSIS?**

6 A. I have relied on Beta coefficients provided by *Value Line* and Bloomberg, as shown
7 on page 4 of Exhibit MRH-5. Both sources adjust their calculated Beta coefficients
8 to reflect the tendency of Beta coefficients to regress to the market mean of 1.00.
9 While *Value Line* relies on five-years of weekly returns, Bloomberg relies on two
10 years of weekly returns.

11 **Q. SHOULD BLOOMBERG BETA COEFFICIENTS BE VIEWED WITH**
12 **CAUTION AT THIS TIME?**

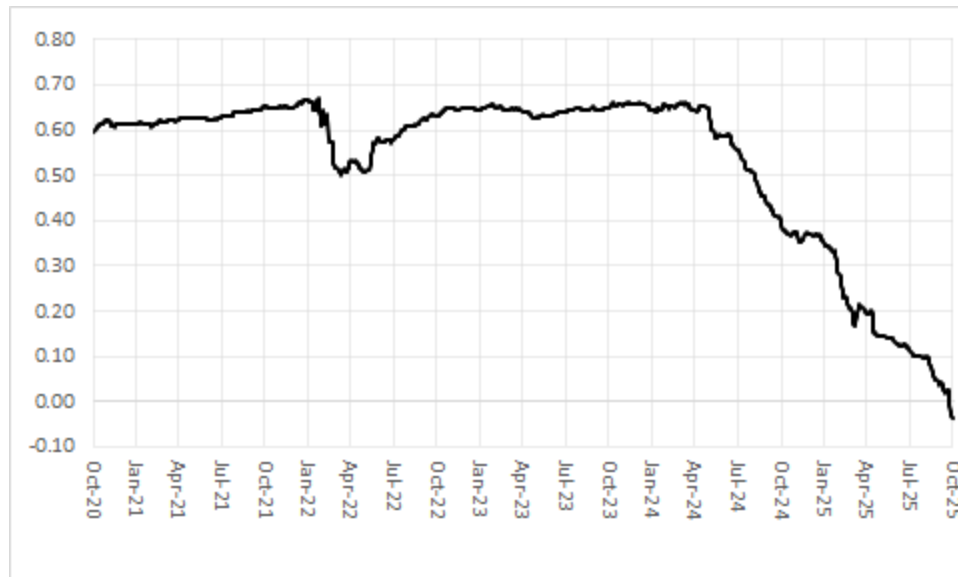
13 A. In short, Bloomberg Beta coefficients do not entirely measure the market risks
14 attributable to the Utility Proxy Group currently. Bloomberg Beta coefficients
15 currently reflect a meaningful divergence in the correlation between the returns of
16 the Utility Proxy Group and the Standard & Poors' 500 Index ("S&P 500").
17 Because correlations between the S&P 500 and the Utility Proxy Group increase
18 substantially during market distress, the defensive qualities usually associated with
19 low Beta coefficient stocks are not applicable to the Utility Proxy Group. Affording
20 too much weight to results that incorporate Bloomberg Beta coefficients skews
21 investors' assessment of the market risk of the Utility Proxy Group.

²⁰ See Morin, at 202.

1 **Q. HOW ARE BLOOMBERG BETA COEFFICIENTS CALCULATED?**

2 A. Beta coefficients are the product of the relative volatility and correlation between
3 the subject company and the chosen market index. Bloomberg Beta coefficients use
4 the S&P 500 as the market index and are calculated over a two-year period based
5 on weekly returns. Charts 1 and 2 below graph the correlation and relative volatility,
6 respectively, between the Utility Proxy Group and the S&P 500.

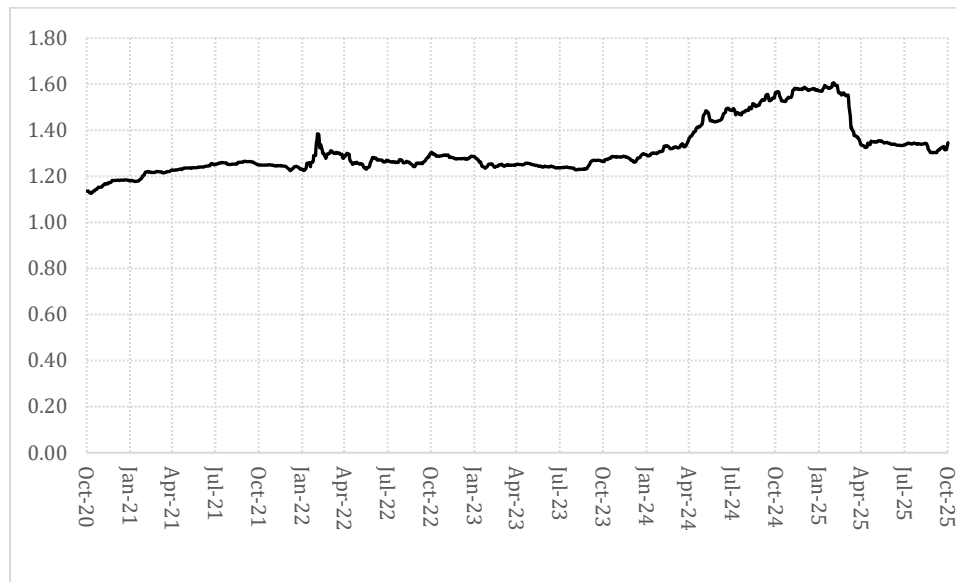
7 **Chart 1: Weekly Two-Year Rolling Correlation Between the Utility Proxy**
8 **Group and the S&P 500 Since October 2020**²¹



9

²¹ Source: S&P Capital IQ.

1 **Chart 2: Weekly Two-Year Rolling Relative Volatility Between the Utility**
2 **Proxy Group and the S&P 500 Since October 2020**²²



3
4 **Q. PLEASE COMMENT ON HOW THE USE OF THE S&P 500 IMPACTS**
5 **THE REFLECTION OF RISK OBSERVED IN THE BLOOMBERG BETA**
6 **COEFFICIENTS.**

7 A. The S&P 500 is a market-capitalization weighted index, meaning that the returns of
8 a small subset of extremely large companies within the S&P 500 can have an
9 outsized effect on the overall returns. Currently, the Magnificent 7 (“Mag7”)
10 companies²³ in the S&P 500 represent 35.37 percent of the total market
11 capitalization of the S&P 500, indicating the returns of the S&P 500 are affected by
12 a small concentration of companies.²⁴

²² Source: S&P Capital IQ.

²³ The “Magnificent Seven” stocks are: (1) Apple, Inc.; (2) Amazon.com, Inc.; (3) Alphabet, Inc.; (4) Meta Platforms, Inc.; (5) Microsoft Corporation; (6) NVIDIA Corporation; and (7) Tesla, Inc.

²⁴ The percentage of S&P 500 market capitalization attributable to the Mag7 has increased by approximately 15.00 percent since January 2023.

1 Specifically, the correlation in returns between the Utility Proxy Group and
2 the Mag7 is -0.09, while the correlation between the Utility Proxy Group and the
3 remaining 493 companies is 0.37. Because the Mag7 companies are not correlated
4 with the Utility Proxy Group, their concentration causes the correlation between the
5 returns of the Utility Proxy Group and the S&P 500 to diverge, as shown in Chart 1
6 above. The impact of these diverging correlations is that Bloomberg Beta
7 coefficients imply that the price movements of the Utility Proxy Group are not
8 related to the overall market, as measured by the S&P 500. That is a misleading
9 conclusion.

10 **Q. WHY DOES THE DECREASE IN CORRELATION BETWEEN THE**
11 **UTILITY PROXY GROUP AND THE S&P 500 RESULT IN A**
12 **MISLEADING CONCLUSION AS TO THE MARKET RISK OF THE**
13 **UTILITY PROXY GROUP?**

14 A. The low Bloomberg Beta coefficients of the Utility Proxy Group lead to the
15 conclusion that the Utility Proxy Group will not trade in line with the broad market
16 during periods of significant volatility. That conclusion is not supported by
17 observed relationships during times of significant volatility. During those periods,
18 volatility and returns of the Utility Proxy Group are highly correlated to those of the
19 market. Because of this, the required return for utility investors would increase.
20 This can be observed by looking to the relationship between utilities and market
21 indices.

1 **Q. HAVE YOU CONDUCTED A STUDY OBSERVING THE CORRELATION**
2 **BETWEEN UTILITIES AND MARKET INDICES?**

3 A. Yes, I have. As shown in Table 5 below, I calculated the correlation coefficients of
4 the price changes of several groups of utilities relative to the S&P 500, the Dow
5 Jones Industrial Average (“DJIA”), and the New York Stock Exchange (“NYSE”)
6 from January 31, 2020 to April 30, 2020. The study evaluates the correlation
7 coefficients for the following relationships:

- 8 • The price changes of the S&P 500 relative to the price changes of the
9 Utility Proxy Group;
- 10 • The price changes of the S&P 500 relative to the price changes of the
11 Dow Jones Utility Average (“DJU”);
- 12 • The price changes of the S&P 500 relative to the price changes of the
13 Utilities Select Sector SPDR Fund (“XLU);
- 14 • The price changes of the DJIA relative to the price changes of the
15 Utility Proxy Group;
- 16 • The price changes of the DJIA relative to the price changes of the
17 DJU;
- 18 • The price changes of the DJIA relative to the price changes of the
19 XLU;
- 20 • The price changes of the NYSE relative to the price changes of the
21 Utility Proxy Group;

- 1 • The price changes of the NYSE relative to the price changes of the
- 2 DJU; and
- 3 • The price changes of the NYSE relative to the price changes of the
- 4 XLU.

5 **Table 5: Calculation of Correlation Coefficients for Utility Groups Relative to**
 6 **Market Indices from February 2020 through April 2020**²⁵

Group	S&P 500	DJIA	NYSE
Utility Proxy Group	81.39%	79.40%	79.48%
DJU	88.26%	87.75%	88.19%
XLU	88.32%	87.36%	87.95%

7 As shown on Table 5, utility stocks traded in tandem with market indices
 8 during the early 2020 market dislocation.

9 I have also observed these same relationships for the period encompassing
 10 the Great Recession (December 2007 to June 2009), correlations between these
 11 same groups were similar, as shown on Table 6, below:

12 **Table 6: Calculation of Correlation Coefficients for Utility Groups Relative to**
 13 **Market Indices from December 2007 to June 2009**²⁶

Group	S&P 500	DJIA	NYSE
Utility Proxy Group	72.34%	73.02%	70.88%
DJU	81.57%	82.13%	82.15%
XLU	78.36%	78.59%	79.18%

14 This increasing correlation between utilities and the market during periods
 15 of market distress is not surprising. As Morningstar explained, during volatile
 16 markets there is often little distinction in returns across assets or portfolios. That is,

²⁵ Source: S&P Global Market Intelligence.

