

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. W-1314, SUB 4

In the Matter of
Application of Pluris Webb)
Creek, LLC, 5950 Berkshire)
Lane, Suite 800, Dallas, Texas,)
75225 for Authority to Adjust)
and Increase Rates for Sewer)
Utility Service in All of Its)
Service Areas in Onslow County,)
North Carolina)

TESTIMONY OF
BENJAMIN P. LOZIER
PUBLIC STAFF – NORTH
CAROLINA UTILITIES
COMMISSION

PLURIS WEBB CREEK, LLC

DOCKET NO. W-1314 SUB 4

TESTIMONY OF BENJAIN P. LOZIER

ON BEHALF OF THE PUBLIC STAFF

NORTH CAROLINA UTILITIES COMMISSION

September 25, 2020

1 **Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS**
2 **ADDRESS FOR THE RECORD.**

3 A. My name is Benjamin P. Lozier and my business address is 430
4 North Salisbury Street, Raleigh, North Carolina, 27603. I am a
5 Financial Analyst in the Economic Research Division of the Public
6 Staff of the North Carolina Public Utilities Commission, representing
7 the using and consuming public.

8 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND**
9 **AND RELEVANT EMPLOYMENT EXPERIENCE.**

10 A. I received a Bachelor of Arts degree in Economics from Wake
11 Forest University in 2014, and a Master of Environmental
12 Management (concentration: Energy & Environment) degree from
13 Duke University in 2017. I joined the Public Staff in May of 2020.
14 Prior to joining the Public Staff in 2020, I was a Senior Energy
15 Research Analyst at ScottMadden Inc. for three years. Since joining
16 the Public Staff, I have been involved in the evaluation of electric

1 utility integrated resource plans, demand-side management and
2 energy efficiency (DSM/EE) cost recovery riders, renewable
3 energy and energy efficiency portfolio standard (REPS) cost
4 recovery riders, and fuel charge adjustment cost recovery riders. I
5 have also conducted rate of return studies in wastewater utility rate
6 cases.

7 I filed testimony on the issues of fair rate of return and weather
8 normalization in Western Carolina University's most recent rate
9 case in Docket No. E-35, Sub 51.

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
11 **PROCEEDING?**

12 A. The purpose of my testimony is to present to the North Carolina
13 Utilities Commission (Commission) the results of my analysis and
14 recommendations as to the fair rate of return to be used in
15 establishing rates for wastewater utility service provided by Pluris
16 Webb Creek, LLC. (Pluris or Company) in its service areas in
17 Onslow County.

18 **Q. WHAT IS THE CURRENTLY APPROVED COST OF CAPITAL**
19 **FOR PLURIS WEBB CREEK, LLC?**

20 A. There is no existing cost of capital for Pluris. On August 8, 2016, by
21 its *Order Appointing Emergency Operator, Approving Increased*
22 *Rates, And Requiring Customer Notice* (the "EO Order"), in Docket

1 No. W-864, Sub 11, the Commission appointed Pluris as
2 Emergency Operator of the system previously operated by Webb
3 Creek Water And Sewage, Inc. As part of the *EO Order*, the
4 Commission established provisional rates subject to true up.

5 On March 26, 2019, by its *Order Revoking Webb Creek Water And*
6 *Sewage, Inc.'s Franchise, Granting Certificate Of Public*
7 *Convenience And Necessity To Pluris Webb Creek, LLC,*
8 *Continuing Interim Rates, Discharging Emergency Operator, And*
9 *Requiring Customer Notice* (“Revocation Order”) (Docket Nos. W-
10 864, Sub 14 and W-1314, Sub 1), the Commission approved the
11 continued use of the provisional rates, as established by the *EO*
12 *Order*, until Pluris filed a rate case. By this Revocation Order, the
13 Commission also ordered, “[t]hat, in the event that a rate case
14 application has not been filed by Pluris by June 30, 2020, the Public
15 Staff shall file a recommendation with the Commission as to
16 whether the provisional interim rates approved herein should be
17 continued or adjusted.”

18 **Q. WHAT IS THE COST OF CAPITAL REQUESTED BY PLURIS IN**
19 **THIS PROCEEDING?**

20 A. Pluris has requested a rate of return of 6.56%. This applied for rate
21 of return is based on a capital structure of 55.41% long-term debt,
22 44.12% common equity, and 0.47% customer deposits. Pluris has
23 requested a cost rate of long-term debt of 4.11%, a cost rate for

1 common equity of 9.60%, and a cost rate of 8.00% for customer
2 deposits.

3 **Q. HOW DOES PLURIS WITNESS GALLARDA DEVELOP HIS**
4 **RECOMMENDATION?**

5 A. Pluris witness Maurice W. Gallarda utilizes one cost of equity
6 method, whereby he reviews the approved returns on equity
7 (ROEs) recently granted by the Commission. Witness Gallarda
8 analyzes two recent Commission rate case orders. In Docket No.
9 W-354, Sub 364, the Commission granted Carolina Water Service,
10 Inc. of North Carolina (Carolina Water Service), a 9.50% overall
11 return on rate base. In Docket No. W-218, Sub 497, the
12 Commission granted Aqua North Carolina, Inc. (Aqua North
13 Carolina), a 9.70% overall return on equity. Witness Gallarda
14 recommends that the average of these two results of 9.60% is the
15 proper overall return on equity for use in this proceeding.

<u>Utility</u>	<u>Docket</u>	<u>Approved Rate of Equity</u>
Carolina Water Service	W-354, Sub 364	9.50%
<u>Aqua North Carolina</u>	<u>W-218, Sub 497</u>	<u>9.70%</u>
Average		9.60%

20 Witness Gallarda recommends a rate of return on common equity
21 of 9.60%, and recommends an overall rate of return on rate base of
22 6.56%, as noted on page 18 of my testimony.

1 **Q. WHAT IS THE OVERALL RATE OF RETURN RECOMMENDED**
2 **BY THE PUBLIC STAFF?**

3 A. The Public Staff recommends an overall rate of return of 6.29%,
4 based on a capital structure consisting of 55.32% long-term debt
5 and 44.68% common equity. While the Company requests the
6 approval of a capital structure that consists of 44% equity and 56%
7 debt, through data requests, the Public Staff has learned that the
8 Company's current (as of 06/30/2020) capital structure consists of
9 55.97% long-term debt, 44.03% common equity, and 0.47%
10 customer deposits. The Public Staff's recommended overall cost of
11 capital is based on a recommended debt cost rate of 4.11% and a
12 9.00% cost rate for common equity.

