# Jun 30 2022

### STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. W-218 SUB 573

IN THE MATTER OF APPLICATION BY	
AQUA NORTH CAROLINA, INC., FOR	DIRECT TESTIMONY OF P.
AUTHORITY TO ADJUST AND INCREASE	DAVID HADD ON BEHALF OF
RATES FOR WATER AND SEWER	AQUA NORTH CAROLINA, INC.
UTILITY SERVICE IN ALL SERVICE	
AREAS IN NORTH CAROLINA	

APPENDIX 3 SCHEDULE 4

Jun 30 2022 OFFICIAL COPY

### STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. W-218, SUB 573

### BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

#### IN THE MATTER OF APPLICATION BY AQUA NORTH CAROLINA, INC., 202 MACKENAN COURT, CARY, NORTH CAROLINA 27511, FOR AUTHORITY TO ADJUST AND INCREASE RATES FOR WATER AND SEWER UTILITY SERVICE IN ALL SERVICE AREAS IN NORTH CAROLINA

### PREFILED DIRECT TESTIMONY OF **P. David Haddad** ON BEHALF OF AQUA NORTH CAROLINA, INC.

June 30, 2022

PREFILED DIRECT TESTIMONY OF DAVID HADDAD PAGE 1 OF 18

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Q.

### PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is David Haddad, I am a consultant with Regulated Capital Consultants, LLC (RCC), and my business address is 4355 Cobb Parkway, Suite J255, Atlanta, GA 30339. My role in this case is to provide support to the Aqua North Carolina (Aqua North Carolina, ANC, or Company) finance team to manage delivery of all filing requirements associated with the North Carolina Utilities Commission (NCUC or Commission) Form W1 (Items 1-30). Specifically, I have worked with the Company to develop the rate case accounting model exhibits to satisfy the requirements of NCUC Rule R1-17A in relation to the Water System Improvement Plan (WSIP).

### 11 Q. PLEASE BRIEFLY DESCRIBE YOUR BUSINESS EXPERIENCE.

12 My professional experience incorporates over 35 years in the energy/utility Α. 13 industry. Prior to joining RCC, I worked 27 years in various segments of the 14 utility sector as regulatory compliance/policy professional. I started my 15 career in 1986 working in the rate department of an interstate gas 16 transmission & storage company as a rate analyst and revenue accountant. 17 I then moved to the local gas distribution business as a manager and then 18 director of regulatory policy. In this role I served as the company liaison to 19 the respective commission, staff and advocates. I also managed the utility 20 regulatory process (rate cases, audits, gas cost recovery filings, etc.) with 21 oversight of the company tariffs before the respective commissions. In 2014 22 I joined RCC as a consultant. In this role I have provided the following

2022	
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<b>J</b>	

1		services to clients:
2		Project management
3		<ul> <li>Review and analysis of tax flow through and normalization policies</li> </ul>
4		<ul> <li>Rate case management and revenue requirement modeling</li> </ul>
5		<ul> <li>Technical and functional assistance, client support and remediation</li> </ul>
6		Clients that I have provided consulting services to include: American Water,
7		Ameren Company, Atmos Energy, Central Hudson Gas & Electric, Central
8		Louisiana Electric Company, Dominion Energy, Duquesne Light Company,
9		First Energy, Pepco Holdings Inc, Tucson Electric Power, We Energies,
10		PPL Corporation, Southwest Gas Company and Upper Peninsula Power
11		Company.
12	Q.	PLEASE DISCUSS YOUR EDUCATIONAL AND PROFESSIONAL
13		BACKGROUND.
14	Α.	I am a graduate of West Virginia University Institute of Technology with a
15		Bachelor of Science degree in Business Management.
16	Q.	HAVE YOU EVER TESTIFIED BEFORE A REGULATORY COMMISSION
17		BEFORE?
18	A.	Yes. I have submitted testimony before the Pennsylvania Public Utility
19		Commission in Docket Nos. C-20031302, et al., R-00038245, R-00049783,
20		R-00050340, R-00072175, R-2008-2011621, and R-2009-2093219. I have
21		also testified before the Maryland Public Service Commission in Case Nos.
22		9159, 8511(aa) 8511(bb).

1	Q.	WHAT IS THE PURPOSE OF YOUR TESTIMONY?
2	А.	The purpose of my testimony is to address certain financial aspects of the
3		rate case. These are, specifically:
4		1) capital structure,
5		2) rate design,
6		3) the conservation pilot program, and
7		4) the Consumption Adjustment Mechanism.
8	Q.	WHAT TEST YEAR PERIOD DOES YOUR TESTIMONY ADDRESS?
9	Α.	My testimony addresses the test year beginning January 1, 2021,
10		through December 31, 2021, as well as certain adjustments that extend
11		into the post-test year period (2022) and are pro forma in nature. The
12		rate design periods under the proposed WSIP are calendar years 2023,
13		2024 and 2025 representing Rate Years $1 - 3$ , respectively.
14		1. CAPITAL STRUCTURE
15	Q.	WHAT IS THE COMPANY'S PROPOSED CAPITAL STRUCTURE IN
16		THIS RATE CASE?
17	Α.	The Company proposes a ratio of 50% equity and 50% long-term debt
18		in the financing of its operations. This ratio is consistent with the
19		structure approved by the Commission in prior rate cases. The
20		proposed cost of debt used in the WSIP is 4.01%. This rate was
21		derived from the long-term borrowings of the Company as of May
22		2022. When including the proposed cost of equity rate of 10.40%

1		supported by Company expert witness Dylan D'Ascendis, the resulting				
2		proposed overall rate of return is 7.21%. Please see Mr. D'Ascendis'				
3		direct testimony for additional analysis related to capital structure.				
4		2. RATE DESIGN				
5	Q.	WHAT DO YOU PROPOSE IN YOUR RATE DESIGN WITH RESPECT				
6		TO THE DISTRIBUTION BETWEEN BASE FACILITY CHARGES AND				
7		VOLUMETRIC RATES?				
8	A.	The Company proposes no modification to the fixed/variable ratio from				
9		that proposed by the Public Staff and approved by the Commission in				
10		the Company's last rate case (Docket No. W-218, Sub 526). That				
11		structure includes allocations of fixed charges (base facility charges				
12		(BFC)) and volumetric consumption charges for the average water				
13		customer as follows:				
		Entity Fixed/BFC Volumetric				
		ANC 41.4% 58.6%				
		Brookwood 41.0% 59.0% Fairways 44.0% 56.0%				
14						
15		Similarly, the Company proposes no modification to the previously				
16		approved fixed/variable structure for its metered wastewater customers				
17		(the unmetered are subject to a flat rate charge).				
		Prefiled Direct Testimony of David Haddad				