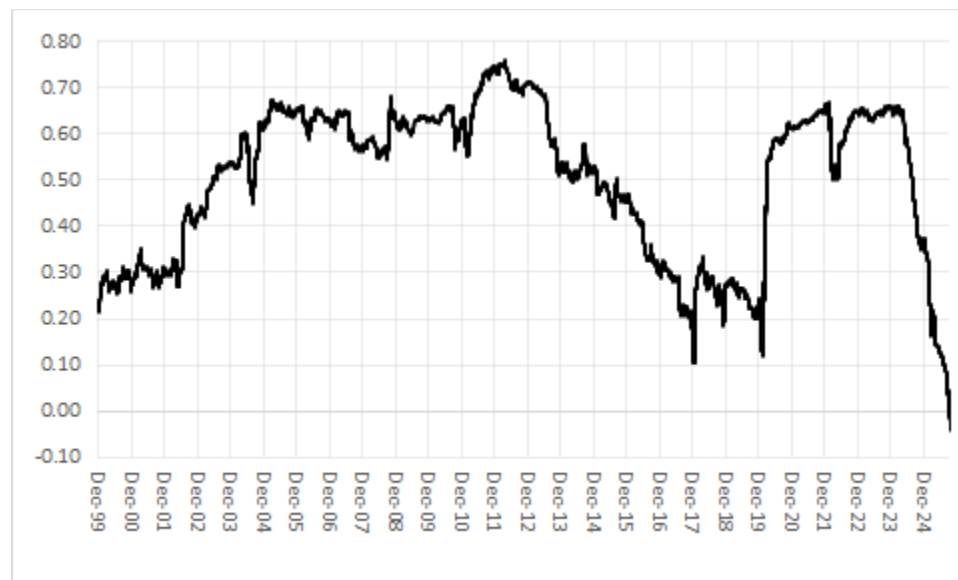
²⁶ Source: S&P Global Market Intelligence.

1 “correlations go to 1.”²⁷ A direct consequence of increased correlations during
2 market distress is higher Beta coefficients, capital losses, and ultimately higher
3 investor-required returns for utilities. However, Bloomberg Beta coefficients
4 currently do not accurately capture this reality.

5 **Q. WHAT ARE YOUR OBSERVATIONS ON THE RELATIONSHIP**
6 **BETWEEN THE UTILITY PROXY GROUP AND THE S&P 500 OVER A**
7 **LONGER TIMEFRAME?**

8 **A.** Charts 3 and 4 below present the correlation and relative volatility, respectively,
9 between the Utility Proxy Group and the S&P 500 dating back to December 1999,
10 approximately the last 25 years.

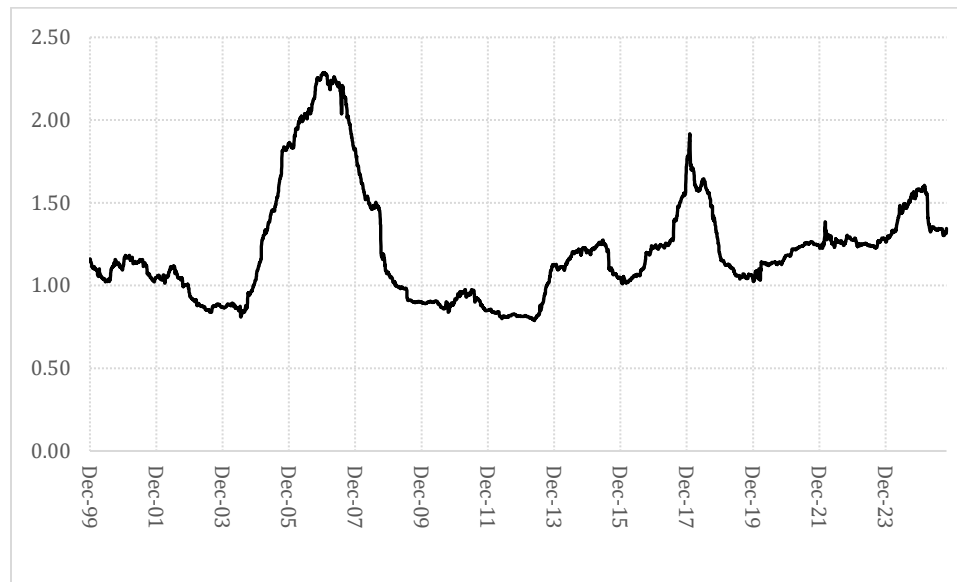
11 **Chart 3: Weekly Two-Year Rolling Correlation Between the Utility Proxy**
12 **Group and the S&P 500 Since December 1999²⁸**



27 Morningstar, *Correlations Going to 1: Amid Market Collapse, U.S. Stock Fund Factors Show Little Differentiation*, March 6, 2020.

28 Source: S&P Capital IQ.

1 **Chart 4: Weekly Two-Year Rolling Relative Volatility Between the Utility**
2 **Proxy Group and the S&P 500 Since December 1999**²⁹



3
4 There are several key observations to be gleaned from Charts 3 and 4. It confirms
5 the data presented in Tables 5 and 6 that correlations between the Utility Proxy
6 Group and the S&P 500 strengthen during periods of market distress (Chart 3). It
7 also demonstrates that over the last 25 years the proxy group has generally had a
8 higher level of volatility relative to the market (i.e., the relative volatility was above
9 1.0 for most of the historical period) (Chart 4). Perhaps more significantly though,
10 Chart 3 shows that the rapid deterioration of the correlation between the proxy group
11 and the S&P 500 started in mid-2024. The speed at which this deterioration
12 occurred is unusual for the last 25 years, meaning investors have little to no previous
13 experience to draw from. That uncertainty is further exacerbated by the
14 concentration of the Mag7 in the market, and the distortion it is causing. Increased

²⁹ Source: S&P Capital IQ.

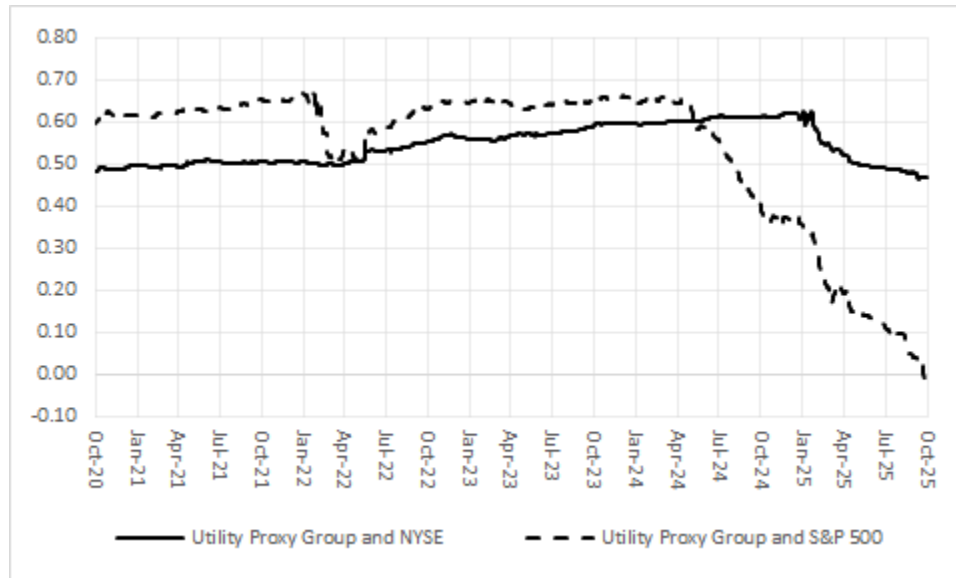
1 caution and uncertainty are factors that would drive the required return higher, as it
2 becomes more difficult to assess and quantify the number and magnitude of possible
3 outcomes. Because of this difficulty, investors require a greater return to
4 compensate for their inability to measure the extent their capital is at risk.

5 **Q. DO VALUE LINE BETA COEFFICIENTS CAPTURE A MORE**
6 **ACCURATE VIEW OF THE MARKET RISK ATTRIBUTABLE TO THE**
7 **UTILITY PROXY GROUP AT THIS TIME?**

8 A. Yes. *Value Line* Beta coefficients are calculated using the NYSE, based on a five-
9 year period of weekly returns. Because *Value Line* Beta coefficients are measured
10 over a longer time frame, it smooths out any short-term distortions caused by the
11 concentration of the Mag7.

12 Charts 5 below compares the two-year correlation between the returns of the
13 Utility Proxy Group and the S&P 500 (i.e., as used in the calculations of Bloomberg
14 Beta coefficients) and the five-year correlation between the returns of the Utility
15 Proxy Group and the NYSE (i.e., as used in the calculations of *Value Line* Beta
16 coefficients) since October 2020.

1 **Chart 5: Rolling Weekly Five-Year Correlation Between the Utility Proxy**
 2 **Group and the NYSE and Rolling Weekly Two-Year Correlations Between**
 3 **the Utility Proxy Group and the S&P 500**³⁰



4
 5 As Chart 5 demonstrates, the correlation as measured against the NYSE over a five-
 6 year period mitigates the potential of investors misinterpreting the relationship
 7 between the market and the Utility Proxy Group.

8 **Q. PLEASE SUMMARIZE YOUR POSITION AS IT RELATES TO THE BETA**
 9 **COEFFICIENTS IN YOUR ANALYSES.**

10 A. Bloomberg Beta coefficients do not accurately reflect the market risk applicable to
 11 the Utility Proxy Group. Specifically, Bloomberg Beta coefficients skew investors’
 12 risk assessment for the Utility Proxy Group, especially during periods of market
 13 volatility. To better reflect the risk of the Utility Proxy Group, in addition to the
 14 results of the CAPM based on both Bloomberg and *Value Line* Beta coefficients, I
 15 have also presented the results of my CAPM exclusively relying on the *Value Line*

³⁰ Source: S&P Capital IQ.

1 Beta coefficients. While I do not recommend the strict elimination of the results
2 that incorporate Bloomberg Beta coefficients, the above discussion demonstrates
3 that those results should be viewed with caution.

4 **3. Market Risk Premium**

5 **Q. PLEASE DESCRIBE YOUR APPROACH TO ESTIMATING THE MRP.**

6 A. As noted above, the MRP, $(r_m - r_f)$ in Equation [2] above, reflects the additional
7 return, or premium, investors require to invest in the broad market over that of a
8 risk-free security. Estimating the MRP therefore requires an estimated market
9 return. My estimated MRP is based on four expectational measures of the market
10 required return, which reflects the forward-looking nature of the cost of capital: (1)
11 an S&P 500 market return based on data from Bloomberg; (2) an S&P 500 market
12 return based on data from *Value Line*; (3) an S&P 500 market return based on data
13 from S&P Capital IQ; and (4) a market return based on alternative data as published
14 in *Value Line's* Summary & Index. The three S&P 500-based expectational
15 measures were averaged to derive an S&P 500 market return estimate, which was
16 then averaged with the *Value Line* Summary & Index market return estimate.
17 Subtracting the respective risk-free rates from that average results in the applicable
18 MRPs for my CAPM analysis.³¹

³¹ Exhibit MRH-5, pages 1 and 2, column [4].

1 **Q. PLEASE DESCRIBE YOUR MARKET RETURN ESTIMATES BASED ON**
2 **THE S&P 500 COMPANIES.**

3 A. The first three market return estimates are based on a market capitalization-weighted
4 ROE derived by the application of the Constant Growth DCF model to the
5 companies in the S&P 500. I derived three separate estimates using this approach,
6 relying on expected dividend yields and forecasted earnings growth rates from
7 Bloomberg, *Value Line*, and S&P Capital IQ, respectively, applying the one-half
8 growth rate assumption described above. Market capitalizations for the S&P 500
9 companies were also sourced from Bloomberg, *Value Line*, and S&P Capital IQ,
10 respectively. This approach resulted in market return estimates of 18.30 percent,
11 16.27 percent, and 17.89 percent based on data from Bloomberg, *Value Line*, and
12 S&P Capital IQ, respectively, which I averaged resulting in a market return estimate
13 of 17.49 percent.

14 **Q. PLEASE DESCRIBE YOUR MARKET RETURN ESTIMATE BASED ON**
15 **VALUE LINE'S SUMMARY & INDEX.**

16 A. The fourth estimate is based on the application of the average three- to five-year
17 median market price appreciation potential for the six weeks ended October 31,
18 2025,³² as published by *Value Line*, plus an average of the median estimated
19 dividend yield for the common stocks of the 1,700 firms covered by *Value Line's*
20 Standard Edition, also for the seven weeks ended October 31, 2025. This approach
21 resulted in a market return estimate of 10.70 percent.