13 **Q. HOW IS THE REMAINDER OF YOUR TESTIMONY**
14 **STRUCTURED?**

15 A. The remainder of my testimony is presented in the following five
16 sections:

- 17 I. Legal and Economic Guidelines for Fair Rate of Return
- 18 II. Present Financial Market Conditions
- 19 III. Appropriate Capital Structure and Cost of Long-Term Debt
- 20 IV. The Cost of Common Equity Capital
- 21 V. Summary and Recommendations

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**I. LEGAL AND ECONOMIC GUIDELINES FOR
FAIR RATE OF RETURN**

**Q. PLEASE BRIEFLY DESCRIBE THE ECONOMIC AND LEGAL
FRAMEWORK OF YOUR ANALYSIS.**

A. Public utilities possess certain characteristics of natural monopolies. For instance, it is more efficient for a single firm to provide a service such as water production and distribution or wastewater collection and treatment than for two or more firms offering the same service in the same area to do so. Therefore, regulatory bodies have assigned franchised territories to public utilities to provide services more efficiently and at a lower cost to consumers.

**Q. WHAT IS THE ECONOMIC RELATIONSHIP BETWEEN RISK
AND THE COST OF CAPITAL?**

A. The cost of equity capital to a firm is equal to the rate of return investors expect to earn on the firm's securities given the securities' level of risk. An investment with a greater risk will require a higher expected return by investors. In Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944) (Hope), the United States Supreme Court stated:

[T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in

1 the financial integrity of the enterprise, so as to
2 maintain its credit and to attract capital.

3 In Bluefield Waterworks & Impr. Co. v. Public Service Comm'n, 262
4 U.S. 679, pp 692-93 (1923) (Bluefield) the United States Supreme
5 Court stated:

6 A public utility is entitled to such rates as will permit it
7 to earn a return on the value of the property which it
8 employs for the convenience of the public equal to
9 that generally being made at the same time and in the
10 same general part of the country on investments in
11 other business undertakings which are attended by
12 corresponding risks and uncertainties, but it has no
13 constitutional right to profits such as are realized or
14 anticipated in highly profitable enterprises or
15 speculative ventures. The return should be
16 reasonably sufficient to assure confidence in the
17 financial soundness of the utility and should be
18 adequate, under efficient and economical
19 management, to maintain and support its credit and
20 enable it to raise the money necessary for the proper
21 discharge of its public duties. A rate of return may be
22 reasonable at one time and become too high or too
23 low by changes affecting opportunities for investment,
24 the money market, and business conditions.

25 These two decisions recognize that utilities are competing for the
26 capital of investors and provide legal guidelines as to how the
27 allowed rate of return should be set. The decisions specifically
28 speak to the standards or criteria of capital attraction, financial
29 integrity, and comparable earnings. The Hope decision, in
30 particular, recognizes that the cost of common equity is
31 commensurate with risk relative to investments in other enterprises.
32 In competitive capital markets, the required return on common

1 equity will be the expected return foregone by not investing in
2 alternative stocks of comparable risk. Thus, in order for the utility to
3 attract capital, possess financial integrity, and exhibit comparable
4 earnings, the return allowed on a utility's common equity should be
5 that return required by investors for stocks with comparable risk. As
6 such, the return requirements of debt and equity investors, which is
7 shaped by expected risk and return, is paramount in attracting
8 capital.

9 It is widely recognized that a public utility should be allowed a rate
10 of return on capital, which will allow the utility, under prudent
11 management, to attract capital under the criteria or standards
12 referenced by the Hope and Bluefield decisions. If the allowed rate
13 of return is set too high, consumers are burdened with excessive
14 costs, current investors receive a windfall, and the utility has an
15 incentive to overinvest. Likewise, customers will be charged prices
16 that are greater than the true economic costs of providing these
17 services and consumers will consume too few of these services
18 from a point of view of efficient resource allocation. If the return is
19 set too low, then the utility stockholders will suffer because a
20 declining value of the underlying property will be reflected in a
21 declining value of the utility's equity shares. This could happen
22 because the utility would not be earning enough to maintain and
23 expand its facilities to meet customer demand for service, cover its

1 operating costs, and attract capital on reasonable terms. Lenders
2 will shy away from the company because of the increased risk that
3 the utility will default on its debt obligations. Because a public utility
4 is capital intensive, the cost of capital is a very large part of its
5 overall revenue requirement and is a crucial issue for a company
6 and its ratepayers.

7 The Hope and Bluefield standards are embodied in N.C. Gen. Stat.
8 § 62-133(b)(4), which requires that the allowed rate of return be
9 sufficient to enable a utility by sound management:

10 “...to produce a fair return for its shareholders,
11 considering changing economic conditions and other
12 factors, . . . to maintain its facilities and services in
13 accordance with the reasonable requirements of its
14 customers in the territory covered by its franchise, and
15 to compete in the market for capital funds on terms
16 that are reasonable and are fair to its customers and
17 to its existing investors.”

18 N.C. Gen. Stat. § 62-133(b)(4) (2017).

19 On April 12, 2013, the North Carolina Supreme Court decided State
20 ex rel. Utils. Comm’n v. Cooper, 366 N.C. 484, 739 S.E. 2d 541
21 (2013) (Cooper). In that decision, the Supreme Court reversed and
22 remanded the Commission’s January 27, 2012 Order in Docket No.
23 E-7, Sub 989, approving a stipulated return on equity of 10.50% for
24 Duke Energy Carolinas, LLC. In its decision, the Supreme Court
25 held: (1) that the 10.50% return on equity was not supported by the
26 Commission’s own independent findings and analysis as required

1 by State ex rel. Utils. Comm'n v. Carolina Util. Customers Ass'n,
2 348 N.C. 452, 500 S.E.2d 693 (1998) (CUCA I), in cases involving
3 non-unanimous stipulations, and, (2) that the Commission must
4 make findings of fact regarding the impact of changing economic
5 conditions on consumers when determining the proper return on
6 equity for a public utility. In Cooper, the Court's holding introduced a
7 new factor to be considered by the Commission regardless of
8 whether there is a stipulation.

9 In considering this new element, the Commission is guided by
10 ratemaking principles laid down by statute and interpreted by a
11 body of North Carolina case law developed over many years.
12 According to these principles, the test of a fair rate of return is a
13 return on equity that will provide a utility, by sound management,
14 the opportunity to: (1) produce a fair profit for its shareholders in
15 view of current economic conditions, (2) maintain its facilities and
16 service, and (3) compete in the marketplace for capital. State ex rel.
17 Utils. Comm'n v. General Tel. Co., 281 N.C. 318, 370, 189 S.E.2d
18 705, 738 (1972). Rates should be set as low as reasonably
19 possible consistent with constitutional constraints. State ex rel.
20 Utils. Comm'n v. Pub. Staff-N. Carolina Utils. Comm'n, 323 N.C.
21 481, 490, 374 S.E.2d 361, 366 (1988). The exercise of subjective
22 judgment is a necessary part of setting an appropriate return on
23 equity. Id. Thus, in a particular case, the Commission must strike a

1 balance that: (1) avoids setting a return so low that it impairs the
2 utility's ability to attract capital, (2) avoids setting a return any
3 higher than needed to raise capital on reasonable terms, and (3)
4 considers the impact of changing economic conditions on
5 consumers.