		WW Rat Division		Volumetric	% Of Meter Customers			
		ANC	80%	20%	58%			
1		Fairways	80%	20%	94%			
2	Q.	DO YOU SPONS	OR ANY EXHIBI	TS IN THIS	CASE REL	ATED TO		
3		RATE DESIGN?						
4	A.	Yes. The billing det	erminants, propos	ed rates, and r	evenues are	e contained		
5		in the Company's ap	oplication Exhibits	F, H, and J. Th	e historical	data trends		
6		and proposed rate	effects are conta	ained in those	exhibits.	The direct		
7		testimony that follow	ws will discuss the	e development	of the data	a contained		
8		therein. These item	ns take into consic	leration the W	SIP being re	equested in		
9		this proceeding.	this proceeding.					
10	Q.	PLEASE DESCRIBE THE BILLING DETERMINANTS INCLUDED IN						
11		THE PROPOSED RATE DESIGN.						
12	A.	Historical billing de	terminants consis	t of the numb	er of bills a	and gallons		
13		used by customers	by class by month	n over the test	year and th	e two prior		
14		years. Billing determinants for the pro forma rate design years, Rate Years						
15		1 – 3, are projected	as discussed belo	DW.				
16	Q.	PLEASE DESCRI	BE THE METHC	D USED TO	DEVELOF	' BILLING		
17		DETERMINANTS.						
18	A.	Billing information v	was obtained cove	ering three 12	-month peri	ods ending		
19		December 31, of 20	019, 2020, and 20	21. From those	se reports, t	he number		
20		of bills and consum	ption in each mon	th of those thre	ee years wa	s compiled		
		Prefi	LED DIRECT TESTIMON PAGE 6 OF 1		D			

by tariff division, class of service, and meter size.

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# 2 Q. HOW DID YOU VALIDATE THE ACCURACY OF THE TEST PERIOD 3 BILLING DETERMINANTS?

A. The number of bills, consumption volumes, and dollar amounts charged in
the test year were analyzed and compared to the base and usage rates in
effect during the test year for the various meter sizes and rate groups.
These test year charges were reconciled to the test year booked revenue
to within less than one percent, thereby validating the accuracy of the
developed billing determinants.

### 10Q.IS A USAGE ADJUSTMENT INCLUDED IN DEVELOPMENT OF PRO11FORMA DETERMINANTS?

A. Yes. Consistent with past practice, the average test year usage per bill was
 compared to the average usage per bill in the 3-year period ending with the
 test year. A 3-Year / Test Year factor was calculated, and that factor was
 applied to the test year usage volumes to obtain normalized average test
 year usage per bill.

# 17Q.HOW WAS TEST PERIOD DATA ADJUSTED TO ACCOUNT FOR18END-OF-PERIOD CUSTOMERS?

A. The customer count in the last month of the test period (December 2021)
was normalized to an annual number of bills. In each category (tariff group,
class, meter size) these normalized bill numbers were multiplied by the
normalized average test year usage per bill to get normalized annual usage.

1	Q.	IS A GROWTH ADJUSTMENT INCLUDED IN DEVELOPMENT OF
2		PRO FORMA BILLED-MONTHS BILLING DETERMINANTS?
3	Α.	Yes, the Company is projecting growth of customers through calendar year
4		2025. These projections are based on recent growth history for each rate
5		division. Additional bills and proportional additional usage were added to
6		Pro Forma calculations in anticipation of that growth.
7	Q.	DO YOU BELIEVE THAT THE LEVEL OF PRO FORMA REVENUES
8		AT PRESENT RATES AS SHOWN ON EXHIBIT H IS APPROPRIATE
9		FOR SETTING RATES IN THIS CASE?
10	Α.	Yes, present rates were applied to the Pro Forma billing determinants for
11		Rate Year 1 to calculate Pro Forma revenue at Present Rates, and I submit
12		this is correct.
13	Q.	HOW WERE THE PROPOSED RATES DEVELOPED?
14	Α.	Proposed base charges and volumetric rates were developed so that, when
15		applied to the Pro Forma billing determinants, the rates would result in an
16		expected revenue amount that matched the applied-for revenue
17		requirements within an acceptable rounding margin of one tenth of a
18		percent. This "proof of revenue" is shown in application Exhibit H in the
19		column for proforma revenue at proposed rates.
20	Q.	DID YOU MAKE ANY RATE STRUCTURE CHANGES IN PROPOSED
21		RATES?
22	Α.	Yes, changes are proposed for the rate structures of Carolina Meadows and
		PREFILED DIRECT TESTIMONY OF DAVID HADDAD PAGE 8 OF 18

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for customers with sewer treatment purchased from Charlotte Water.

### Q. WHAT CHANGE WAS MADE FOR CAROLINA MEADOWS?

A. In settlement of the last Aqua rate case, to minimize rate shock, the
Residential Equivalent Units (REUs) for rate design were set at 186 (i.e.,
50% of the Public Staff's count of 372 REUs). The structure change in this
case is to use fully calculated REUs for rate design.

## Q. WHAT CHANGE WAS MADE FOR CUSTOMERS USING SEWER 8 TREATMENT FROM CHARLOTTE WATER?

A. Aqua experienced a significant number of billing complaints from its sewer
customers in the Huntley Glen, Park South and Parkway Crossing
subdivisions immediately following the approved rate changes per the
Commission's Order of October 26, 2020, in Docket No. W-218 Sub 526.