³² Consistent with the time frame used in my DCF analysis.

1 **Q. WHAT MARKET RETURN DID YOU APPLY IN THE CAPM ANALYSES?**

2 A. I relied on an average market return estimate of 14.09 percent,³³ which is the average
3 of the S&P 500 market return estimate of 17.49 percent and the *Value Line*
4 Summary & Index market return estimate of 10.70 percent.

5 **4. CAPM Results**

6 **Q. WHAT ARE THE RESULTS OF YOUR CAPM?**

7 A. The results of my CAPM analyses are shown in Tables 7 and 8 below, and on pages
8 1 and 2 of Exhibit MRH-5, respectively.

9 **Table 7: Summary of CAPM Results for the Utility Proxy Group– Equal**
10 **Weighted Beta Coefficients**³⁴

	CAPM	ECAPM	Average
<i>Current Risk Free-Rate (4.67%)</i>			
Mean	9.73%	10.82%	10.28%
Median	9.69%	10.79%	10.24%
<i>Projected Risk Free-Rate (4.53%)</i>			
Mean	9.66%	10.77%	10.22%
Median	9.63%	10.74%	10.18%

11

³³ Exhibit MRH-5, page 3.

³⁴ Exhibit MRH-5, page 1.

Table 8: Summary of CAPM Results for the Utility Proxy Group – *Value Line Beta Coefficients*³⁵

	CAPM	ECAPM	Average
<i>Current Risk Free-Rate (4.67%)</i>			
Mean	11.89%	12.44%	12.17%
Median	11.97%	12.50%	12.24%
<i>Projected Risk Free-Rate (4.53%)</i>			
Mean	11.86%	12.42%	12.14%
Median	11.94%	12.48%	12.21%

C. RISK PREMIUM MODEL

Q. PLEASE DESCRIBE THE RISK PREMIUM MODEL.

A. The RPM is based on the theory of risk and return, i.e., that investors require greater returns for bearing greater risk. The RPM specifically reflects the fact that equity shareholders are subordinate to holders of debt and are last in line to any claims on a company’s assets or earnings. As such, they require a premium to compensate for that added risk. In other words, equity investors require an Equity Risk Premium (“ERP”) to invest in common stock relative to the return they would have otherwise earned by investing in a debt instrument of a company with comparable risk.

Q. PLEASE SUMMARIZE THE APPLICATION OF THE RPM.

A. In applying the RPM, one must calculate an ERP, or ERPs, derived from debt and equity of corresponding risk. Those ERPs are then ultimately added to a representative bond yield to determine the RPM-based ROE. As such, in determining an RPM-based ROE, I have relied on current and projected measures

35 Exhibit MRH-5, page 2.

1 of debt, which are added to several ERP measures to ultimately develop an RPM-
2 based ROE.

3 **Q. WHAT MEASURES OF DEBT HAVE YOU APPLIED IN YOUR RPM?**

4 A. In this case, the debt instruments I applied are based on: (1) a current, 30-day
5 average yield on the Moody's utility bond yield that corresponds with the average
6 credit rating of the Utility Proxy Group, respectively, and (2) the corresponding
7 projected Moody's utility bond yield, derived from projections from *Blue Chip* for
8 the six quarters ending with the first-calendar quarter of 2027, and for the periods
9 2027-2031 and 2032-2036.

10 **Q. HOW HAVE YOU DETERMINED THE CREDIT RATING FOR YOUR**
11 **UTILITY PROXY GROUP?**

12 A. To capture the long-term credit ratings representative of the regulated operations of
13 each Utility Proxy Group company, I reviewed the credit ratings from both S&P and
14 Moody's for each of the operating subsidiaries to the extent available. As presented
15 in Schedule MRH-6, page 4, the resulting Moody's and S&P long-term issuer
16 ratings for the Utility Proxy Group are Baa1 and A, respectively.³⁶

17 **Q. HOW HAVE YOU CALCULATED CURRENT MOODY'S BOND YIELDS**
18 **APPLICABLE TO THE UTILITY PROXY GROUP?**

19 A. I began with current bond yields based on a 30-day average Moody's A2 utility
20 bond yield (5.53 percent) and a 30-day average Moody's Baa2 utility bond yield

³⁶ Reflects the average rating for the Utility Proxy Group based on numerically weighted ratings as shown on page 5 of Exhibit MRH-6.

(5.74 percent), as reported by Bloomberg, shown on Schedule MRH-6, page 3, Columns [2] and [4], respectively. Next, because the Utility Proxy Group's average Moody's long-term rating is Baa1 as noted above, it is necessary to adjust the current Moody's A2 utility bond yield average upwards by two-thirds (0.14 percent) of the spread between the recent Moody's Baa2 utility bond yield and A2 utility bond yield (0.20 percent)³⁷. The resulting current Moody's Baa1 utility bond yield is thus 5.67 percent (*see* Table 9 below).³⁸

Table 9: Derivation of Current Moody's Baa1 Utility Bond Yield³⁹

Current Moody's A2 Utility Bond Yield	5.53%
Adjustment to Reflect Current Baa1 Utility Bond Yield	<u>0.14%</u>
Current Baa1 Utility Bond Yield	<u>5.67%</u>

Q. HOW HAVE YOU CALCULATED PROJECTED MOODY'S BOND YIELDS APPLICABLE TO THE UTILITY PROXY GROUP?

A. Because I am not aware of any published projected Moody's Baa1 utility bond yields, I began with a projection of Moody's Aaa corporate bond yields (5.10 percent),⁴⁰ as published by *Blue Chip*. I then determined the spread between Moody's A2 utility and Aaa corporate bond yields (0.38 percent),⁴¹ based on the 30-day average Moody's Aaa corporate bond yields (5.15 percent) and the 30-day average Moody's A2 utility bond yields (5.53 percent), as reported by Bloomberg and shown on Schedule MRH-6, page 3, Columns [1] and [2], respectively. I then

³⁷ Exhibit MRH-6, page 3, Column [5].

³⁸ Exhibit MRH-6, page 3, Column [8].

³⁹ Exhibit MRH-6, page 3.

⁴⁰ Exhibit MRH-6, page 3, Column [6].

⁴¹ Exhibit MRH-6, page 3, Column [3].

1 applied that spread to the forecasted Moody's Aaa corporate bond yield (5.10
 2 percent)⁴², which results in a projected Moody's A2 utility bond yield of 5.48
 3 percent.⁴³ As above, it is necessary to adjust the projected Moody's A2 utility bond
 4 yield upwards by the previously discussed two-thirds spread (0.14 percent) between
 5 recent Moody's Baa2 and A2 utility bond yields, resulting in a projected Moody's
 6 Baa1 utility bond yield of 5.62 percent (see Table 10 below).⁴⁴

7 **Table 10: Derivation of Projected Moody's Baa1 Utility Bond Yield**⁴⁵

Projected Moody's Aaa Corporate Bond Yield	5.10%
Adjustment to Reflect Projected A2 Utility Bond Yield	<u>0.38%</u>
Projected Moody's A2 Utility Bond Yield	5.48%
Adjustment to Reflect Projected Baa1 Utility Bond Yield	<u>0.14%</u>
Projected Baa1 Utility Bond Yield	<u>5.62%</u>

8 **Q. HOW HAVE YOU CALCULATED THE EQUITY RISK PREMIUM**
 9 **APPLICABLE TO THE UTILITY PROXY GROUP?**

10 A. As discussed previously, because the cost of capital is expectational in nature, I have
 11 calculated three expectational measures of the ERP. The first two measures are
 12 based on the application of the DCF and CAPM to the S&P 500 Utilities Index. The
 13 third measure estimates the ERP using previously authorized returns for water and
 14 wastewater utilities from 2008 through October 2025.

42 Exhibit MRH-6, Column [6].

43 Exhibit MRH-6, Column [7].

44 Exhibit MRH-6, Column [9].

45 Exhibit MRH-6, page 3.

1 **Q. WHY HAVE YOU RELIED ON THE S&P 500 UTILITIES INDEX IN**
2 **CALCULATING TWO OF YOUR EQUITY RISK PREMIUM MEASURES?**

3 A. The S&P 500 Utilities Index is comprised of companies within the S&P 500 which
4 are classified as utilities. As such, in assessing the ERP for utility equity over utility
5 debt, one can capture a broad measure of the required ERP through a broad-based
6 utility index, such as the S&P 500 Utilities Index. Because utility bond yields reflect
7 a broad array of risks, a correspondingly broad set of companies is practical in
8 reflecting the incremental common equity risks relative to the Moody's utility bond
9 yields. As such, the use of the S&P 500 Utilities Index is appropriate.

10 **Q. HOW HAVE YOU APPLIED THE S&P 500 UTILITIES INDEX IN**
11 **CALCULATING YOUR EQUITY RISK PREMIUM?**

12 A. I have applied a market capitalization-weighted DCF and CAPM to the market data
13 of each utility in the S&P 500 Utilities Index. Although the S&P 500 Utilities Index
14 is comprised solely of utilities, in order to match its return one would necessarily
15 have to allocate their funds in accordance with the specific market weights of the
16 component utilities.⁴⁶

⁴⁶ Investors have the ability to purchase the Utilities Select Sector SPDR® Fund (NYSE: XLU) which seeks to provide an effective representation of the utilities sector of the S&P 500 Index, and although an investment in the XLU would achieve approximately the same outcome, an investor still would have to determine the required return for the XLU based on the market capitalization- weighted estimates.

1 **Q. PLEASE DESCRIBE HOW YOU APPLIED THE DCF TO THE S&P**
2 **UTILITIES INDEX IN CALCULATING AN EXPECTED EQUITY RISK**
3 **PREMIUM.**

4 A. I derived a DCF return using the same approach as applied in determining my
5 market required return for the S&P 500 in my CAPM analyses, using data from
6 Bloomberg, *Value Line*, and S&P Capital IQ. The resulting DCF returns for the
7 S&P 500 Utilities Index were 11.44 percent (Bloomberg), 12.16 percent (*Value*
8 *Line*), and 11.73 percent (S&P Capital IQ), as shown on page 7 of Schedule MRH-
9 6, averaging 11.78 percent.⁴⁷

10 **Q. PLEASE DESCRIBE HOW YOU APPLIED THE CAPM TO THE S&P 500**
11 **UTILITIES INDEX IN CALCULATING AN EXPECTED EQUITY RISK**
12 **PREMIUM.**

13 A. I calculated the CAPM-based return for the S&P 500 Utilities Index in the same
14 manner as applied to the Utility Proxy Group, with the exception being that I derived
15 a market capitalization-weighted Beta coefficient based on the companies within
16 the S&P 500 Utilities Index.⁴⁸ The average market capitalization-weighted Beta
17 coefficient for the S&P 500 Utilities Index is 0.71,⁴⁹ based on Bloomberg (0.58) and
18 *Value Line* (0.84). The indicated equity returns for the S&P Utilities Index based
19 on the CAPM are 11.71 percent and 11.68 percent based on current and projected
20 interest rates, respectively, as shown on Exhibit MRH-6, page 8.

⁴⁷ Exhibit MRH-6, page 7. Because the S&P Utilities Index-derived DCF and CAPM reflect market capitalization-weighted averages it is not practical to calculate a median result.

⁴⁸ Exhibit MRH-6, pages 8 and 9.

⁴⁹ Exhibit MRH-6, page 8, Column [1].