6 **Q. WHAT IS A FAIR RATE OF RETURN?**

7 A. The fair rate of return is simply a percentage, which, when
8 multiplied by a utility's rate base investment will yield the dollars of
9 net operating income that a utility should reasonably have the
10 opportunity to earn. This dollar amount of net operating income is
11 available to pay the interest cost on a utility's debt capital and a
12 return to the common equity investor. The fair rate of return
13 multiplied by the utility's rate base yields the dollars a utility needs
14 to recover in order to earn the investors' required return on capital.

15 **Q. HOW DID YOU DETERMINE THE FAIR RATE OF RETURN THAT**
16 **YOU RECOMMEND IN THIS PROCEEDING?**

17 A. To determine the fair rate of return, I performed a cost of capital
18 study consisting of three steps. First, I determined the appropriate
19 capital structure for ratemaking purposes, i.e., the proper
20 proportions of each form of capital. Utilities normally finance assets
21 with debt and common equity. Because each of these forms of
22 capital have different costs, especially after income tax

1 considerations, the relative amounts of each form employed to
2 finance the assets can have a significant influence on the overall
3 cost of capital, revenue requirements, and rates. Thus, the
4 determination of the appropriate capital structure for ratemaking
5 purposes is important to the utility and to ratepayers. Second, I
6 determined the cost rate of each form of capital. The individual debt
7 issues have contractual agreements explicitly stating the cost of
8 each issue. The embedded annual cost rate of debt is generally
9 calculated with the annual interest cost divided by the debt
10 outstanding. The cost of common equity is more difficult to
11 determine because it is based on the investor's opportunity cost of
12 capital. Third, by combining the appropriate capital structure ratios
13 for ratemaking purposes with the associated cost rates, I calculate
14 an overall weighted cost of capital or fair rate of return.

15 **II. PRESENT FINANCIAL MARKET CONDITIONS**

16 **Q. CAN YOU BRIEFLY DESCRIBE CURRENT FINANCIAL MARKET**
17 **CONDITIONS?**

18 A. Yes. The cost of financing is much lower today than in the more
19 inflationary period of the 1990s. More recently, the continued low
20 rates of inflation and expectations of future low inflation rates have
21 contributed to even lower interest rates. According to the Bureau of

1 Labor Statistics, the Consumer Price Index for the South of the USA
2 has been relatively stable over the past five years (2015-2019).

3	<u>Year</u>	<u>CPI Annual Growth Rate</u>
4	2015	-0.18%
5	2016	1.11%
6	2017	2.05%
7	2018	2.22%
8	<u>2019</u>	<u>1.45%</u>
9	Average	1.33%

10 According to the July 2020 Mergent Bond Record, Moody's index
11 yields on long-term "A" rated public utility bonds have fallen 85 basis
12 points to 2.74% from 3.59% in August 2016, close to the date the
13 Commission issued its EO Order, as illustrated in Lozier Exhibit 1.

14 Recent decreases in interest rates and volatility in the stock market
15 are due to concerns over the coronavirus pandemic. However, water
16 utility stocks have survived relatively well. The stability of the
17 common stock prices of water utilities is described in the March 23,
18 2020 S&P Global Report entitled, "Despite Volatility, Water Utility
19 Valuation Premiums Persist." As of March 20, 2020, there was a
20 33% drop in the Dow Jones Industrial Average as reported by S&P
21 Global Market Intelligence. The report noted that although the Dow
22 Jones Utility Index has lost 27% of its value, water utilities had only
23 lost 14% of their value over the same period. Furthermore, the report
24 identified the lower Beta coefficients with water utilities' stocks and

1 that these stocks have historically been considered largely
2 recession-resistant. A similar observation was reported in a July 1,
3 2020 article that the water utility sector has continued to post
4 consistent quality financial results that generally exceed those of
5 electric and natural gas utilities¹. Of course, the impact of the
6 coronavirus pandemic looms large in current market conditions, and
7 is discussed later in my testimony.

8 **III. APPROPRIATE CAPITAL STRUCTURE AND**
9 **COST OF LONG-TERM DEBT**

10 **Q. WHY IS THE APPROPRIATE CAPITAL STRUCTURE**
11 **IMPORTANT FOR RATEMAKING PURPOSES?**

12 A. For companies that do not have monopoly power, the price that an
13 individual company charges for its products or services is set in a
14 competitive market, and that price is generally not influenced by the
15 company's capital structure. However, the capital structure that is
16 determined to be appropriate for a regulated public utility has a
17 direct bearing on the fair rate of return, revenue requirement, and
18 therefore, the rates charged to captive ratepayers.

19 **Q. PLEASE EXPLAIN THE TERM CAPITAL STRUCTURE AND**
20 **HOW THE CAPITAL STRUCTURE APPROVED FOR**
21 **RATEMAKING PURPOSES AFFECTS RATES.**

¹ Serzan, Tom, S&P Global Market Intelligence, "Utility parent financials well positioned for downturn despite recent slippage," July 1, 2020.

1 A. The capital structure is simply a representation of how a utility's
2 assets are financed. It is the relative proportion or ratios of debt and
3 common equity to the total of these forms of capital, which have
4 different costs. Common equity is far more expensive than debt for
5 ratemaking purposes for two reasons. First, as mentioned earlier,
6 there are income tax considerations. Interest on debt is deductible
7 for purposes of calculating income taxes. The cost of common
8 equity, on the other hand, must be "grossed up" to allow the utility
9 sufficient revenue to pay income taxes and to earn its cost of
10 common equity on a net or after-tax basis. Therefore, the amount of
11 revenue the utility must collect from ratepayers to meet income tax
12 obligations is directly related to both the common equity ratio in the
13 capital structure and the cost of common equity. A second reason
14 for this cost difference is that the cost of common equity must be
15 set at a marginal or current cost rate. Conversely, the cost of debt is
16 set at an embedded rate because the utility is incurring costs that
17 have been previously established in contracts with security holders.
18 Because the Commission has the duty to promote economic utility
19 service, it must decide whether a utility's requested capital structure
20 is appropriate for ratemaking purposes. An example of the cost
21 difference can be seen in the Company's filing. Based upon the
22 Company's requested capital cost rates, each dollar of its common
23 equity and long-term debt supporting the retail rate base has the

1 following approximate annual costs (including income tax and
2 regulatory fee) to ratepayers:

3 (1) Each \$1 of common equity costs a ratepayer
4 approximately 12 cents per year.