13 Aqua's sewer customers in these subdivisions (approx. 997) have treatment 14 provided by Charlotte Water (the City). The City bills Aqua for sewer 15 treatment. Aqua effectively "passes-through" the City's usage rate to these 16 metered sewer customers by replacing Aqua's volumetric usage rate with 17 the City's for customer billing purposes. Prior to the ruling in the last rate 18 case, these pass-through customers paid a base facility charge at the same 19 scale as Aqua's Monthly Metered Service (commercial) tariff customers; 20 that base charge was about 36% of the flat rate charged to the ANC-Uniform 21 sewer rate customers. In the last case, most ANC-Uniform sewer 22 customers moved from a monthly flat rate to metered sewer usage rates

plus and a monthly base facility charge; 80% fixed and 20% volumetric. At that time, the Charlotte Water treatment customers also had their base charges aligned with the ANC-Uniform sewer rate customers, which increased their monthly base facility charge; however, their usage rate remained the same Charlotte Water usage pass-through rate, which was not reduced to adjust for the increase in the fixed component like the rest of the ANC-Uniform metered customers usage rates were. An unintended consequence of that rate structure ordered in the last case was that these metered residential sewer customers received a rate increase of a much higher percentage than other Aqua Sewer customers, and they have been paying higher bills than the ANC-Uniform sewer customers for comparative usage since then.

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Aqua seeks to remedy the billing imbalance placed upon these customers by consolidating these customers and their related purchased sewer costs into the ANC sewer utility service tariff for "Monthly Metered Service (residential and commercial customers)", eliminating their pass-through billing, and including the purchased sewer costs with ANC Sewer O&M expenses.

### 3. CONSERVATION PILOT PROGRAM (Pilot)

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 Q. PLEASE DESCRIBE THE PILOT WATER CONSERVATION TIERED

 21
 RATE STRUCTURE.

A. In Docket No. W-218, Sub 526, the Commission authorized a pilot program

1		with inclining block tiered water rates in these ANC systems:
2		Arbor Bay
3		Bayleaf Master System
4		Merion
5		Pebble Bay
6		Blocks chosen for residential domestic service were:
7		Block 1 – 0 to 4,000 gallons
8		Block 2 – 4,001 to 8,000 gallons
9		Block 3 – 8,001 to 15,000 gallons
10		Block 4 – 15,001 gallons or more
11		Rates were set so that the first 4,000 gallons in any month are billed at
12		65% of the single block usage rate of the non-tiered areas, the next 4,000
13		gallons at 97%, the next 7,000 gallons at 146%, and all above 15,000
14		gallons at 195%.
15		Blocks chosen for irrigation service on separate irrigation meters were:
16		Block 1 – 0 to 15,000 gallons
17		Block 2 – 15,001 gallons or more
18		Rates for irrigation blocks 1 and 2 are the same as domestic blocks 3 and
19		4.
20	Q.	IS AQUA PROPOSING TO CONTINUE THE PILOT IN THIS CASE?
21	Α.	The Commission's Order of October 26, 2020, in Docket No. W-218, Sub
22		526, Finding of Fact No. 39, p. 12, calls for Aqua to analyze and apply the

1 results of a Conservation Rate Pilot Program (Pilot) to future rate structures 2 and apply "at least two summer irrigation seasons but should conclude 3 within three years of the implementation date or the effective date of new 4 base rates in a general rate case application, whichever is earlier." The 5 Pilot has only been in place for one full irrigation season and the results are insufficient to adequately utilize for the development of future rate structures 6 7 at the time of this filing. While the Commission's Order of October 26, 2020, 8 in Docket No. W-218, Sub 526, also indicates that the Pilot should conclude 9 within three years of the implementation date, the Commission Order was 10 not drafted with the knowledge that a WSIP would be in place that may provide for a projection of three prospective Rate Years and, therefore, 11 conflict with the possibility to satisfactorily incorporate the impact of 12 13 conservation rates into its rate design. For these reasons, Aqua requests 14 that the previously approved Pilot be continued until Aqua's next rate case filing, along with its revenue reconciliation component based on average 15 16 per customer consumption, so Aqua may use the results of its Pilot to inform 17 future rate structures.

Q. PLEASE COMMENT ON THE REVENUE RECONCILIATION
 MECHANISM ASSOCIATED WITH THIS CONSERVATION
 INCENTIVE?

A. In Docket No. W-218, Sub 526, the Company requested, and the
 Commission approved the implementation of such a mechanism in its

October 26, 2020, Order.

Aqua has implemented that mechanism. In 2021, the first year under tiered rates, tier customer usage revenue was higher than it would have been without tier rates, and bill credits are pending issuance in 2022. In Docket No. W-218, Sub 526A, the Commission recently heard different positions from Aqua and the Public Staff on the methodology for calculating the credits. Once the differences are resolved by Commission order, Aqua will make refunds to its customers in the pilot service areas in the manner prescribed by the Commission.

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### 4. CONSUMPTION ADJUSTMENT MECHANISM

### Q. WHAT IS A CONSUMPTION ADJUSTMENT MECHANISM (CAM)?

 A. A CAM may be approved by the Commission as a mechanism to "track and true-up variations in average per customer usage from levels approved in the general rate case proceeding" pursuant to N.C.G.S. § 62-133.12A.

Q. IS AQUA ASKING THE COMMISSION TO APPROVE A CAM IN
 ADDITION TO THE WATER AND SEWER INVESTEMENT PLAN
 (WSIP)?

A. No. The statute authorizing the use of a Water and Sewer Investment
Plan rate-making mechanism, N.C.G.S. § 62-133.1B(d), prohibits the
use of a CAM during the pendency of a WSIP. It states that "Any rate
adjustment mechanism authorized pursuant to G.S. 62-133.12 or G.S. 62133.12A shall be discontinued during the term of any Water and Sewer

The Company

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#### Q. WHAT ARE BENEFITS OF A CAM?

consumption variations.