1 I also calculated a CAPM-based return for the S&P Utilities Index based
2 solely on a market capitalization weighted Beta coefficients from *Value Line* (0.84).
3 The CAPM indicated equity returns for the S&P Utilities Index using only *Value*
4 *Line* Beta coefficients are 12.77 percent and 12.75 percent based on current and
5 projected interest rates, respectively, as shown on Exhibit MRH-6, page 9.⁵⁰

6 **Q. DID YOU APPLY THE MOODY'S UTILITY BOND YIELD APPLICABLE**
7 **TO THE RATING OF THE S&P 500 UTILITIES INDEX IN**
8 **CALCULATING THE RESPECTIVE EQUITY RISK PREMIUMS?**

9 A. Yes, I did. As noted above, because the risk premium reflects the premium equity
10 investors require over the return on debt of similar corresponding risk, it is
11 appropriate to apply the market capitalization-weighted Moody's long-term credit
12 rating for the S&P 500 Utilities Index (A3) in deriving both the DCF and CAPM-
13 derived ERPs based on the S&P 500 Utilities Index.

14 **Q. HOW HAVE YOU CALCULATED CURRENT AND PROJECTED**
15 **MOODY'S BOND YIELDS APPLICABLE TO THE S&P 500 UTILITIES**
16 **INDEX?**

17 A. As with the Utility Proxy Group, I began with current bond yields based on a 30-
18 day average Moody's A2 utility bond yield (5.53 percent) and a 30-day average
19 Moody's Baa2 utility bond yield (5.74 percent), as reported by Bloomberg, shown
20 on Schedule MRH-6, page 3, Columns [2] and [4], respectively. Next, because the

⁵⁰ The preceding tables in this section contain the results based on both CAPM using an equal weighted Beta coefficient and *Value Line* Beta coefficient as labeled and applicable.

1 S&P 500 Utilities market-capitalization weighted Moody's long-term rating is A3
2 as noted above, it is necessary to adjust the current Moody's A2 utility bond yield
3 average upwards by one-third (0.07 percent) of the spread between the recent
4 Moody's Baa2 utility bond yield and A2 utility bond yield (0.20 percent)⁵¹. The
5 resulting current Moody's A3 utility bond yield is thus 5.60 percent (see Table 11
6 below).⁵²

7 **Table 11: Derivation of Current Moody's A3 Utility Bond Yield**⁵³

Current Moody's A2 Utility Bond Yield	5.53%
Adjustment to Reflect Current A3 Utility Bond Yield	<u>0.07%</u>
Current A3 Utility Bond Yield	<u>5.60%</u>

8
9 Because I am not aware of any published projected Moody's A3 utility bond
10 yields, it is necessary to adjust the projected Moody's A2 utility bond yield
11 (discussed above) upwards by the previously discussed one-third spread (0.07
12 percent) between recent Moody's Baa2 and A2 utility bond yields, resulting in a
13 projected Moody's A3 utility bond yield of 5.55 percent (see Table 12 below).⁵⁴

⁵¹ Exhibit MRH-6, Column [5].

⁵² Exhibit MRH-6, Column [10].

⁵³ Exhibit MRH-6, page 3.

⁵⁴ Exhibit MRH-6, page 3, Column [11].

1 **Table 12: Derivation of Projected Moody's A3 Utility Bond Yield**⁵⁵

Projected Moody's Aaa Corporate Bond Yield	5.10%
Adjustment to Reflect Projected A2 Utility Bond Yield	<u>0.38%</u>
Projected Moody's A2 Utility Bond Yield	5.48%
Adjustment to Reflect Projected A3 Utility Bond Yield	<u>0.07%</u>
Projected A3 Utility Bond Yield	<u>5.55%</u>

2 **Q. WHAT IS YOUR CONCLUSION OF THE ERPS APPLICABLE TO THE**
3 **S&P 500 UTILITIES INDEX?**

4 A. Based on the application of the DCF and CAPM-based equity returns for the S&P
5 500 Utilities Index, and the corresponding Moody's A3 utility bond yields, I derived
6 the following ERP estimates as shown in Table 13, below:

⁵⁵ Exhibit MRH-6, page 3.

1 **Table 13: Summary of S&P 500 Utilities Index-Derived Equity Risk**
 2 **Premium**⁵⁶

	Equal Weighted Beta Coefficients		<i>Value Line</i> Beta Coefficients	
	Current Yields	Projected Yields	Current Yields	Projected Yields
Average DCF-Derived S&P Utilities Index Return	11.78%	11.78%	11.78%	11.78%
Moody's A3 Utility Bond Yield	<u>5.60%</u>	<u>5.55%</u>	<u>5.60%</u>	<u>5.55%</u>
Equity Risk Premium	<u>6.18%</u>	<u>6.23%</u>	<u>6.18%</u>	<u>6.23%</u>
CAPM-Derived S&P Utilities Index Return	11.71%	11.68%	12.77%	12.75%
Moody's A3 Utility Bond Yield	<u>5.60%</u>	<u>5.55%</u>	<u>5.60%</u>	<u>5.55%</u>
Equity Risk Premium	<u>6.11%</u>	<u>6.13%</u>	<u>7.17%</u>	<u>7.20%</u>

3 Averaging the DCF and CAPM ERPs based on current and projected yields
 4 ultimately results in ERPs applicable to the S&P 500 Utilities Index, when applying
 5 equal weighted beta coefficients, of 6.14 percent and 6.18 percent, respectively, and
 6 6.67 percent and 6.72 percent, respectively, when applying only *Value Line* beta
 7 coefficients (as shown in Table 14 below, and Schedule MRH-6, page 6.)

8 **Table 14: S&P 500 Utilities Index-Derived Equity Risk Premium**⁵⁷

	Equal Weighted Beta Coefficients		<i>Value Line</i> Beta Coefficients	
	Current Yields	Projected Yields	Current Yields	Projected Yields
DCF-Derived S&P 500 Utilities Index Equity Risk Premium	6.18%	6.23%	6.18%	6.23%
CAPM-Derived S&P 500 Utilities Index Equity Risk Premium	<u>6.11%</u>	<u>6.13%</u>	<u>7.17%</u>	<u>7.20%</u>
Average	<u>6.14%</u>	<u>6.18%</u>	<u>6.67%</u>	<u>6.72%</u>

⁵⁶ Exhibit MRH-6, page 7 (DCF), page 8 (Equal weighted Beta coefficient CAPM), and page 9 (*Value Line* Beta coefficient CAPM).

⁵⁷ Exhibit MRH-6, page 6.

1 **Q. HAVE YOU ADJUSTED THE S&P 500 UTILITIES INDEX-DERIVED ERP**
2 **ESTIMATES TO REFLECT THE AVERAGE ISSUER RATING OF THE**
3 **RESPECTIVE UTILITY PROXY GROUP?**

4 A. Yes. The Baa1 rating of the Utility Proxy Group requires an adjustment to reflect
5 the higher degree of risk relative to the A3 rating of the S&P 500 Utilities Index.
6 Therefore, I have applied an upward adjustment of 0.07 percent based on one-third
7 of the spread between Moody's Baa2 utility and Moody's A2 utility bond yields to
8 the average of the DCF- and CAPM-derived ERP estimates based on the S&P 500
9 Utilities index.

10 Adding the 0.07 percent from the S&P 500 Utilities index-derived ERPs
11 results in ERP estimates applicable to the Utility Proxy Group of 6.21 percent and
12 6.25 percent, based on current and projected yields, respectively, and 6.74 percent

1 and 6.78 percent, respectively (the sets of results are based on equal weighted and
 2 *Value Line* Beta coefficients, respectively).

3 **Table 15: S&P 500 Utilities Index-Derived Equity Risk Premium for the**
 4 **Utility Proxy Group**⁵⁸

	Equal Weighted Beta Coefficients		<i>Value Line</i> Beta Coefficients	
	Current Yields	Projected Yields	Current Yields	Projected Yields
Average S&P 500 Utilities Index-Derived Risk	6.14%	6.18%	6.67%	6.72%
Adjustment to Reflect Proxy Group Rating	<u>0.07%</u>	<u>0.07%</u>	<u>0.07%</u>	<u>0.07%</u>
Risk Premium Applicable to the Utility Proxy Group	<u>6.21%</u>	<u>6.25%</u>	<u>6.74%</u>	<u>6.78%</u>

5 **Q. PLEASE SUMMARIZE THE USE OF AUTHORIZED RETURNS FOR**
 6 **WATER AND WASTEWATER UTILITIES IN CALCULATING AN ERP.**

7 A. The use of previously authorized returns is an appropriate and important measure
 8 available to investors as previously authorized returns reflect the market conditions
 9 and forward-looking investor required returns over time. The relationship between
 10 authorized return ERPs and utility bond yields therefore reflects the relationship
 11 between forward-looking ERPs and the corresponding interest rates over time.
 12 Applying that relationship to current and projected utility bond yields produces
 13 forward-looking ERP measures. The relationship between forward-looking ERP
 14 data and interest rates is both statistically significant and inverse (i.e., as interest

⁵⁸ Exhibit MRH-6, page 6. Differences due to rounding.

1 rates increase, the ERP decreases, and vice versa), which is consistent with the well-
2 documented financial literature on the subject.⁵⁹

3 **Q. PLEASE EXPLAIN YOUR CALCULATION OF THE EQUITY RISK**
4 **PREMIUM BASED ON PREVIOUSLY AUTHORIZED RETURNS FOR**
5 **WATER AND WASTEWATER UTILITIES.**

6 A. Page 10 of Schedule MRH-6 presents the results of a regression analysis of 206
7 authorized returns for water and wastewater utilities from 2008 through October
8 2025. Subtracting the available monthly Moody's Baa1 utility bond yield⁶⁰ as of
9 the date of the order from the authorized ROE, I was able to determine the applicable
10 ERP. Using ERPs as the dependent variable and the Moody's Baa1 utility bond
11 yields as the independent variable, I performed a linear regression to estimate the
12 ERP applicable to the current and projected Moody's Baa1 utility bond yields
13 described above. The current and projected Moody's Baa1 utility bond yields of
14 5.67 percent and 5.62 percent, respectively, produce ERP estimates of 4.21 percent
15 and 4.25 percent, respectively.

⁵⁹ See, e.g., Robert S. Harris and Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, Summer 1992, at 63-70; Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, Financial Management, Spring 1985, at 33-45; and Farris M. Maddox, Donna T. Pippert, and Rodney N. Sullivan, *An Empirical Study of Ex Ante Risk Premiums for the Electric Utility Industry*, Financial Management, Autumn 1995, at 89-95.

⁶⁰ Calculated as the 30-day average of the Moody's A2 utility bond yield plus two-thirds of the spread of the Moody's Baa2/A2 utility bond yields as of the date of the order.

1 **Q. PLEASE SUMMARIZE YOUR EQUITY RISK PREMIUM ESTIMATES.**

2 A. As shown in Table 16, below, my analyses produce average ERP estimates of 5.21
3 percent and 5.25 percent, and 5.47 percent and 5.52 percent, as applicable to current
4 and projected Moody's Baa1 utility bond yields, respectively (results based on equal
5 weighted Beta coefficients and *Value Line* Beta coefficients, respectively).

6 **Table 16: Summary of S&P 500 Utilities Index-Derived Equity Risk Premiums**
7 **Applicable to the Utility Proxy Group**⁶¹

	Equal Weighted Beta Coefficients		<i>Value Line</i> Beta Coefficients	
	Current Moody's Utility-Derived ERP	Projected Moody's Utility-Derived ERP	Current Moody's Utility-Derived ERP	Projected Moody's Utility-Derived ERP
S&P 500 Utilities Index	6.21%	6.25%	6.74%	6.78%
Regression Analysis of Authorized ROEs	<u>4.21%</u>	<u>4.25%</u>	<u>4.21%</u>	<u>4.25%</u>
Average	<u>5.21%</u>	<u>5.25%</u>	<u>5.47%</u>	<u>5.52%</u>

8 **Q. WHAT ARE THE RESULTS OF YOUR RISK PREMIUM MODEL?**

9 A. The results of my RPM can be found on Exhibit MRH-6, page 1. When the average
10 ERPs of 5.21 percent and 5.25 percent based in part on equal weighted Beta
11 coefficients are added to their respective current and projected Baa1 utility bond
12 yields of 5.67 percent and 5.62 percent, respectively, it produces RPM-derived
13 ROEs of 10.88 percent and 10.86 percent, respectively. Averaging those estimates
14 results in an average RPM ROE estimate of 10.87 percent.