5 (2) Each \$1 of long-term debt costs a ratepayer
6 approximately 4 cents per year.

7 **Q. WHAT CAPITAL STRUCTURE HAS THE COMPANY**
8 **REQUESTED IN THIS CASE?**

9 A. The Company's application requests a proposed capital structure
10 that is comprised of 55.41% long-term debt, 44.12% common
11 equity, and 0.47% customer deposits, as shown below.

Pluris Webb Creek, LLC
Capital Structure
as of December 30, 2019

Item	Balance	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	\$ 3,442,610	55.41%	4.11%	2.28%
Common Equity	2,741,349	44.12%	9.60%	4.24%
Customer Deposits	29,175	0.47%	8.00%	0.04%
Total Capital	\$ 6,213,135	100.00%		6.56%

12 **Q. DO YOU SUPPORT THE CAPITAL STRUCTURE PROPOSED BY**
13 **THE COMPANY IN THIS CASE?**

14 A. No. I have reviewed the Company's proposed capital structure. The
15 Public Staff does not support the inclusion of customer deposits in
16 the Company's capital structure, given that these customer deposits
17 are reflected in the Public Staff's recommended cost of service.

1 **Q. WHAT IS YOUR RECOMMENDED CAPITAL STRUCTURE AND**
2 **COST OF LONG-TERM DEBT?**

3 A. My recommended capital structure is the Company's updated
4 capital structure, without customer deposits, of 55.32% long-term
5 debt, 44.68% equity. I also recommend an embedded cost of long-
6 term debt of 4.11%, which is the Company's debt cost as of June
7 30, 2020.

8 Pluris Webb Creek, LLC
9 Capital Structure
10 as of June 30, 2020

	Ratio	Cost Rate
11 Long-Term Debt	55.32%	4.11%
12 Common Equity	44.68%	
13 Total	100.00%	

14

15 **IV. THE COST OF COMMON EQUITY CAPITAL**

16 **Q. HOW DO YOU DEFINE THE COST OF COMMON EQUITY?**

17 A. The cost of equity capital for a firm is the expected rate of return on
18 common equity that investors require in order to induce them to
19 purchase shares of the firm's common stock. The investor-required
20 rate of return is expected, given the forward-looking nature of equity
21 investing. An investor only buys a share of a firm's common stock
22 when they expect their returns to be equal to, or greater than, the
23 return required to accept the risk of that stock investment.

1

A: DCF METHOD

2 **Q. HOW DID YOU DETERMINE THE COST OF COMMON EQUITY**
3 **CAPITAL FOR THE COMPANY?**

4 A. I used the discounted cash flow (DCF) model and the Risk
5 Premium model to determine the cost of equity for the Company.

6 **Q. PLEASE DESCRIBE YOUR DCF ANALYSIS.**

7 A. The discounted cash flow model is a method of evaluating the
8 expected cash flows from an investment by giving appropriate
9 consideration to the time value of money. The DCF model is based
10 on the theory that the price of the investment will equal the
11 discounted cash flows of returns. The return to an equity investor
12 comes in the form of expected future dividends and price
13 appreciation. However, as the new price will again be the sum of
14 the discounted cash flows, price appreciation is ignored, and
15 attention focused on the expected stream of dividends.
16 Mathematically, this relationship may be expressed as follows:

17 Let D_1 = expected dividends per share over the next twelve months;

18 g = expected growth rate of dividends;

19 k = cost of equity capital; and

20 P = price of stock or present value of the future income
21 stream.

1 Then,

$$2 \quad P = \frac{D_1}{1+k} + \frac{D_1(1+g)}{(1+k)^2} + \frac{D_1(1+g)^2}{(1+k)^3} + \dots + \frac{D_1(1+g)^{t-1}}{(1+k)^t}$$

5 This equation represents the amount an investor would be willing to
6 pay for a share of common stock with a dividend stream over the
7 future periods. Using the formula for a sum of an infinite geometric
8 series, this equation may be reduced to:

$$9 \quad P = \frac{D_1}{k-g}$$

12 Solving for k yields the DCF equation:

$$13 \quad k = \frac{D_1}{P} + g$$

16 Therefore, the rate of return on equity capital required by investors
17 is the sum of the dividend yield (D_1/P) plus the expected long-term
18 growth rate in dividends (g).

19 **Q. DID YOU APPLY THE DCF METHOD DIRECTLY TO PLURIS?**

20 A. No, Pluris does not have publicly traded stock. In order to estimate
21 the rate of return required by investors, I applied the DCF method
22 to risk-comparable investments comprised of a group water utilities
23 followed by Value Line Investment Survey (Value Line). The
24 standard edition of Value Line covers eight water companies. I

1 excluded Consolidated Water Co. because of its significant
2 overseas operations.

3 **Q. WHAT MEASURES OF RISK DID YOU REVIEW TO**
4 **DETERMINE THE COMPARABILITY OF INVESTING IN**
5 **WATER UTILITIES?**

6 A. I reviewed standard risk measures that are widely available to
7 investors that are considered by most investors when making
8 investment decisions. The beta coefficient is a measure of the
9 sensitivity of a stock's price to overall fluctuations in the market.
10 The Value Line beta coefficient describes the relationship of a
11 company's stock price with the New York Stock Exchange
12 Composite. A beta value of less than 1.0 means that the stock's
13 price is less volatile than the movement in the market;
14 conversely, a beta value greater than 1.0 indicates that the
15 stock price is more volatile than the market.

16 I also reviewed the Value Line Safety Rank, which is a measure
17 of the total risk of a stock. The Safety Rank is calculated by
18 averaging two variables: (1) the stock's index of price stability,
19 and (2) the Financial Strength rating of the company. In
20 addition, I reviewed the S&P Common Stock Rating. The stock
21 rating system takes into consideration two important factors in
22 the determination of a stock's rating: the stability and growth of
23 earnings and dividends. However, the stock rating does not

1 consider a company's balance sheet or other factors. The stock
2 rating system has seven grades, with A+ being the highest
3 rating possible.

4 Finally, I reviewed Moody's and S&P's Bond Rating, which are
5 assessments of the creditworthiness of a company. Credit rating
6 agencies focus on the creditworthiness of the particular bond
7 issuer, which includes a detailed and thorough review of the
8 potential areas of business risk and financial risk of the
9 company. These and other risk measures for the comparable
10 group are shown in my Exhibit 2 and are further explained in
11 Appendix A.