11 Α. The Company experiences notable fluctuations in annual average water consumption per customer. These fluctuations create revenue 12 13 instability in comparison to the expected consumption levels used in 14 rate designs to produce a specific approved revenue requirement. During periods of average per customer consumption increases 15 16 (versus the levels set in a most recent rate case), the Company 17 collects more revenue than was projected from those customers, while 18 the opposite is true during periods of reduced average per customer 19 consumption. A CAM ensures that no more or no less revenue is received than was intended from the number of customers included in 20 21 the approved rate design and based on an average per customer 22 usage. Because a CAM true-up is based on average per customer

Investment Plan." Because a CAM can only be authorized under

N.C.G.S. § 62-133.12A, it may be approved for use only if a WSIP

requests Commission approval of a WSIP in the present case;

however, if the Commission rejects the WSIP, Aqua requests approval

of a CAM for its water rate entities. A CAM would be a useful tool to

cushion the impact of significant revenue swings resulting from

CAM PRUDENCY AND VALUE

mechanism is not authorized by the Commission.

usage, it is not meant to true up customer growth or total revenues. 1 Water conservation is a policy that can be good for the environment, 2 3 facilitate sustained water capacity, and incentivize our customers to 4 reduce usage between rate cases to lower their bills. However, 5 persistent consumption declines also contribute to the Company having to file additional rate cases to recover resulting revenue 6 7 shortfalls from those used in rate design and based on historic 8 averages. A CAM ensures the average per customer consumption 9 revenues collected by the Company are consistent with those used in 10 the calculation of rates. Its use would allow customers to make decisions about water use while blunting concerns about consumption 11 changes causing excessive earnings for Aqua or causing inadequate 12 13 earnings that drive more rate cases. Additionally, it would reduce the 14 burden for regulators as balance and fairness in rates is supported by 15 the mechanism, rather than requiring more frequent full rate case 16 reviews.

See Exhibit 1 for trending of average customer consumption by rateentity.

19

### PROPOSED CAM STRUCTURE

20 Q. WHAT IS AQUA'S INTENT FOR A CAM?

A. First, the intent of Aqua's CAM proposal for its water systems (CAM) is
to comply with Rule R7-40 – "Consumption Adjustment Mechanism For

1		Water Utilities." Second, it is Aqua's intent to have a true-up to actual
2		average per customer consumption, which is consistent with the
3		calculation methodology approved by the Commission in the last rate
4		case, Docket No. W-218, Sub 526, for the Conservation Pilot.
5	Q.	TO WHICH CUSTOMER CLASSIFICATIONS AND RATE DIVISIONS
6		WOULD THE CAM APPLY?
7	Α.	If the WSIP is not approved, Aqua proposes to incorporate a CAM for
8		the following customer classifications located within each of its three
9		water rate divisions as follows:
10		Aqua North Carolina Water Systems = All Monthly Metered Service
11		Customers with the same usage charge per 1000 gallons (residential
12		and commercial)
13		• Brookwood and LaGrange Service Areas = All Monthly Metered
14		Service Customers with the same usage charge per 1000 gallons
15		(residential and commercial)
16		• Fairways and Beau Rivage Water Systems = All Monthly Metered
17		Service Customers with the same usage charge per 1000 gallons
18		(residential and commercial)
19		All unmetered or flat rate customers as well as those customers in
20		systems with approved purchase water pass-through usage rates are
21		excluded from a CAM in accordance with Rule R7-40. Also excluded are
22		customers on any systems acquired after the date Aqua files its

1		application for a general rate case in the present proceeding.
2	Q.	HAVE YOU PREPARED AN ANALYSIS THAT INCLUDES THREE
3		YEARS OF SAMPLE BILLING DATA IN ACCORDANCE WITH
4		RULE R7-40?
5	Α.	Yes. An analysis that includes three-years of customer billing data is
6		provided as:
7		<ul> <li>Haddad Exhibit 4A – ANC Water Residential</li> </ul>
8		<ul> <li>Haddad Exhibit 4B – ANC Water Irrigation</li> </ul>
9		Haddad Exhibit 4C – ANC Water Commercial
10		<ul> <li>Haddad Exhibit 5A – Brookwood Residential</li> </ul>
11		Haddad Exhibit 5B – Brookwood Irrigation
12		Haddad Exhibit 5C – Brookwood Commercial
13		<ul> <li>Haddad Exhibit 6A – Fairways Water Residential</li> </ul>
14		<ul> <li>Haddad Exhibit 6B – Fairways Water Irrigation</li> </ul>
15		<ul> <li>Haddad Exhibit 6C – Fairways Water Commercial</li> </ul>
16	Q.	DOES YOUR PROPOSAL INCLUDE A "COLLAR" TO DETERMINE
17		A THRESHOLD TO USE BEFORE A CUSTOMER REFUND OR
18		SURCHARGE IS INITIATED?
19	Α.	Yes. We propose that a CAM refund or surcharge only be issued if the
20		actual consumption for the true up period is greater than or less than 1% of
21		the average customer consumption used in rate design. To reduce the
22		need to make small refunds or surcharges, Aqua proposes no adjustments
		PREFILED DIRECT TESTIMONY OF DAVID HADDAD PAGE 17 OF 18

1		be made for variances within the 1% threshold. (See Haddad Exhibit 2 for
2		the estimated revenue impact for a 1% adjustment on each of Aqua's three
3		water rate entities.)
4	Q.	DO YOU OFFER AN EXHIBIT WHICH ILLUSTRATES THE CAM
5		TRUE-UP CALCULATION?
6	Α.	Yes. Haddad Exhibit 3 reflects a sample CAM true-up calculation. This
7		sample is not intended to show all possible scenarios; it is just illustrative
8		for the assumptions used in the sample.
9	Q.	ARE THERE ADDITIONAL CUSTOMERS NOT SPECIFICALLY
10		IDENTIFIED IN RULES R7-40 THAT SHOULD ALSO BE EXCLUDED
11		FROM THE CAM?
12	Α.	Yes. Customers currently included in the Conservation rate pilot (i.e.,
13		Bayleaf, Arbor Run, Merion and Pebble Bay) have a similar, but separate,
14		revenue true-up mechanism already in place, which would continue
15		separately from a CAM. For this reason, these customers should be
16		excluded from the calculations and proposed CAM adjustments as long as
17		they continue to be part of the Conservation Pilot Program.
18	Q.	IS THIS TESTIMONY TRUE AND ACCURATE TO THE BEST OF YOUR
19		KNOWLEDGE, INFORMATION, AND BELIEF?
20	Α.	Yes.
21	Q.	DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
22	Α.	Yes.
		PREFILED DIRECT TESTIMONY OF DAVID HADDAD PAGE 18 OF 18

#### W-218 SUB 573 HADDAD EXHIBIT 1 Average Consumption by Water Rate Entity

AQUA NC - CONSOLIDATED

2013 2014 2015 2016 2017 2018 2019

- 3YA

Monthly Avg

2020 2021

5.800

5.600

5,400

5.200

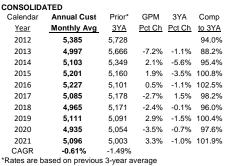
5.000

4.800

4,600

4,400

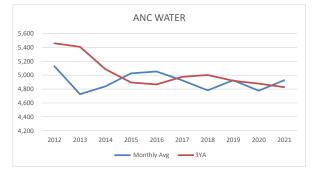
2012



Each year is being compared to the 3YA for the prior three years.