⁶¹ Exhibit MRH-6, page 2.

1 Similarly, when the average ERPs of 5.47 percent and 5.52 percent based in
 2 part on *Value Line* Beta coefficients are added to their respective current and
 3 projected Baa1 utility bond yields of 5.67 percent and 5.62 percent, respectively, it
 4 produces RPM-derived ROEs of 11.14 percent and 11.13 percent, respectively.
 5 Averaging those estimates results in an average RPM ROE estimate of 11.14
 6 percent.

7 **Table 17: Summary of Equity Risk Premium Results**⁶²

	Current Moody's Baa1 Utility Yield	Projected Moody's Baa1 Utility Yield	Current Moody's Baa1 Utility Yield	Projected Moody's Baa1 Utility Yield
Average Equity Risk Premium	5.21%	5.25%	5.47%	5.52%
Utility Bond Yield	<u>5.67%</u>	<u>5.62%</u>	<u>5.67%</u>	<u>5.62%</u>
Return on Equity	10.88%	10.86%	11.14%	11.13%
Risk Premium Derived Return on Equity	<u>10.87%</u>		<u>11.14%</u>	

8
 9 **D. SUMMARY OF THE RESULTS APPLICABLE TO THE UTILITY**
 10 **PROXY GROUP**

11 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR COST OF COMMON**
 12 **EQUITY MODELS AS APPLIED TO THE UTILITY PROXY GROUP.**

13 **A.** As shown in Table 18 below, the application of the multiple cost of common equity
 14 models to the market data of the Utility Proxy Group results in an indicated range
 15 of 10.00 percent to 11.00 percent.

⁶² Exhibit MRH-6, page 1.

Table 18: Summary of ROE Results Applicable to the Utility Proxy Group⁶³

	Equal Weighted Beta Coefficients		<i>Value Line</i> Beta Coefficients	
Discounted Cash Flow ⁶⁴	9.68%	9.34%	9.68%	9.34%
Capital Asset Pricing Model ⁶⁵	10.26%	10.20%	12.20%	12.18%
Risk Premium Model	<u>10.87%</u>		<u>11.14%</u>	
Recommended Range Prior to the Application of a Business Risk Adjustment	10.00% - 11.00%			

However, as noted above, the use of a proxy group cannot fully reflect the risks of Bluegrass Water. Therefore, it is necessary to conduct a relative risk analysis between Bluegrass Water and the Utility Proxy Group to determine whether additional adjustments need to be made.

VIII. ADDITIONAL RISK FACTORS

A. BUSINESS RISK ADJUSTMENT

Q. DOES BLUEGRASS WATER HAVE INCREASED BUSINESS RISK COMPARED WITH THE PROXY GROUP COMPANIES?

A. Yes, it does. Bluegrass Water faces extraordinary operating risks because of its acquisition of mainly troubled water and wastewater systems, which is only exacerbated by its small size.

⁶³ Exhibit MRH-1, page 2.

⁶⁴ Mean and median results, respectively.

⁶⁵ Results based on current and projected interest rates, respectively.

1 **Q. PLEASE SUMMARIZE BLUEGRASS WATER'S EXTRAORDINARY**
2 **BUSINESS RISK.**

3 A. The Company faces significant risks due to its acquisition of troubled water and
4 wastewater systems. As described in detail in Messrs. Cox and Freeman's direct
5 testimonies, these acquired systems often have significant challenges in all phases
6 of service to their existing customers and Bluegrass Water must invest significant
7 capital to ensure safe and reliable service. While rehabilitating troubled systems is
8 generally a small portion of the operations of the companies that comprise my
9 Utility Proxy Group, it is the majority of the operations of Bluegrass Water. As
10 such, the Company's increased business risk as compared to the Utility Proxy Group
11 should be reflected in its authorized ROE.

12 **Q. DOES BLUEGRASS WATER'S SMALLER SIZE COMPARED WITH THE**
13 **PROXY GROUP COMPANIES INCREASE ITS BUSINESS RISK?**

14 A. Size affects business risk because smaller companies are less able to handle
15 fluctuations in revenues, expenses, and capital outlays than larger companies.
16 Significant events or unexpected capital needs could have more serious
17 consequences for smaller companies that exceed those of larger, more diverse
18 companies. For example, a smaller company that loses several large customers, or
19 requires significant expenditures, ultimately has fewer options in which to generate
20 returns on its investments compared to a larger company with a broad and diverse
21 customer base. As such, investors require an increased return to compensate for this
22 additional risk.

1 **Q. HOW HAVE YOU CALCULATED THE ESTIMATED MARKET**
2 **CAPITALIZATION FOR BLUEGRASS WATER?**

3 A. Because Bluegrass Water is not a separately traded entity, it is necessary to estimate
4 an implied stand-alone market capitalization for the Company. To do so, I applied
5 the median market-to-book (“M/B”) ratio for the Utility Proxy Group of 2.16 to
6 Bluegrass Water’s implied common equity of \$6.55 million.⁶⁸ Applying the proxy
7 group M/B ratio to that amount results in an implied market capitalization of \$14.15
8 million.⁶⁹

9 **Q. WHAT IS THE APPLICABLE SIZE PREMIUM FOR BLUEGRASS**
10 **WATER?**

11 A. In its *Cost of Capital Navigator*, Kroll calculates the size premium for deciles of
12 market capitalizations relative to the S&P 500. As shown on Exhibit MRH-7, as of
13 October 31, 2025, the median market capitalization of the Utility Proxy Group is
14 approximately \$2.798 billion, which corresponds to the 6th decile, or a size premium
15 of 1.00 percent, based on Kroll’s market capitalization data. The implied market
16 capitalization for Bluegrass Water as noted earlier is approximately \$14.15 million,
17 which falls within the 10th decile and corresponds to size premiums of 4.47 percent.
18 The difference between those size premiums is 3.47 percent (4.47 percent – 1.00
19 percent).

⁶⁸ Exhibit MRH-7; calculated as the average of the rate base multiplied by proposed common equity ratio for Bluegrass Water from the base year and test year.

⁶⁹ Exhibit MRH-7.

1 **Q. HAS THE COMMISSION'S PREVIOUSLY REJECTED THE USE OF A**
2 **SIZE ADJUSTMENT?**

3 A. Yes, they have.

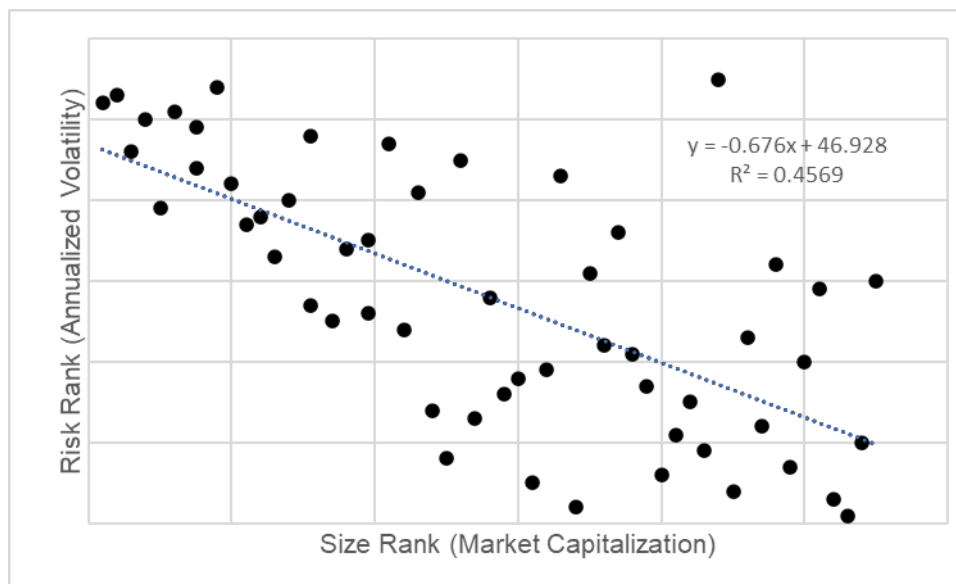
4 **Q. DO YOU AGREE WITH THE COMMISSION?**

5 A. No. I do not.

6 **Q. HAVE YOU PERFORMED ANY STUDIES LINKING SIZE AND RISK FOR**
7 **UTILITIES?**

8 A. Yes. I have performed two studies that link size and risk for utility companies. My
9 first study included the universe of electric, gas, and water companies included in
10 *Value Line* Standard Edition and Small & Mid Cap Editions. For each of the
11 utilities, the annualized volatility (a measure of risk) was calculated, and each
12 company was ranked by its current market capitalization (a measure of size) as
13 reported by *Value Line*. Ranking the companies by size (smallest to largest) and risk
14 (most risky to least risky), results in the scatterplot shown on Chart 6, below:

1 **Chart 6: Relationship Between Size and Risk for the *Value Line* Universe of Utility**
2 **Companies**⁷⁰

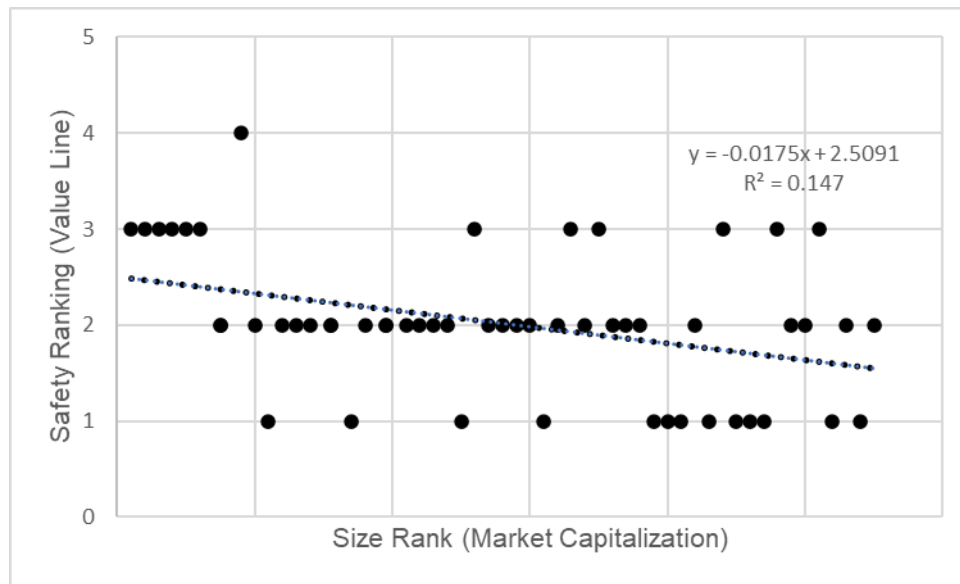


3
4 As shown in Chart 6 above, as company size decreases (increasing size rank),
5 the annualized volatility increases, linking size and risk for utilities, which is
6 significant at 95.0 percent confidence level.