12 **Q. HOW DID YOU DETERMINE THE DIVIDEND YIELD**
13 **COMPONENT OF THE DCF?**

14 A. I calculated the dividend yield by using the Value Line estimate of
15 dividends to be declared over the next 12 months divided by the
16 price of the stock, as reported in the Value Line Summary and
17 Index sections for each week of the 13-week period of July 3, 2020
18 through September 25, 2020. A 13-week averaging period tends to
19 smooth out short-term variations in the stock prices. This process
20 resulted in an average dividend yield of 1.8% for the comparable
21 group of water utilities.

1 **Q. HOW DID YOU DETERMINE THE EXPECTED GROWTH RATE**
2 **COMPONENT OF THE DCF?**

3 A. I employed the growth rates of the comparable group in earnings
4 per share (EPS), dividend per share (DPS), and book value per
5 share (BPS) as reported in Value Line over the past ten and five
6 years. I also employed the forecasts of the growth rates of the
7 comparable group in EPS, DPS, and BPS, as reported in Value
8 Line. The historical and forecast growth rates are prepared by
9 analysts of an independent advisory service that is widely available
10 to investors and should also provide an estimate of investor
11 expectations. I include both historical known growth rates and
12 forecast growth rates because it is reasonable to expect that
13 investors consider both sets of data in deriving their expectations.
14 Finally, I incorporated the consensus of various analysts' forecasts
15 of five-year EPS growth rate projections, as reported in Yahoo
16 Finance. The dividend yields and growth rates for each of the
17 companies, is shown in my Exhibit 4.

18 **Q. WHAT IS YOUR CONCLUSION REGARDING THE COST OF**
19 **COMMON EQUITY TO THE COMPANY BASED ON THE DCF**
20 **METHOD?**

21 A. Based upon the DCF analysis for the comparable group of water
22 utilities, I determined that a reasonable expected dividend yield is
23 1.8% with an expected growth rate of 6.30% to 7.30%, which yields

1 an estimated cost of equity range of 8.10% to 9.10%. In making
2 that determination, I gave primary weight to the DCF results with
3 the forecasted EPS growth rates from Value Line and Yahoo
4 Consensus EPS, and additionally, my determination was influenced
5 by historical averages. My estimate for the lower end of the range
6 was based on the average DCF result using both historical and
7 forecast growth rate data.

8 **B: REGRESSION ANALYSIS METHOD**

9 **Q. PLEASE DESCRIBE YOUR RISK PREMIUM ANALYSIS.**

10 A. The equity risk premium method is defined as the difference
11 between the expected return on a common stock and the expected
12 return on a debt security. The differential between the two rates of
13 return is indicative of the return investors require in order to
14 compensate them for the additional risk involved with an investment
15 in the Company's common stock over an investment in the
16 Company's bonds that involves less risk.

17 In order to quantify the risk premium, I used estimates of the cost of
18 equity and the cost of debt at contemporaneous points in time. This
19 method relies on approved returns on common equity for water
20 utility companies from various public utility commissions that are
21 published by the Regulatory Research Associates, Inc. (RRA),
22 within S&P Global Market Intelligence. In order to estimate the

1 relationship with a representative cost of debt capital, I have
2 regressed the average annual allowed equity returns with the
3 average Moody's A-rated yields for Public Utility bonds from
4 January 1, 2006 through June 30, 2020. The regression analysis,
5 which incorporates years of historical data, is combined with recent
6 monthly yields to provide an estimate of the current cost of common
7 equity.

8 **Q. WHAT ARE THE STRENGTHS OF USING ALLOWED RETURNS?**

9 A. The use of allowed returns as the basis for the expected equity
10 return has strengths over other approaches that involve models that
11 subtract a cost rate of debt from the estimated equity return. One
12 strength of my approach is that authorized returns on equity are
13 based on lengthy investigations by various parties with opposing
14 views on the rate of return required by investors. Thus, it is
15 reasonable to conclude that the approved allowed returns are good
16 estimates for the cost of equity.

17 **Q. WHAT WERE THE RESULTS OF YOUR RISK PREMIUM**
18 **ANALYSIS?**

19 A. The summary data of risk premiums shown on my Exhibit 5, page 1
20 of 2 indicates that the average risk premium is 5.06%, with a
21 maximum premium of 6.05% and minimum premium of 3.73%,
22 which when combined with the average of the last six months of A-

1 rated bond yields produces yields with an average cost of equity of
2 8.28%, a maximum cost of equity of 9.27%, and a minimum cost of
3 equity of 6.95%. However, to better estimate the current cost of
4 equity, I employ a statistical regression in order to quantify the
5 relationship of allowed equity returns and bond costs. My Exhibit 5,
6 page 2 of 2, displays a regression analysis of the data that
7 indicates a significant statistical relationship between the allowed
8 equity returns and bond costs, such that a one percent decrease in
9 the bond cost corresponds to an increase of approximately 30 basis
10 points in the equity risk premium.² While various studies on the cost
11 of equity capital have differed on the level of the negative
12 relationship of interest rates and risk premiums, there has been
13 agreement that as interest rates fall, there is an increase in the
14 premium.³ Applying this relationship to the current utility bond cost
15 of 3.22%⁴ resulted in a current estimate of the cost of equity of
16 9.37%.

17 **Q. GIVEN YOUR STUDY ON THE COST OF EQUITY, WHAT IS YOUR**
18 **RECOMMENDED COST OF EQUITY?**

² The regression indicated a significant statistical relationship of $ROE=0.08424 + 0.29246$, with an adjusted $R^2=0.80078$.
³ 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, pp 33-45.
⁴ The 3.22% current bond yield was determined using the most recent six-month average yield-to-maturity rate of Moody's A-rated Utility Bond Yields.

1 A. My recommended cost of equity is based on the results of my DCF
2 model, which indicates a range of 8.10% to 9.10%, and my Risk
3 Premium model that indicates an approximate cost of equity of
4 9.40%. The approximate average of those two results is 9.00%,
5 which I maintain, is a reasonable estimate of the investor-required
6 rate of return on common equity for Pluris.

7 **Q. WHAT OTHER EVIDENCE DID YOU CONSIDER IN YOUR**
8 **ASSESSMENT OF THE REASONABLENESS OF YOUR**
9 **RECOMMENDED RETURN?**

10 A. In regard to reasonableness assessment with financial risk, I
11 considered the pre-tax interest coverage ratio produced by my cost
12 of capital recommendation. Based on the recommended capital
13 structure, cost of debt, and equity return of 9.00%, the pre-tax
14 interest coverage ratio is approximately 3.3 times.