ANC WATER

	•					
Calendar	Annual Cust	Prior*	GPM	3YA	Comp	
Year	Monthly Avg	<u>3YA</u>	Pct Ch	Pct Ch	to 3YA	
2012	5,128	5,459			93.9%	
2013	4,727	5,408	-7.8%	-0.9%	87.4%	
2014	4,839	5,085	2.4%	-6.0%	95.2%	
2015	5,024	4,895	3.8%	-3.7%	102.6%	
2016	5,054	4,865	0.6%	-0.6%	103.9%	
2017	4,927	4,974	-2.5%	2.2%	99.1%	
2018	4,779	5,001	-3.0%	0.6%	95.6%	
2019	4,927	4,919	3.1%	-1.6%	100.2%	
2020	4,777	4,878	-3.0%	-0.8%	97.9%	
2021	4,926	4,828	3.1%	-1.0%	102.0%	
CAGR	-0.45%	-1.36%				



\*Rates are based on previous 3-year average Each year is being compared to the 3YA for the prior three years.

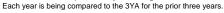
#### BROOKWOOD

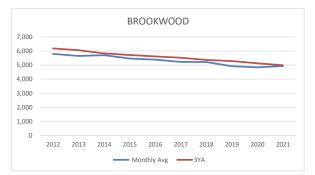
Calendar	Annual Cust	Prior*	GPM	3YA	Comp
Year	Monthly Avg	<u>3YA</u>	Pct Ch	Pct Ch	to 3YA
2012	5,791	6,184			93.6%
2013	5,644	6,057	-2.5%	-2.1%	93.2%
2014	5,707	5,827	1.1%	-3.8%	97.9%
2015	5,466	5,715	-4.2%	-1.9%	95.7%
2016	5,382	5,606	-1.5%	-1.9%	96.0%
2017	5,230	5,518	-2.8%	-1.6%	94.8%
2018	5,219	5,360	-0.2%	-2.9%	97.4%
2019	4,920	5,277	-5.7%	-1.5%	93.2%
2020	4,834	5,122	-1.8%	-2.9%	94.4%
2021	4,923	4,990	1.9%	-2.6%	98.7%
CAGR	-1.79%	-2.36%			

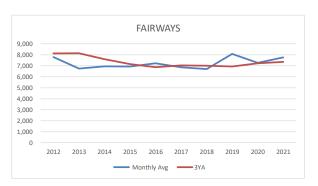
\*Rates are based on previous 3-year average Each year is being compared to the 3YA for the prior three years.

FAIRWAYS

Calendar	Annual Cust	Prior*	GPM	3YA	Comp
Year	Monthly Avg	<u>3YA</u>	Pct Ch	Pct Ch	to 3YA
2012	7,791	8,125			95.9%
2013	6,749	8,139	-13.4%	0.2%	82.9%
2014	6,941	7,597	2.8%	-6.7%	91.4%
2015	6,932	7,151	-0.1%	-5.9%	96.9%
2016	7,234	6,876	4.4%	-3.8%	105.2%
2017	6,863	7,039	-5.1%	2.4%	97.5%
2018	6,700	7,008	-2.4%	-0.4%	95.6%
2019	8,080	6,923	20.6%	-1.2%	116.7%
2020	7,274	7,233	-10.0%	4.5%	100.6%
2021	7,758	7,359	6.6%	1.7%	105.4%
CAGR	-0.05%	-1.09%			
*Rates are ba	ased on previous	3-year av	verage		







### W-218 SUB 573 HADDAD EXHIBIT 2 1% Revenue Variance by Water Rate Entity

	ANC Water	BW Water	FW Water
Approximate '21 Revenue	\$40,200,000	\$6,600,000	\$2,200,000
Approximate Usage Revenue %	60%	60%	60%
Approximate Usage revenue \$	\$ 24,120,000	\$ 3,960,000	\$ 1,320,000
1% Variance	\$ 241,200	\$ 39,600	\$ 13,200

### W-218 SUB 573 HADDAD CAM EXHIBIT 3 SAMPLE CAM CALCULATION

Line#	(a)		(b) Authorized		(c ) <b>Year 1</b>		(d) <b>Year 2</b>		(e) <b>Year 3</b>		(f) <b>Year 4</b>		(g) Year 5	
	Customers	-			<u></u>		<u></u>		<u></u>		<u></u>		<u></u>	
1	Annual Customer Bills		84,000		85,000		86,000		87,000		88,000		89,000	
2	Avg Gallons per Bill per Month		5,100		5,125		5,200		5,150		5,000		5,050	[1]
3														
4	Avg Gallons/Customer/Month Variance				0.5%		2.0%		1.0%		(2.0%)		(1.0%)	[2]
5	Proposed Collar				1.0%		1.0%		1.0%		1.0%		1.0%	
6	(Surcharge)/Surcredit				0.0%		2.0%		0.0%		(2.0%)		0.0%	[3]
7														
8	Gallons (Annualized)													
9	Annualized Gallons	5	,140,800,000	5	,227,500,000	5	,366,400,000		5,376,600,000	5	,280,000,000	5	,393,400,000	
10	_													
11	Rates		c 0000	~	6 0000	<u>,</u>	c 0000		6 0000	~	c 0000	<u>,</u>	6 0000	
12	Usage Rate per 1,000 Gallons	\$	6.0000	Ş	6.0000	\$	6.0000	\$	6.0000	\$	6.0000	\$	6.0000	[ 4]
13	Surcharge per 1,000 gallon rate					\$	-	\$ \$	-	\$	-	\$	0.1176	
14	Credit per 1,000 gallon rate					\$	-	Ş	(0.1176)	Ş	-	\$	-	[5]
15 16	CAM Calculation													
10	Revenue (Over)/Under (if collar is exceeded)			\$		\$	(631,341)	ć	-	\$	621,176	ć	-	[6]
18	Surcharge/(Surcredit) Percentage	\$	_	Ś	_	\$	(0.1176)		_	\$	0.1176			[7]
19	Sucharge/(Sucheur) recentage	Ļ		Ļ		Ļ	(0.1170)	Ļ		Ļ	0.1170	Ļ		[/]
20	Revenue													
21	Authorized Usage Revenue	\$	30,844,800	\$	31,212,000	\$	31,579,200	\$	31,946,400	\$	32,313,600	\$	32,680,800	[8]
22														
23	Actual Usage Revenue			\$	31,365,000	\$	32,198,400	\$	32,259,600	\$	31,680,000	\$	32,360,400	[9]
24	Surcharge			\$	-	\$	-	\$	-	\$	-	\$	634,518	[10]
25	Surcredit			\$	-	\$	-	\$	(632,541)	\$	-	\$	-	[11]
26	Total Usage Revenue	\$	30,844,800	\$	31,365,000	\$	32,198,400	\$	31,627,059	\$	31,680,000	\$	32,994,918	[12]
	[1] line 9 gallons divided by line 1 bills	[7]	line 17 / line 9	x 1,	000									
	<ul><li>[2] gallons per month actual / gallons per month authorized</li><li>[3] if line 4 is higher than line 5, then use line 4 percentage, otherwise no</li></ul>	[8]	current year a	nnu	al bills (line 1)	x 5,1	100 gallons (au	tho	orized) x 12 / 1,0	000	x usage rate (li	ne 1	12)	
	surcharge/credit	[9]	line 9 / 1,000 >	< line	e 18									
	[4] calculated surcharge per Kgal from prior year's results, on line 18		] line 9 / 1,000											
	[5] calculated surcredit per Kgal from prior year's results, on line 18	-	] line 9 / 1,000											
	[6] line 6 x line 12 x (line 9 / 1,000)	[12	] line 23 + line	24 +	line 25									