7 The second study used the same universe of companies, but instead of
8 annualized volatility, I used the *Value Line* Safety Ranking, which is another
9 measure of total risk. After ranking the companies by size and Safety Ranking, I
10 made a scatterplot of those data, as shown on Chart 7, below:

⁷⁰ Source: Value Line Investment Survey; Bloomberg Professional

1 **Chart 7: Relationship Between Size and Safety Ranking for the *Value Line* Universe**
 2 **of Utility Companies**⁷¹



3
 4
 5 Similar to the first study, as company size decreases, Safety Ranking
 6 degrades, indicating a link between size and risk for utilities. This study is also
 7 significant at the 95 percent confidence level. Based on the studies presented in
 8 Charts 6 and 7, the Commission should consider an adjustment to account for
 9 Bluegrass Water’s smaller size relative to the Utility Proxy Group.

10 **Q. WHAT RISK PREMIUM HAVE YOU APPLIED TO ACCOUNT FOR**
 11 **BLUEGRASS WATER’S SIZE AND EXTRAORDINARY BUSINESS RISK**
 12 **RELATIVE TO THE UTILITY PROXY GROUP?**

13 **A.** I conservatively apply a size premium of 1.00 percent, which accounts for Bluegrass
 14 Water’s smaller size and extraordinary business risk relative to the Utility Proxy
 15 Group. Applying the 1.00 percent risk adjustment to the unadjusted ROE range of

⁷¹ Source: Value Line Investment Survey

1 10.00 percent to 11.00 percent results in an indicated range of ROEs applicable to
2 Bluegrass Water from 11.00 percent to 12.00 percent. Based on that range, I
3 recommend an ROE of 11.50 percent for Bluegrass Water.

4 **Q. HAS THE COMMISSION PREVIOUSLY COMMENTED ON BLUEGRASS**
5 **WATER'S SIZE RISK AND EXTRAORDINARY BUSINESS RISK?**

6 A. Yes. In Case No. 2022-00432 the Commission stated:

7 Even though the use of a size adjustment is rejected in this case, the
8 Commission takes note of several factors in determining an
9 appropriate ROE for Bluegrass Water, including the risk from
10 acquisition of troubled water and wastewater systems. After
11 consideration of the evidence, the Commission finds that an ROE of
12 10.10 percent for Bluegrass Water's base rates is fair, just and
13 reasonable for ratemaking purposes in this matter. The Commission
14 notes that this approved ROE recognizes the unique risk associated
15 with Bluegrass Water's business model, as it is higher than recent
16 Commission awards, but is also reflective of the current economic
17 environment.⁷²

18 Given the above, I recommend the Commission continue to consider Bluegrass
19 Water's extraordinary business risk and reconsider its position on the use of size
20 adjustment.

21 **IX. SUMMARY AND CONCLUSION**

22 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATION OF THE**
23 **APPROPRIATE WEIGHTED AVERAGE COST OF CAPITAL FOR THE**
24 **COMPANY FOR THE PERIOD ENDING MARCH 31, 2026 (BASE YEAR).**

25 A. For the period ending March 31, 2026, I recommend the Commission authorize a
26 WACC of 9.68 percent for Bluegrass Water based on a forecasted capital structure

⁷² Kentucky Public Service Commission, Case No. 2022-00432, Order (February 14, 2024), at 91.

1 of 52.19 percent total debt at a blended debt cost rate of 8.02 percent, and 47.81
2 percent common equity at a common equity cost rate of 11.50 percent.

3 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATION OF THE**
4 **APPROPRIATE WEIGHTED AVERAGE COST OF CAPITAL FOR THE**
5 **COMPANY FOR THE PERIOD ENDING JULY 31, 2027 (TEST YEAR).**

6 A. For the period ending July 31, 2027, I recommend the Commission authorize a
7 WACC of 9.77 percent for Bluegrass Water based on a forecasted capital structure
8 of 49.20 percent total debt at a blended debt cost rate of 7.98 percent, and 50.80
9 percent common equity at a common equity cost rate of 11.50 percent.

10 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

11 A. Yes.

**ELECTRONIC APPLICATION OF BLUEGRASS WATER UTILITY OPERATING
COMPANY, LLC FOR AN ADJUSTMENT OF RATES
CASE NO. 2025-00354**

VERIFICATION

I, Matthew R. Howard, Director at ScottMadden, Inc., verify, state, and affirm that I prepared or supervised the preparation of the Direct Testimony filed with this Verification, and that Direct Testimony is true and accurate to the best of my knowledge, information, and belief after a reasonable inquiry on this 3 day of December, 2025.



Matthew R. Howard
Director

COMMONWEALTH OF MASSACHUSETTS)
COUNTY OF Middlesex)

SUBSCRIBED AND SWORN TO before me on this 3 day of December, 2025.



Notary Public, Commonwealth of Massachusetts

My Commission expires: March 2, 2029

Bluegrass Water Utility Operating Company, LLC
Cost of Capital Summary

Base Year (March 31, 2026)

<u>Type of Capital</u>	<u>Ratio [1]</u>	<u>Cost Rate</u>		<u>Weighted Cost Rate</u>
Total Debt	52.19%	8.02%	[2]	4.18%
Common Equity	47.81%	11.50%	[3]	5.50%
Total	<u>100.00%</u>			<u>9.68%</u>

Test Year (July 31, 2027)

<u>Type of Capital</u>	<u>Ratio [1]</u>	<u>Cost Rate</u>		<u>Weighted Cost Rate</u>
Total Debt	49.20%	7.98%	[2]	3.93%
Common Equity	50.80%	11.50%	[3]	5.84%
Total	<u>100.00%</u>			<u>9.77%</u>

Notes:

[1] Company Provided.

[2] Page 1 of Exhibit MRH-3.

[3] Page 2 of this Exhibit.

Bluegrass Water Utility Operating Company, LLC
Summary of Common Equity Cost Rate

	<u>Equal Weighted Beta</u>		<u>Value Line Beta</u>	
	<u>Coefficients</u>		<u>Coefficients</u>	
Discounted Cash Flow Model [1]	9.68%	9.34%	9.68%	9.34%
Capital Asset Pricing Model	10.26%	[2]	10.20%	[3]
			12.20%	[4]
			12.18%	[5]
Risk Premium Model	<u>10.87%</u>		[6]	<u>11.14%</u>
				[7]
Recommended Range Prior to the Application of Company-Specific Factors			10.00% - 11.00%	
Business Risk Adjustment [8]			<u>1.00%</u>	
Recommended Range Applicable to Bluegrass Water			<u>11.00% - 12.00%</u>	
Recommended Cost of Common Equity			<u>11.50%</u>	

Notes:

[1] Exhibit MRH-4, mean and median results, respectively.

[2] Page 1 of Exhibit MRH-5; Average of Mean and Median Results Based on Current Interest Rates.

[3] Page 1 of Exhibit MRH-5; Average of Mean and Median Results Based on Projected Interest Rates.

[4] Page 2 of Exhibit MRH-5; Average of Mean and Median Results Based on Current Interest Rates.

[5] Page 2 of Exhibit MRH-5; Average of Mean and Median Results Based on Projected Interest Rates.

[6] Page 1 of Exhibit MRH-6; Average of Results Based on Current and Projected Utility Bond Yields.

[7] Page 1 of Exhibit MRH-6; Average of Results Based on Current and Projected Utility Bond Yields.

[8] Adjustment to reflect the Company's greater risk relative to the Proxy Groups as detailed in Mr. Howard's Direct Testimony.

Bluegrass Water Utility Operating Company, LLC
Capital Structures for Fiscal Year 2024
for the Utility Proxy Group

2024

American States Water Company

Total Debt	50.26 %
Preferred Stock	0.00
Common Equity	<u>49.74</u>
Total Capital	<u>100.00 %</u>

American Water Works Company, Inc.

Total Debt	57.59 %
Preferred Stock	0.01
Common Equity	<u>42.40</u>
Total Capital	<u>100.00 %</u>

California Water Service Group

Total Debt	45.76 %
Preferred Stock	0.00
Common Equity	<u>54.24</u>
Total Capital	<u>100.00 %</u>

Essential Utilities Inc.

Total Debt	55.39 %
Preferred Stock	0.00
Common Equity	<u>44.61</u>
Total Capital	<u>100.00 %</u>

Global Water Resources, Inc.

Total Debt	72.01 %
Preferred Stock	0.00
Common Equity	<u>27.99</u>
Total Capital	<u>100.00 %</u>

H2O America

Total Debt	57.24 %
Preferred Stock	0.00
Common Equity	<u>42.76</u>
Total Capital	<u>100.00 %</u>

Middlesex Water Company

Total Debt	46.18 %
Preferred Stock	0.20
Common Equity	<u>53.62</u>
Total Capital	<u>100.00 %</u>

Average

Total Debt	54.92 %
Preferred Stock	0.03
Common Equity	<u>45.05</u>
Total Capital	<u>100.00 %</u>

Source of Information
Annual Forms 10-K

Bluegrass Water Utility Operating Company, LLC
Calculation of the Blended Debt Cost Rate

	% of Total Capital Structure	Cost Percentage	Weighted Cost
Debt - Base Year			
Payable to Associated Companies	38.19%	8.50%	6.22%
Long-Term Debt	13.99%	6.70%	1.80%
			8.02%

	% of Total Capital Structure	Cost Percentage	Weighted Cost
Debt - Test Year			
Payable to Associated Companies	35.01%	8.50%	6.05%
Long-Term Debt	14.19%	6.70%	1.93%
			7.98%

Source: Company Provided

Bluegrass Water Utility Operating Company, LLC
Constant Growth Discounted Cash Flow Model

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
Utility Proxy Group	Ticker	Annualized Dividend	Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Projected EPS Growth Rate	Value Line Projected EPS Growth Rate	S&P Capital IQ Projected EPS Growth Rate	Average Projected EPS Growth Rate	Mean ROE
American States Water Company	AWR	\$2.02	\$73.41	2.75%	2.83%	5.70%	7.00%	5.65%	6.12%	8.95%
American Water Works Company, Inc.	AWK	\$3.31	\$138.62	2.39%	2.47%	8.00%	4.50%	7.06%	6.52%	8.98%
California Water Service Group	CWT	\$1.20	\$46.96	2.56%	2.67%	8.80%	9.50%	8.78%	9.03%	11.70%
Essential Utilities Inc.	WTRG	\$1.37	\$39.88	3.44%	3.54%	6.00%	6.00%	6.30%	6.10%	9.64%
Global Water Resources, Inc.	GWRS	\$0.30	\$10.34	2.94%	3.24%	NA	NA	20.80%	20.80%	24.04%
H2O America	HTO	\$1.68	\$48.59	3.46%	3.56%	6.50%	6.00%	6.04%	6.18%	9.75%
Middlesex Water Company	MSEX	\$1.44	\$56.53	2.55%	2.63%	5.90%	7.50%	5.86%	6.42%	9.05%
Mean				2.87%	2.99%	6.82%	6.75%	8.64%	8.74%	9.68%
Median				2.75%	2.83%	6.25%	6.50%	6.30%	6.42%	9.34%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 30-trading day average as of October 31, 2025

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Source: Zacks

[6] Source: Value Line

[7] Source: S&P Capital IQ

[8] Equals Average([5], [6], [7])

[9] Equals [4] + [8]; Excludes results more than two standard deviations above or below the mean.