15 **Q. TO WHAT EXTENT DOES YOUR RECOMMENDED RATE OF**
16 **RETURN ON EQUITY TAKE INTO CONSIDERATION THE**
17 **IMPACT OF CHANGING ECONOMIC CONDITIONS ON PLURIS'**
18 **CUSTOMERS?**

19 A. I am aware of no clear numerical basis for quantifying the impact of
20 changing economic conditions on customers in determining an
21 appropriate return on equity in setting rates for a public utility.
22 Rather, the impact of changing economic conditions nationwide is

1 inherent in the methods and data used in my study to determine the
2 cost of equity for utilities that are comparable to Pluris. I have
3 reviewed certain information on the economic conditions in Onslow
4 County, specifically, the 2013 through 2018 data on total personal
5 income from the Bureau of Economic Analysis (BEA) and the
6 Development Tier Designations published by the North Carolina
7 Department of Commerce for Onslow County, where Pluris' system
8 is located.

9 The BEA data indicates that from 2013 to 2018, total personal
10 income in Onslow County grew at a compound annual growth rate
11 (CAGR) of 1.8%, which is lower than the rate of 3.8% for the whole
12 state.

13 The North Carolina Department of Commerce annually ranks the
14 state's 100 counties based on economic well-being and assigns
15 each a Tier designation. The most distressed counties are rated a
16 "1" and the most prosperous counties are rated a "3." The rankings
17 examine several economic measures such as household income,
18 poverty rates, unemployment rates, population growth, and per
19 capita property tax base. The 40 most distressed counties are
20 designated as Tier 1, the next 40 as Tier 2, and the 20 least
21 distressed as Tier 3. This yields an average county Tier ranking of
22 1.8 for the state. Onslow County is designated a Tier 1 ranking,
23 lower than the state average.

1 These economic measures indicate that Pluris’s service area has
2 experienced relatively slower economic growth, compared to the
3 rest of North Carolina. The apparent military presence associated
4 with Camp Lejeune and proximity to the coast, however, could
5 bolster customers’ ability to pay for utility service.

6 **Q. WHAT HAS BEEN THE IMPACT OF THE CORONAVIRUS**
7 **PANDEMIC ON THE UNEMPLOYMENT RATES IN ONSLOW**
8 **COUNTY, WHERE PLURIS’S SERVICE TERRITORY IS**
9 **LOCATED?**

10 A. While it is too early to tell its full impacts, the coronavirus pandemic
11 has led to an increase in unemployment throughout the state of
12 North Carolina. The North Carolina Department of Commerce
13 issued a press release on September 2, 2020, which stated that the
14 unemployment rate (not seasonally adjusted) increased in 99 of the
15 state’s 100 counties during July 2020. Unemployment numbers
16 have improved in recent months, receding from a high point of
17 unemployment of 12.7% for the state, and 11.7% for Onslow
18 County in May 2020. The September 2, 2020 release indicated that
19 the statewide unemployment rate (not seasonally adjusted) for July
20 2020 was 8.9%. The July 2020 unemployment rate (not seasonally
21 adjusted) for Onslow County (8.3%) was slightly lower than the
22 state’s unemployment rate (not seasonally adjusted) (8.9%).

1 As discussed above, it is the Commission's duty to set rates as low
2 as reasonably possible consistent within constitutional constraints.
3 This duty exists regardless of the customers' ability to pay.
4 Moreover, the rate of return on common equity is only one
5 component of the rate established by the Commission. N.C. Gen.
6 Stat. § 62-133 sets out a formula for the Commission to follow in
7 determining a utility's overall revenue requirement. It is the
8 combination of rate base, expenses, capital structure, cost rates for
9 debt and equity capital, and capital structure that determines how
10 much customers pay for utility service and how much investors
11 receive in return for their investment. The Commission must
12 exercise its best judgment in balancing the interests of both groups.
13 My analysis indicates that my recommended rate of return on
14 equity will allow the Company to properly maintain its facilities,
15 provide adequate service to its customers, attract capital on terms
16 that are fair and reasonable to its customers and investors, and will
17 result in rates that are just and reasonable.

18 **V. SUMMARY AND RECOMMENDATIONS**

19 **Q. WOULD YOU PLEASE SUMMARIZE YOUR**
20 **RECOMMENDATIONS CONCERNING THE COST OF CAPITAL?**

21 **A.** Based upon the results of this study, it is my recommendation that
22 the appropriate capital structure to employ for ratemaking purposes

1 in this proceeding consists of 55.32% long-term debt and 44.68%
2 common equity. The appropriate embedded cost of long-term debt
3 associated with this capital structure is 4.11% and the
4 recommended cost of common equity of 9.00%. My recommended
5 overall weighted cost of capital produced is 6.29%, as shown in
6 Lozier Exhibit 5.

7 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

8 A. Yes.

RISK MEASURES

VALUE LINE SAFETY RANK

The Safety Rank is a measure of the total risk of a stock. It includes factors unique to the company's business such as its financial condition, management competence, etc. The Safety Rank is derived by averaging two variables: the stock's Price Stability Index, and the Financial Strength Rating of the company. The Safety Rank ranges from 1 (Highest) to 5 (Lowest).

VALUE LINE BETA (β)

The Beta is derived from a regression analysis between weekly percent changes in the price of a stock and weekly percent price changes in the New York Stock Exchange Composite Index over a period of five years.

There has been a tendency over the years for high Beta stocks to become lower and for low Beta stocks to become higher. This tendency can be measured by studying Betas of stocks in five consecutive intervals. The Betas published in the Value Line Investment Survey are adjusted for this tendency and hence are likely to be better predictors of future Betas than those based exclusively on the experience of the past five years.

The New York Stock Exchange Composite Index is used as the basis for calculating the Beta because this index is a good proxy for the complete equity portfolio. Since Beta's significance derives primarily from its usefulness in portfolios rather than individual stocks, it is best constructed by relating to an overall market portfolio. The Value Line Index, because it weights all stocks equally, would not serve as well.

The security's return is regressed against the return on the New York Stock Exchange Composite Index over the past five years so that 259 observations of weekly price changes are used. Value Line adjusts its estimate of Beta (β_i) for regression described by Blume (1971). The estimated Beta is adjusted as follows:

$$\text{Adjusted } \beta_i = 0.35 + 0.67\beta$$

VALUE LINE FINANCIAL STRENGTH RATING

The Financial Strength Ratings are primarily a measure of the relative financial strength of a company. The rating considers key variables such as coverage of debt, variability of return, stock price stability, and company size. The Financial Strength Ratings range from the highest at A++ to the lowest at C.