Jun 30 2022



Docket W-218 Sub 573 Haddad Exhibit 4A Three-Year Billing Data Analysis

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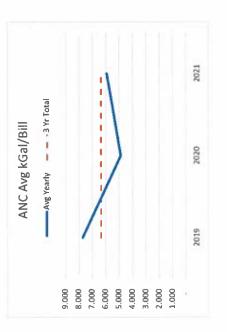
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**ANC Water - Residential** 

4.167 3.882 3.663 4.897 6.060 5.700 5.700 5.700 4.585 4.585 4.585 4.585 3.747 3.747 3.747 3.584 -0.52% 5.855 5.820 5.758 5.758 4.852 3.703 5.242 5.355 5.637 5.637 5.639 5.639 5.659 5.130 5.130 4.548 4.191 4.191 3.932 3.787 3.724 3.903 4.375 4.804 4,446 4.314 4.738 Avg Usg/Bill 6.311 217,598 203,511 **2,741,039** 8,104,136 279,234 276,916 274,703 261,336 228,129 2,720,446 195,501 182,792 230,914 233,384 287,622 274,010 239,055 **642,651** 214,920 178,793 171,447 182,612 177,919 174,764 183,815 207,092 299,995 211,635 222,522 184,546 270,362 250,925 272,058 246,060 170,849 209,821 250,462 Usage kGals 258,364 173,931 206,539 47,152 47,306 47,462 48,070 48,070 48,163 46,163 49,281 49,281 47,730 47,730 (b) Bills (non FR) 46,445 46,987 46,987 47,096 47,096 47,538 47,538 47,539 47,539 47,539 47,539 47,539 47,539 47,539 47,539 46,988 47,022 47,022 46,988 47,022 47,022 46,988 47,022 47,022 46,987 47,022 46,987 47,022 46,987 47,022 46,021 47,022 46,021 47,022 46,021 47,022 46,021 47,022 46,021 47,022 46,021 47,022 46,021 47,022 46,021 47,022 47,022 47,022 47,022 47,022 47,022 47,022 47,022 47,029 47,029 47,029 47,029 47,029 47,029 47,029 47,029 47,020 47 47,720 47,835 47,879 47,777 48,244 47,961 47,937 48,075 47,964 47,849 48,555 575,493 1,710,346 3 Yr Average vs. Test Year (excludes Tier areas) (a) Month-Year Feb-2019 Mar-2019 Apr-2019 May-2019 Jun-2019 Aug-2019 Sep-2019 Oct-2019 May-2020 Jun-2020 Jul-2020 Jul-2019 Aug-2020 Sep-2020 Nov-2020 Feb-2021 Mar-2021 Apr-2021 Jul-2021 Aug-2021 **3 Yr Total** Dec-2019 Jan-2019 Nov-2019 Jan-2020 Feb-2020 Apr-2020 Dec-2020 May-2021 Dec-2021 Mar-2020 Oct-2020 Jan-2021 Jun-2021 Oct-2021 Sep-202' Nov-202' G Line No.

Year Year 2019 22019 22019 22019 22019 22019 22019 22019 22019 22019 22019 22019 22019 22019 22019 22019 220200 22020 22020 22020 22020 22020 22020 22020 22020 22020 22





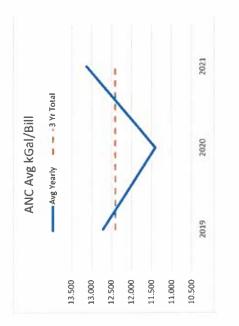
Docket W-218 Sub 573 Haddad Exhibit 4B Three-Year Billing Data Analysis