Bluegrass Water Utility Operating Company, LLC
Capital Asset Pricing Model - Equal Weighted Beta Coefficients
Utility Proxy Group

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
Company	Ticker	Average Beta Coefficient	Average Market Return	Current Risk-Free Rate	Market Risk Premium	CAPM	ECAPM	Average
American States Water Company	AWR	0.52	14.09%	4.67%	9.43%	9.58%	10.71%	10.15%
American Water Works Company, Inc.	AWK	0.50	14.09%	4.67%	9.43%	9.41%	10.58%	10.00%
California Water Service Group	CWT	0.60	14.09%	4.67%	9.43%	10.29%	11.24%	10.77%
Essential Utilities Inc.	WTRG	0.54	14.09%	4.67%	9.43%	9.80%	10.87%	10.34%
Global Water Resources, Inc.	GWRS	0.85	14.09%	4.67%	9.43%	12.66%	13.02%	12.84%
H2O America	HTO	0.56	14.09%	4.67%	9.43%	9.90%	10.95%	10.43%
Middlesex Water Company	MSEX	0.50	14.09%	4.67%	9.43%	9.39%	10.56%	9.98%
Mean						9.73%	10.82%	10.28%
Median						9.69%	10.79%	10.24%

		Average Beta Coefficient	Average Market Return	Projected Risk-Free Rate	Market Risk Premium	CAPM	ECAPM	Average
American States Water Company	AWR	0.52	14.09%	4.53%	9.57%	9.52%	10.66%	10.09%
American Water Works Company, Inc.	AWK	0.50	14.09%	4.53%	9.57%	9.34%	10.53%	9.93%
California Water Service Group	CWT	0.60	14.09%	4.53%	9.57%	10.24%	11.20%	10.72%
Essential Utilities Inc.	WTRG	0.54	14.09%	4.53%	9.57%	9.74%	10.83%	10.28%
Global Water Resources, Inc.	GWRS	0.85	14.09%	4.53%	9.57%	12.64%	13.00%	12.82%
H2O America	HTO	0.56	14.09%	4.53%	9.57%	9.84%	10.90%	10.37%
Middlesex Water Company	MSEX	0.50	14.09%	4.53%	9.57%	9.32%	10.51%	9.91%
Mean						9.66%	10.77%	10.22%
Median						9.63%	10.74%	10.18%

Notes:

[1] Source: Page 4 of this Exhibit.

[2] Source: Page 3 of this Exhibit.

[3] Current: 30-day average 30-year Treasury yield as of October 31, 2025 from Bloomberg Professional;
Projected: *Blue Chip Financial Forecasts* Vol. 44, No. 11, October 31, 2025 at 2 for the six quarters ending Q1 2027
and Vol. 44, No. 6, June 2, 2025 at 14 for the periods 2027-2031 and 2032-2036.

[4] Equals [2] - [3]

[5] Equals [4] x [1] + [3]

[6] Equals (([4] x [1]) x 0.75) + ([4] x 0.25) + [3]

[7] = Average [5], [6]; Excludes results more than two standard deviations above or below the mean.

Bluegrass Water Utility Operating Company, LLC
Capital Asset Pricing Model - *Value Line* Beta Coefficients
Utility Proxy Group

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		<i>Value Line</i>	Average	Current Risk-	Market Risk			
Company	Ticker	Beta Coefficient	Market Return	Free Rate	Premium	CAPM	ECAPM	Average
American States Water Company	AWR	0.70	14.09%	4.67%	9.43%	11.27%	11.97%	11.62%
American Water Works Company, Inc.	AWK	0.80	14.09%	4.67%	9.43%	12.21%	12.68%	12.44%
California Water Service Group	CWT	0.80	14.09%	4.67%	9.43%	12.21%	12.68%	12.44%
Essential Utilities Inc.	WTRG	0.80	14.09%	4.67%	9.43%	12.21%	12.68%	12.44%
Global Water Resources, Inc.	GWRS	0.95	14.09%	4.67%	9.43%	13.62%	13.74%	13.68%
H2O America	HTO	0.75	14.09%	4.67%	9.43%	11.74%	12.33%	12.03%
Middlesex Water Company	MSEX	0.75	14.09%	4.67%	9.43%	11.74%	12.33%	12.03%
Mean						11.89%	12.44%	12.17%
Median						11.97%	12.50%	12.24%

		<i>Value Line</i>	Average	Projected	Market Risk			
		Beta Coefficient	Market Return	Risk-Free Rate	Premium	CAPM	ECAPM	Average
Company	Ticker							
American States Water Company	AWR	0.70	14.09%	4.53%	9.57%	11.22%	11.94%	11.58%
American Water Works Company, Inc.	AWK	0.80	14.09%	4.53%	9.57%	12.18%	12.66%	12.42%
California Water Service Group	CWT	0.80	14.09%	4.53%	9.57%	12.18%	12.66%	12.42%
Essential Utilities Inc.	WTRG	0.80	14.09%	4.53%	9.57%	12.18%	12.66%	12.42%
Global Water Resources, Inc.	GWRS	0.95	14.09%	4.53%	9.57%	13.62%	13.74%	13.68%
H2O America	HTO	0.75	14.09%	4.53%	9.57%	11.70%	12.30%	12.00%
Middlesex Water Company	MSEX	0.75	14.09%	4.53%	9.57%	11.70%	12.30%	12.00%
Mean						11.86%	12.42%	12.14%
Median						11.94%	12.48%	12.21%

Notes:

[1] Source: Page 4 of this Exhibit.

[2] Source: Page 3 of this Exhibit.

[3] Current: 30-day average 30-year Treasury yield as of October 31, 2025 from Bloomberg Professional;
Projected: *Blue Chip Financial Forecasts* Vol. 44, No. 11, October 31, 2025 at 2 for the six quarters ending Q1 2027
and Vol. 44, No. 6, June 2, 2025 at 14 for the periods 2027-2031 and 2032-2036.

[4] Equals [2] - [3]

[5] Equals [4] x [1] + [3]

[6] Equals (([4] x [1]) x 0.75) + ([4] x 0.25) + [3]

[7] = Average [5], [6]; Excludes results more than two standard deviations above or below the mean.

Bluegrass Water Utility Operating Company, LLC
Market Returns

S&P 500 Market DCF - Bloomberg	18.30% [1]
S&P 500 Market DCF - <i>Value Line</i>	16.27% [2]
S&P 500 Market DCF - S&P Capital IQ	<u>17.89% [3]</u>
Average S&P 500 Market DCF	17.49%
Market DCF - <i>Value Line</i> Summary & Index	<u>10.70% [4]</u>
Average Market Return	<u><u>14.09%</u></u>

Notes:

[1] Based on the application of a market capitalization weighted Constant Growth DCF to the individual companies within the S&P 500 using data from Bloomberg Professional.

[2] Based on the application of a market capitalization weighted Constant Growth DCF to the individual companies within the S&P 500 using data from *Value Line*.

[3] Based on the application of a market capitalization weighted Constant Growth DCF to the individual companies within the S&P 500 using data from S&P Capital IQ.

[4] Based on the application of the average three-to-five-year median market price appreciation by *Value Line* for the six weeks ended October 31, 2025 plus an average of the median estimated dividend yield of the 1,700 firms covered by *Value Line* Standard Edition.

Bluegrass Water Utility Operating Company, LLC
Bloomberg and *Value Line* Beta Coefficients

Company	Ticker	[1] Bloomberg	[2] <i>Value Line</i>
American States Water Company	AWR	0.34	0.70
American Water Works Company, Inc.	AWK	0.21	0.80
California Water Service Group	CWT	0.39	0.80
Essential Utilities Inc.	WTRG	0.29	0.80
Global Water Resources, Inc.	GWRS	0.75	0.95
H2O America	HTO	0.36	0.75
Middlesex Water Company	MSEX	0.25	0.75
Mean		0.37	0.79

Notes:

[1] Source: Bloomberg Professional

[2] Source: *Value Line*

Bluegrass Water Utility Operating Company, LLC
Risk Premium Summary

	<u>Equal Weighted Beta Coefficients</u>			<u>Value Line Beta Coefficients</u>		
	<u>Current</u> <u>Moody's Baa1</u> <u>Utility Bond</u> <u>Yield</u>	<u>Projected</u> <u>Moody's Baa1</u> <u>Utility Bond</u> <u>Yield</u>		<u>Current</u> <u>Moody's Baa1</u> <u>Utility Bond</u> <u>Yield</u>	<u>Projected</u> <u>Moody's Baa1</u> <u>Utility Bond</u> <u>Yield</u>	
Average Equity Risk Premium	5.21%	5.25%	[1]	5.47%	5.52%	[1]
Utility Bond Yield	5.67%	5.62%	[2]	5.67%	5.62%	[2]
Return on Equity	10.88%	10.86%		11.14%	11.13%	
Average	10.87%			11.14%		

Notes:

[1] Page 2 of this Exhibit.

[2] Page 3 of this Exhibit; Columns [8] and [9]

Bluegrass Water Utility Operating Company, LLC
Summary of Equity Risk Premium Estimates

Equity Risk Premium Applicable to the Utility Proxy Group	Equal Weighted Beta Coefficients		<i>Value Line</i> Beta Coefficients	
	Current Moody's Baa1 Utility Bond Yield	Projected Moody's Baa1 Utility Bond Yield	Current Moody's Baa1 Utility Bond Yield	Projected Moody's Baa1 Utility Bond Yield
Predicted Risk Premium Based on the S&P Utilities Index	6.21%	6.25% [1]	6.74%	6.78% [1]
Predicted Risk Premium Based on Regression Analysis of Water/Wastewater Utility Rate Cases 2008 - 2025	4.21%	4.25% [2]	4.21%	4.25% [2]
Average	5.21%	5.25%	5.47%	5.52%

Notes:

-
- [1] Page 6 of this Exhibit.
[2] Page 10 of this Exhibit.

Bluegrass Water Utility Operating Company, LLC
Moody's Bond Yields

[1]	[2]	[3]	[4]	[5]
Moody's Aaa Corporate Bond Yield	Moody's A2 Utility Bond Yield	Moody's A2 Utility/Aaa Corporate Spread	Moody's Baa2 Utility Bond Yield	Moody's Baa2 Utility/A2 Utility Spread
5.15%	5.53%	0.38%	5.74%	0.20%
	[6] Projected Moody's Aaa Corporate Bond Yield	[7] Projected Moody's A2 Utility Bond Yield	[8] Current Moody's Baa1 Utility Bond Yield	[9] Projected Moody's Baa1 Utility Bond Yield
	5.10%	5.48%	5.67%	5.62%
			[10] Current Moody's A3 Utility Bond Yield	[11] Projected Moody's A3 Utility Bond Yield
			5.60%	5.55%

Notes:

[1] Source: Bloomberg Professional; 30-Day Average as of October 31, 2025

[2] Source: Bloomberg Professional; 30-Day Average as of October 31, 2025

[3] = [2] - [1]

[4] Source: Bloomberg Professional; 30-Day Average as of October 31, 2025

[5] = [4] - [2]

[6] *Projected: Blue Chip Financial Forecasts* Vol. 44, No. 11, October 31, 2025 at 2 and Vol. 44, No. 6, June 2, 2025 at 14 for the six quarters ending 01 2027. and the periods 2027-2031 and 2032-2036.

[7] = [6] + [3]

[8] = [2] + [5] * (2/3)

[9] = [7] + [5] * (2/3)

[10] = [2] + [5] / 3

[11] = [7] + [5] / 3

Bluegrass Water Utility Operating Company, LLC
Moody's and S&P Issuer Ratings - Utility Proxy Group

Company	Ticker	Moody's [1]	Numerical Weighting [2]	S&P [1]	Numerical Weighting [2]
American States Water Company	AWR	NR	NA	A+	5.00
American Water Works Company, Inc.	AWK	A2/A3	6.50	A	6.00
California Water Service Group	CWT	NR	NA	A+	5.00
Essential Utilities Inc.	WTRG	Baa2	9.00	A-	7.00
Global Water Resources, Inc.	GWRS	NR	NA	NR	NA
H2O America	HTO	NR	NA	A-	7.00
Middlesex Water Company	MSEX	NR	NA	A	6.00
Proxy Rating		Baa1	7.75	A	6.00

Notes:

[1] Source: S&P Global Market Intelligence; Moody's Investor Services

Ratings are the average of each company's utility operating subsidiaries.

[2] From page 5 of this Exhibit.