VALUE LINE PRICE STABILITY INDEX

The Price Stability Index is based upon a ranking of the standard deviation of weekly percent changes in the price of a stock over the last five years. The top 5% carry a Price Stability Index of 100; the next 5%, 95; and so on down to an Index of 5.

VALUE LINE EARNINGS PREDICTABILITY INDEX

The Earnings Predictability Index is a measure of the reliability of an earnings forecast. The most reliable forecasts tend to be those with the highest rating (100), the least reliable (5).

S&P BETA (β)

The Beta is derived from a regression analysis between 60 months of price changes in a company's stock price (plus corresponding dividend yield) and the monthly price changes in the S&P 500 Index (plus corresponding dividend yield). Prices and dividends are adjusted for all subsequent stock splits and stock dividends.

S&P BOND RATING

The S&P Bond Ratings is an appraisal of the credit quality based on relevant risk factors. S&P reviews both the company's financial and business profiles. Shown below are the rankings:

- AAA An extremely strong capacity to pay interest and repay principal.
- AA+ A very strong capacity to pay interest and repay principal.
AA There is only a small degree of difference between "AAA" or "AA."
AA- debt issues.
- A+ A strong capacity to pay interest and repay principal. These
A these ratings indicate the obligor is more susceptible to
A- changes in economic conditions than AAA" or "AA" debt issues.
- BBB+ An adequate capacity to pay interest and repay principal.
BBB economic conditions or changing circumstances are more likely to
BBB- lead to a weakened capacity to pay interest and repay principal.
- BB+ "BB" indicates less near-term vulnerability to default than other
BB speculative issues. However, these bonds face major ongoing
BB- uncertainties or exposure to adverse conditions that could lead to
inadequate capacity to meet timely interest and principal payments.

S&P STOCK RANKING

The S&P Stock Rankings is an appraisal of the growth and stability of the company's earnings and dividends over the past 10 years. The final score for each stock is measured against a scoring matrix determined by an analysis of the scores of a large and representative sample of stocks. Shown below are the rankings:

- A+ Highest
A High
A- Above average
B+ Average
B Below Average
B- Lower
C Lowest
D In Reorganization
NR Not rated

MOODY'S BOND RATING

Moody's Bond Ratings assign a rating on the creditworthiness of an obligor. Such ratings reflect both the likelihood of default and any financial loss suffered in the event of a default. Shown below are the rankings:

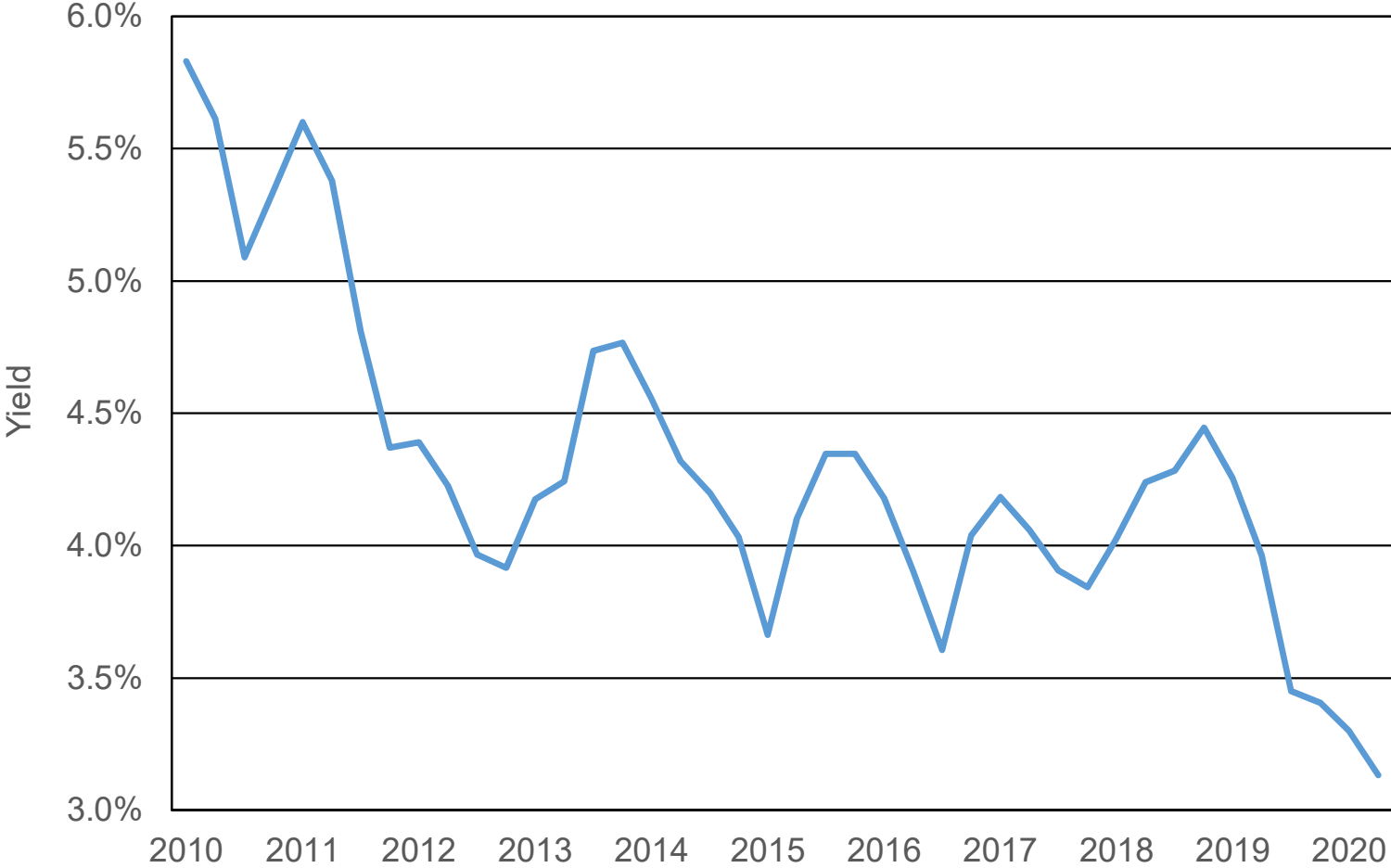
- Aaa Obligations rated Aaa are judged to be of the highest quality with minimal risk.
- Aa Obligations rated Aa are judged to be of the high quality and are subject to low credit risk.
- A Obligations rated A are considered upper-medium-grade and are subject to low credit risk.
- Baa Obligations rated Baa are subject to moderate credit-risk. They are considered medium-grade and are subject to substantial credit risk.
- Ba Obligations rated Ba are subject to have speculative and are subject to substantial credit risk.
- B Obligations rated B are considered speculative and are subject to high credit risk.
- Caa Obligations rated Caa are judged to be of poor standing and are subject to very high credit risk.
- Ca Obligations rated Ca are highly speculative and are likely in, or very near default with some prospect of recovery in principle and interest.
- C Obligations rated C are the lowest-grade class of bonds and are typically in default, with little prospect of recovery in principle and interest.