,		2	101	
-	Jan-ZUTS	5/4	481	0.838
2	Feb-2019	574	(191)	(0.333)
ო	Mar-2019	586	184	0.314
4	Apr-2019	595	814	1.368
2	May-2019	595	2,975	5.000
9	Jun-2019	622	9,285	14.928
7	Jul-2019	636	9,804	15.415
80	Aug-2019	652	9,679	14.845
6	Sep-2019	642	9,074	14.134
10	Oct-2019	406	5,462	13.453
11	Nov-2019	410	3,536	8.624
12	Dec-2019	394	588	1.492
13	1	6,686	51,691	7.731
14	Jan-2020	378	288	0.762
15	Feb-2020	390	448	1.149
16	Mar-2020	373	510	1.367
17	Apr-2020	399	483	1.211
18	May-2020	380	1,653	4.350
19	Jun-2020	412	2,656	6.447
20	Jul-2020	420	4,199	9.998
21	Aug-2020	422	3,969	9.405
22	Sep-2020	418	3,330	7.967
23	Oct-2020	405	2,636	6.509
24	Nov-2020	416	2,640	6.346
25	Dec-2020	398	665	1.671
26		4,811	23,477	4.880
27	Jan-2021	401	212	0.529
28	Feb-2021	399	125	0.313
29	Mar-2021	402	199	0.495
30	Apr-2021	409	473	1.156
31	May-2021	417	2,472	5.928
32	Jun-2021	415	3,944	9.504
33	Jul-2021	414	4,385	10.592
34	Aug-2021	416	4,133	9.935
35	Sep-2021	412	4,593	11.148
36	Oct-2021	417	4,599	11.029
37	Nov-2021	402	2,816	7.005
38	Dec-2021	400	1,182	2.955
39		4,904	29,133	5.941
40	3 Yr Total	16,401	104,301	6.359
41	•			
42	3 Yr Average vs. Test Year	s. Test Year		7.05%
43	(excludes Tier areas)	areas)		

ANC Water - Irrigation

(a) (b) (c) (d) Line No. Month-Year Bills (non FR) Usage kGals Avg Usg/Bill

Jun 30 2022



Docket W-218 Sub 573 Haddad Exhibit 4C Three-Year Billing Data Analysis

(d) Avg Usg/Bill	9.184	9.472	9.809	10.462	14.522	16.875	15.318	14.682	18.007	14.894	9.271	9.565	12.722	8.771	8.158	9.073	10.010	12.511	12.053	18.100	13.617	13.398	10.406	11.169	9.545	11.409	10.939	8.106	8.871	12.134	15.229	15.727	17.555	21.745	10.702	13.816	9.468	12.935	13.128	12.412		-5.45%	
(c) Usage kGals		2,747	3,031	3,191	4,589	5,265	4,917	4,610	5,456	4,930	2,911	3,032	47,324	2,719	2,627	2,840	3,133	3,841	3,833	5,774	4,371	4,207	3,361	3,563	2,959	43,228	3,380	2,513	2,741	3,810	4,797	4,844	5,407	6,915	3,200	4,131	2,916	3,958	48,612	139,164			
(b) Bills (non FR)	288	290	309	305	316	312	321	314	303	331	314	317	3,720	310	322	313	313	307	318	319	321	314	323	319	310	3,789	309	310	309	314	315	308	308	318	299	299	308	306	3,703	11,212		s. Test Year	areas)
(a) Month-Year	Jan-2019	Feb-2019	Mar-2019	Apr-2019	May-2019	Jun-2019	Jul-2019	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	•	Jan-2020	Feb-2020	Mar-2020	Apr-2020	May-2020	Jun-2020	Jul-2020	Aug-2020	Sep-2020	Oct-2020	Nov-2020	Dec-2020		Jan-2021	Feb-2021	Mar-2021	Apr-2021	May-2021	Jun-2021	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	•	3 Yr Total		3 Yr Average vs. Test Year	(excludes Tier areas)
Lìne No.	-	2	ო	4	5	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43

**ANC Water - Commercial** 



Docket W-218 Sub 573 Haddad Exhibit 5A Three-Year Billing Data Analysis

(p)

(c)

(q)

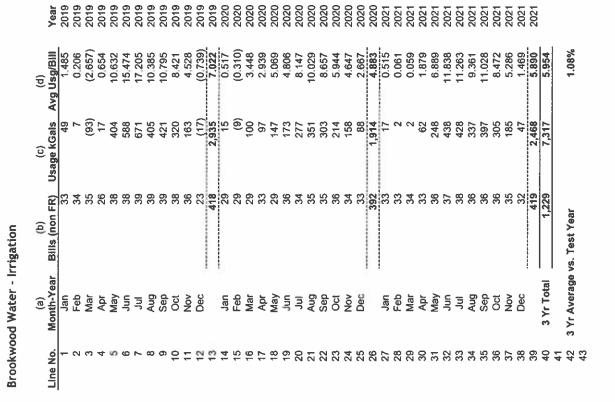
(a)

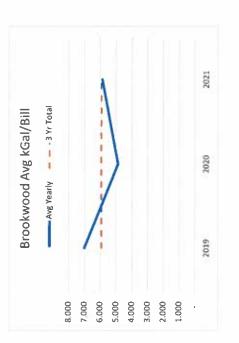
Brookwood Water - Residential

	(a)	(a)	[A]	(0)	2
Line No.	Month-Year	Bills (non FR)	Usage kGals	Avg Usg/Bill	Year
•	Jan	11,360	56,375	4.963	2019
23	Feb	11,352	48,153	4.242	2019
ო	Mar	11,544	42,727	3.701	2019
4	Apr	11,718	55,037	4.697	2019
9	May	10,984	56,794	5.171	2019
9	Jun	11,898	75,638	6.357	2019
7	Jul	12,054	69,242	5.744	2019
80	Aug	12,054	62,962	5.223	2019
ð	Sep	12,039	66,011	5.483	2019
10	Oct	11,932	54,747	4.588	2019
11	Nov	11,835	56,346	4.761	2019
12	Dec	11,736	47,541	4.051	2019
13		140,506	691,573	4.922	2019
14	Jan	11,813	53,471	4.526	2020
15	Feb	11,949	49,899	4.176	2020
16	Mar	12,112	49,021	4.047	2020
17	Apr	12,115	55,732	4.600	2020
18	May	12,097	60,630	5.012	2020
19	ոսի	12,264	59,173	4.825	2020
20	lul	12,189	68,196	5.595	2020
21	Aug	12,465	69,570	5,581	2020
22	Sep	12,359	62,902	5.090	2020
23	oct	12,375	59,157	4,780	2020
24	Nov	12,356	53,755	4,351	2020
25	Dec	12,282	50 254	4,092	2020
26		146,376	691,760	4.726	2020
27	Jan	12,330	59,023	4.787	2021
28	Feb	12,279	49,365	4.020	2021
29	Mar	12,375	48,115	3.888	2021
30	Apr	12,363	55,853	4.518	2021
31	May	12,405	64,935	5 235	2021
32	Jun	12,323	67,120	5.447	2021
33	Jul	12,325	63,724	5.170	2021
34	Aug	12,348	63,146	5.114	2021
35	Sep	12,342	67,091	5.436	2021
36	Oct	12,407	63,663	5.131	2021
37	Nov	12,409	55,132	4.443	2021
38	Dec	12,465	54,440	4,367	2021
39		148,371	711,607	4.796	2021
40	3 Yr Total	435,253	2,094,940	4.813	
41					
42	3 Yr Average vs. Test Year	vs. Test Year		0.35%	
43					