Numerical Assignment for Moody's and Standard & Poor's Bond Ratings

<u>Moody's Bond Rating</u>	<u>Numerical Bond Weighting</u>	<u>Standard & Poor's Bond Rating</u>
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-
B1	14	B+
B2	15	B
B3	16	B-

Bluegrass Water Utility Operating Company, LLC
Summary of Equity Risk Premium Estimates Based on the S&P Utilities Index

	<u>Equal Weighted Beta Coefficients</u>		<u>Value Line Beta Coefficients</u>	
	<u>Current Moody's Utility Bond Yield</u>	<u>Projected Moody's Utility Bond Yield</u>	<u>Current Moody's Utility Bond Yield</u>	<u>Projected Moody's Utility Bond Yield</u>
<u>Equity Risk Premium</u>				
Predicted Risk Premium Based on Constant Growth DCF Applied to S&P Utilities Index	6.18%	6.23% [1]	6.18%	6.23%
Predicted Risk Premium Based on CAPM Applied to S&P Utilities Index	6.11%	6.13% [2]	7.17%	7.20% [3]
S&P Utilities Index Derived Risk Premium Based on Moody's A3 Rating	<u>6.14%</u>	<u>6.18%</u>	<u>6.67%</u>	<u>6.72%</u>
Adjusted to Reflect Proxy Group Moody's Baa1 Utility Bond Rating	<u>0.07%</u>	<u>0.07%</u>	<u>0.07%</u>	<u>0.07%</u>
S&P Utilities Index Derived Risk Premium Based on Moody's Baa1 Rating	<u>6.21%</u>	<u>6.25%</u>	<u>6.74%</u>	<u>6.78%</u>

Notes:

[1] Page 7 of this Exhibit.

[2] Page 8 of this Exhibit.

[3] Page 9 of this Exhibit.

Bluegrass Water Utility Operating Company, LLC
S&P Utilities Index DCF-Derived Equity Risk Premium

<u>Ex-Ante Return</u>	
S&P Utilities Index DCF - Bloomberg	11.44% [1]
S&P Utilities Index DCF - <i>Value Line</i>	12.16% [2]
S&P Utilities Index DCF - S&P Capital IQ	<u>11.73%</u> [3]
Average	<u><u>11.78%</u></u> [4]
Current Moody's A3 Utility Bond Yield	5.60% [5]
Projected Moody's A3 Utility Bond Yield	<u>5.55%</u> [6]
Risk Premium over Current Moody's A3 Utility Bond Yield	<u><u>6.18%</u></u> [7]
Risk Premium over Projected Moody's A3 Utility Bond Yield	<u><u>6.23%</u></u> [8]

Notes:

[1] Based on the application of a market capitalization weighted Constant Growth DCF to the individual companies within the S&P Utilities Index using data from Bloomberg Professional.

[2] Based on the application of a market capitalization weighted Constant Growth DCF to the individual companies within the S&P Utilities Index using data from *Value Line*.

[3] Based on the application of a market capitalization weighted Constant Growth DCF to the individual companies within the S&P Utilities Index using data from S&P Capital IQ Pro.

[4] Average of [1], [2], [3]

[5] From page 3 of this Exhibit; Column [10]

[6] From page 3 of this Exhibit; Column [11]

[7] = [4] - [5]

[8] = [4] - [6]

Bluegrass Water Utility Operating Company, LLC
S&P Utilities Capital Asset Pricing Model Dervied Equity Risk Premium

Company	[1] Average Beta Coefficient	[2] Average Market Return	[3] Risk-Free Rate	[4] Market Risk Premium	[5] Return on the S&P Utilities Index Based on CAPM	[6] Return on the S&P Utilities Index Based on ECAPM	[7] Average
S&P Utilities Index - Current Risk-Free Rate	0.71	14.09%	4.67%	9.43%	11.37%	12.05%	11.71%
S&P Utilities Index - Projected Risk-Free Rate	0.71	14.09%	4.53%	9.57%	11.33%	12.02%	11.68%
					Current Moody's A3 Utility Bond Yield	5.60%	[8]
					Projected Moody's A3 Utility Bond Yield	<u>5.55%</u>	[9]
					Risk Premium over Current Moody's A3 Utility Bond Yield	<u>6.11%</u>	[10]
					Risk Premium over Projected Moody's A3 Utility Bond Yield	<u>6.13%</u>	[11]

Notes:

[1] Average of Weighted Beta coefficients for the S&P Utilities Index based on data from Bloomberg Professional and Value Line.

[2] Source: Page 3 of Exhibit MRH-5.

[3] Source: Page 1 of Exhibit MRH-5.

[4] Equals [2] - [3]

[5] Equals [4] x [1] + [3]

[6] Equals (([4] x [1]) x 0.75) + ([4] x 0.25) + [3]

[7] Average [5], [6]

[8] From page 3 of this Exhibit; Column [10]

[9] From page 3 of this Exhibit; Column [11]

[10] = Average indicated return on the S&P Utilities Index ([7]) based on current risk-free rate minus current Moody's A3 utility bond yield ([8])

[11] = Average indicated return on the S&P Utilities Index ([7]) based on projected risk-free rate minus projected Moody's A3 utility bond yield ([9])

Bluegrass Water Utility Operating Company, LLC
S&P Utilities Capital Asset Pricing Model Dervied Equity Risk Premium

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Company	<i>Value Line</i> Beta Coefficient	Average Market Return	Risk-Free Rate	Market Risk Premium	Return on the S&P Utilities Index Based on CAPM	Return on the S&P Utilities Index Based on ECAPM	Average
S&P Utilities Index - Current Risk-Free Rate	0.84	14.09%	4.67%	9.43%	12.58%	12.96%	12.77%
S&P Utilities Index - Projected Risk-Free Rate	0.84	14.09%	4.53%	9.57%	12.56%	12.95%	12.75%
					Current Moody's A3 Utility Bond Yield	5.60%	[8]
					Projected Moody's A3 Utility Bond Yield	<u>5.55%</u>	[9]
					Risk Premium over Current Moody's A3 Utility Bond Yield	<u>7.17%</u>	[10]
					Risk Premium over Projected Moody's A3 Utility Bond Yield	<u>7.20%</u>	[11]

Notes:

[1] Average of Weighted Beta coefficients for the S&P Utilities Index based on data from *Value Line*.

[2] Source: Page 3 of Exhibit MRH-5.

[3] Source: Page 1 of Exhibit MRH-5.

[4] Equals [2] - [3]

[5] Equals [4] x [1] + [3]

[6] Equals (([4] x [1]) x 0.75) + ([4] x 0.25) + [3]

[7] Average [5], [6]

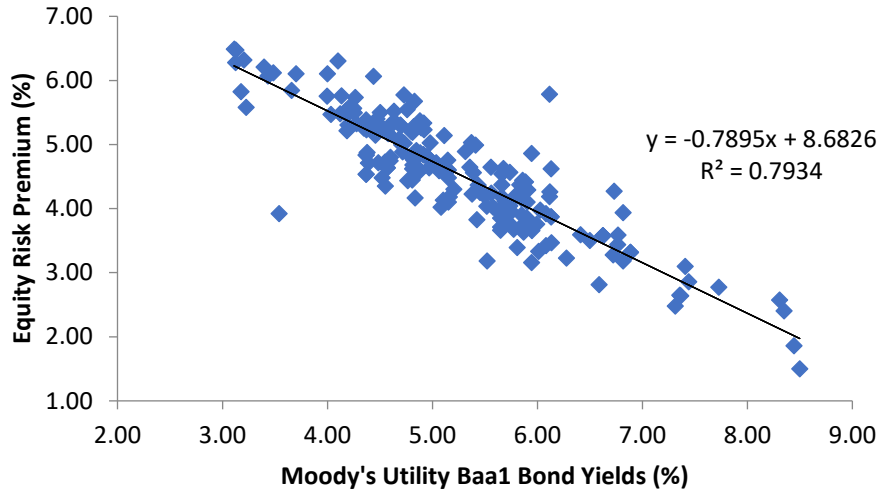
[8] From page 3 of this Exhibit; Column [10]

[9] From page 3 of this Exhibit; Column [11]

[10] = Average indicated return on the S&P Utilities Index ([7]) based on current risk-free rate minus current Moody's A3 utility bond yield ([8])

[11] = Average indicated return on the S&P Utilities Index ([7]) based on projected risk-free rate minus projected Moody's A3 utility bond yield ([9])

Bluegrass Water Utility Operating Company, LLC
Risk Premium Based on Authorized Returns 2008 - 2025



	[1]	[2]	[3]	[4]
	<u>Constant</u>	<u>Slope</u>	<u>Moody's Baa1 Utility Bond Yield</u>	<u>Equity Risk Premium</u>
Current Moody's Baa1 Utility Bond Yield	<u>8.6826 %</u>	<u>-0.7895 %</u>	<u>5.67 %</u>	<u>4.21 %</u>
Projected Moody's Baa1 Utility Bond Yield	<u>8.6826 %</u>	<u>-0.7895 %</u>	<u>5.62 %</u>	<u>4.25 %</u>

Notes:

[1] Constant derived from a linear regression of equity risk premiums and monthly Moody's Baa1 utility bond yields; equity risk premium calculated as authorized ROEs for water and wastewater utilities less 30-day average Moody's Baa1 utility bond yields available on date of order.

[2] Slope derived from a linear regression of equity risk premiums and monthly Moody's Baa1 utility bond yields; equity risk premium calculated as authorized ROEs for water and wastewater utilities less 30-day average Moody's Baa1 utility bond yields available on date of order.

[3] Source: Page 3 of this Exhibit; Columns [11], [12]

[4] = [1] + ([2] x [3])

Source: Regulatory Research Associates.

Bluegrass Water Utility Operating Company, LLC
Small Size Premium

	[1] (\$Mil)
Bluegrass Water Utility Operating Company, LLC	\$6.55
Median Market to Book for Utility Proxy Group	2.16
Bluegrass Water Implied Market Cap	\$14.15

Company Name	Ticker	[2] Market Cap (\$Mil)	[3] Market to Book Ratio
American States Water Company	AWR	\$2,826.8	2.83
American Water Works Company, Inc.	AWK	\$28,062.6	2.49
California Water Service Group	CWT	\$2,797.9	1.65
Essential Utilities Inc.	WTRG	\$11,185.8	1.66
Global Water Resources, Inc.	GWRS	\$284.2	3.04
H2O America	HTO	\$1,717.7	1.15
Middlesex Water Company	MSEX	\$1,019.1	2.16
Median		\$2,797.86	2.16

Market Capitalization (\$Mil) [4]				
Decile	Low	High	Size Premium	
1	\$ 47,156.530	\$ 3,522,211.140	-0.01%	
2	\$ 20,191.220	\$ 46,949.060	0.33%	
3	\$ 9,937.940	\$ 20,178.360	0.49%	
4	\$ 6,196.710	\$ 9,937.350	0.50%	
5	\$ 3,948.050	\$ 6,181.270	0.74%	
6	\$ 2,481.780	\$ 3,946.150	1.00%	
7	\$ 1,422.890	\$ 2,464.500	1.19%	
8	\$ 731.190	\$ 1,417.450	0.88%	
9	\$ 304.620	\$ 729.920	1.73%	
10	\$ 1.110	\$ 304.480	4.47%	
Proxy Group Size Premium		\$ 2,797.862	1.00%	
10th Decile Size Premium		\$ 14.155	4.47%	
Difference from Proxy Group			3.47%	

Notes:

- [1] Rate Base Multiplied by Common Equity Ratio
- [2] Source: Bloomberg Professional, 30-day average
- [3] Source: Bloomberg Professional, 30-day average
- [4] Source: Kroll 2025 Cost of Capital Navigator