Sources:

1. Value Line Investment Analyzer, Version 3.0.15a, New York, NY.
2. Standard & Poor's, Utility Compustat II, September 15, 1993, New York, NY.

Moody's A-Rated Utility Bond Yields

(averaged over a quarter)



Investment Risk Measures

Group of Water Utility Companies

Company Name	Value Line ¹					S&P ² Beta	S&P ² Quality Ranking	S&P ³ Bond Rating	Moody's ³ Bond Rating
	Safety		Price	Earnings	Financial				
	Rank	Beta	Stability	Predict.	Strength				
1 American States Water	2	0.65	100	85	A	-0.1	A	A+	NA
2 American Water Works	3	0.85	85	80	B++	0.25	A-	A	Baa1
3 California Water Service	3	0.65	90	65	B++	0	A-	A+	NA
4 Essential Utilities	2	0.90	90	60	A	0.48	A	A	Baa2
5 Middlesex Water	2	0.75	80	75	B++	0.23	A	A	NA
6 SJW Group	3	0.80	75	45	B+	0.27	B+	A-	NA
7 York Water	3	0.80	75	95	B+	0.15	A	A-	NA
Average	2.6	0.77	85	72		0.18			

Source:

¹ Value Line Investment Survey, Standard Edition, July 10, 2020

² S&P Global Market Intelligence, CFRA Stock Report, August 24, 2020

³ S&P Global Market Ratings, downloaded on September 1, 2020.

DCF ANALYSIS

Group of Water Utility Companies

Company Name	Yield ¹	Value Line ² Historical						Value Line ² Forecast			Yahoo Forecast ³
		EPS	DPS	BPS	EPS	DPS	BPS	EPS	DPS	BPS	EPS
		10-Yr	10-Yr	10-Yr	5-Yr	5-Yr	5-Yr	5-Yr	5-Yr	5-Yr	5-Yr
1 Amer. States Water	1.7	9.5	8.0	5.5	5.0	7.5	4.0	6.5	9.5	5.5	5.3
2 Amer. Water Works ⁴	1.6	45.5	16.0	2.5	6.5	10.5	4.0	8.5	8.5	5.0	8.3
3 California Water	1.8	4.5	2.5	4.5	4.5	3.5	4.5	6.5	5.5	1.0	11.5
4 Essential Utilities	2.3	7.0	7.5	8.0	1.5	8.0	9.0	7.0	7.5	7.0	6.4
5 Middlesex Water	1.6	8.0	2.5	4.5	12.0	4.0	6.0	6.0	5.5	1.5	2.7
6 SJW Group	2.0	7.5	6.0	7.5	4.5	9.0	12.0	10.5	6.0	5.5	14.1
7 York Water Co.	1.6	6.0	3.0	4.5	6.0	4.0	4.0	6.0	5.5	4.0	4.9
Average	1.8	7.1	6.5	5.3	5.7	6.6	6.2	7.3	6.9	4.2	7.6
Estimated Cost of Equity		8.9	8.3	7.1	7.5	8.4	8.0	9.1	8.7	6.0	9.4

Sources:

1. Value Line Investment Survey, Summary and Index from July 3, 2020 to September 25, 2020.
2. Value Line Investment Survey, Standard Edition, July 10, 2020.
3. Yahoo Earnings Forecast as of September 22, 2020.
4. American Water Works 45.5% 10-year EPS Growth Rate is excluded from the analysis.

REGRESSION ANALYSIS OF ALLOWED RETURNS ON EQUITY
 FOR WATER UTILITIES

Year	[A] Water Utilities Approved Returns on Equity ¹	[B] Moody's A-Rated Bond Yields ²	[C]=[A]-[B] Water Utility Risk Premium
2006	10.23%	6.07%	4.16%
2007	10.07%	6.05%	4.02%
2008	10.24%	6.51%	3.73%
2009	10.18%	6.04%	4.14%
2010	10.18%	5.47%	4.71%
2011	10.04%	5.04%	5.00%
2012	9.90%	4.13%	5.77%
2013	9.73%	4.48%	5.25%
2014	9.59%	4.28%	5.31%
2015	9.76%	4.12%	5.64%
2016	9.71%	3.93%	5.78%
2017	9.56%	4.00%	5.56%
2018	9.41%	4.25%	5.16%
2019	9.37%	3.77%	5.60%
2020	9.27% ³	3.22% ⁴	6.05%
		Average	5.06%
		Maximum	6.05%
		Minimum	3.73%

Sources:

¹ Regulatory Research Associates, Water Advisory, February 4, 2020.

² Moody's Credittrends.

³ S&P Global Market Intelligence, Water utility ROE declines due to unfavorable SC decision, May 11, 2020. The 9.27% is the average of 9.50% for CWSNC, 9.50% for SUEZ Water of Delaware, and the 8.80% for SUEZ Water of New York.

⁴ Average yield data for the first half 2020.

REGRESSION ANALYSIS OF ALLOWED RETURNS ON EQUITY
 FOR WATER UTILITIES

<i>Regression Statistics</i>	
Multiple R	0.90278056
R Square	0.81501273
Adjusted R Square	0.80078295
Standard Error	0.00147945
Observations	15

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.000125362	0.00012536	57.275	4.08409E-06
Residual	13	2.8454E-05	2.1888E-06		
Total	14	0.000153816			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.08424694	0.001877665	44.8679231	1.22E-15
X Variable 1	0.29245498	0.038643466	7.56803196	4.08E-06

A-Rated Public Utility Bond Yield	
Jan-20	3.29%
Feb-20	3.11%
Mar-20	3.50%
Apr-20	3.19%
May-20	3.14%
Jun-20	3.07%
Average	3.22%

Predicted Cost of Equity **9.37%**

Note:

Predicted Cost of Equity of 9.37% = 0.0842469 + 0.292455 x 3.22%.

Pluris Webb Creek, LLC.
Cost of Capital as of June 30, 2020

Item	Ratios	Cost Rate	Weighted Cost Rate	Pre-Tax Cost of Capital
Long-Term Debt	55.32%	4.11%	2.27%	2.27%
Common Equity	44.68%	9.00%	4.02%	5.23%
Total	100.00%		6.29%	7.50%

Pre-Tax Interest Coverage 3.3