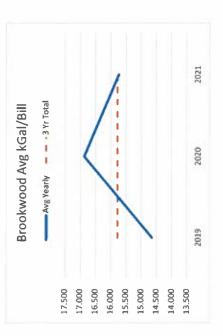
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Docket W-218 Sub 573 Haddad Exhibit 5B Three-Year Billing Data Analysis





Jun 30 2022

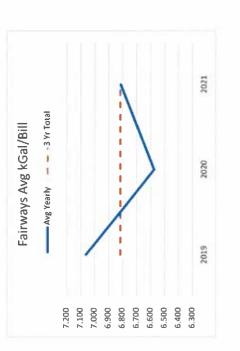


Docket W-218 Sub 573 Haddad Exhibit 5C Three-Year Billing Data Analysis

**Brookwood Water - Commercial** 

ar Bills (non	(a) Month-Year Jan
í –	
	3 Yr Total

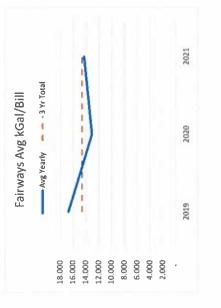
Jun 30 2022



Docket W-218 Sub 573 Haddad Exhibit 6A Three-Year Billing Data Analysis

Fairways Water - Residential

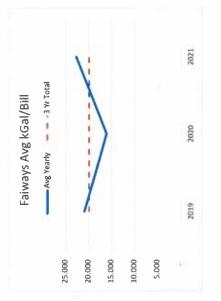
Year	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021				
(d) Avg Usg/BIII	3.875	3.626	3,539	4,694	7.371	11.449	9,381	10,801	9,453	8.754	7.308	4.330	7.065	3,549	3,661	3.499	5.723	7.894	8,488	9,100	10.368	8,139	7.312	6.603	4.408	6.575	4,485	3.569	3.531	5.403	9.870	10.111	9.042	8.752	8.395	7.337	6.311	4.810	6.815	6.818		0.03%	
(c) Usage kGals	15,998	14,978	14,451	19,544	30,514	48,051	39,194	45,493	39,591	36,660	30,775	18,238	353,487	14,875	15,015	14,693	24,220	33,141	35,853	38,647	44,159	34,491	31,046	28,305	18,716	333,161	19,049	15,210	15,107	23,060	42,520	43,801	39,440	37,728	36,553	31,902	27,276	20,752	352,398	1,039,046			
(b) Bills (non FR)	4,128	4,131	4,083	4,164	4,140	4,197	4,178	4,212	4,188	4,188	4,211	4,212	50,032	4,191	4,101	4,199	4,232	4,198	4,224	4,247	4,259	4,238	4,246	4,287	4,246	50,668	4,247	4,262	4,278	4,268	4,308	4,332	4,362	4,311	4,354	4,348	4,322	4,314	51,706	152,406	:	s. Test Year	
(a) Month-Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	lut	Aug	Sep	Oct	Nov	Dec	: 1	3 Yr Total		3 Yr Average vs. lest Year	
Line No.	-	2	ო	4	9	9	7	ø	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	4	40



Docket W-218 Sub 573 Haddad Exhibit 6B Three-Year Billing Data Analysis

Year	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021	2021				
(d) Avg Usg/Bill	3.200	2.851	1.828	3.114	17,936	32,270	26,050	32,865	27.726	27,489	19,134	2,431	16.793	0.834	0.384	1.933	9.886	16.546	16,981	21.652	24,105	21.735	18.181	16,651	5.542	13.105	1 539	(0.919)	1.606	11,522	23 026	20,295	23.614	21.436	23.027	19.328	16,685	6.738	14.338	14.654		2.20%	
(c) Usage kGals	1,373	1,223	766	1,367	8,125	14,586	12,478	15,545	13,031	13,167	9,108	1,157	91,926	392	182	945	5,042	8,339	8,745	11,259	12,631	11,585	9,727	8,675	3,076	80,598	834	(490)	856	6,314	13,493	11,913	13,956	12,347	14,392	11,616	10,111	4,090	99,432	271,956			
(b) Bills (non FR)	429	429	419	439	453	452	479	473	470	479	476	476	5,474	470	474	489	510	504	515	520	524	533	535	521	555	6,150	542	533	533	548	586	587	591	576	625	601	909	607	6,935	18,559		s. Test Year	
(a) Month-Year	Jan	Feb	Mar	Apr	May	nul	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	lul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	nul	Jul	Aug	Sep	Oct	Nov	Dec		3 Yr Total		3 Yr Average vs. Test Year	
Line No.	1	2	ς Υ	4	Ω.	9	7	ø	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43

Fairways Water - Irrigation



-12.16% 14.168 14.750 17.288 17.289 27.164 30.508 23.396 16.099 16.099 14.566 11.738 16.099 14.566 14.699 14.543 14.699 14.543 14.699 14.543 14.699 14.543 14.699 14.543 14.567 19.551 19.551 19.551 19.553 15.132 22.607 19.554 19.554 19.554 19.554 19.554 19.554 19.554 19.554 19.554 19.554 19.554 19.554 19.555 15.132 28.748 19.5567 19.55677 19.55677 19.55677 19.556 .041 908 944 615 2,367 1,956 2,012 1,646 1,393 1 619 1 929 18,921 49,086 199 141 69 64 67 67 67 67 67 67 67 67 67 67 67 81 72 81 72 81 3 Yr Average vs. Test Year **3 Yr Total** Mar Jul Sep Oct Dec Jan Mar Jun Vov Oec Feb Mar Jun Sep Sep Nov Dec Jan Feb S 55

Haddad Exhibit 6C Three-Year Billing Data Analysis Docket W-218 Sub 573

Fairways Water - Commercial

Avg Usg/Bill 15.087 (p)

Usage kGals

<u>0</u>

(b) Bills (non FR)

(a) Month-Year

Line No.