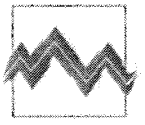
# FORMULA PURCHASE PRICE ANALYSIS
# HINGHAM WATER SYSTEM
# AS OF
# DECEMBER 31, 2011



Willamette Management Associates

**Willamette Management Associates**

8600 West Bryn Mawr Avenue, Suite 950-N
Chicago, Illinois 60631
773 · 399 · 4300/(Fax) 773 · 399 · 4310

June 29, 2012

Joe A. Conner, Esq.
Baker Donelson Bearman Caldwell & Berkowitz
1800 Republic Centre
633 Chestnut Street
Chattanooga, Tennessee 37450-1800

Dear Mr. Conner:

At your request, Willamette Management Associates prepared a formula price analysis related to the possible purchase of certain Aquarion Water Company ("Aquarion") corporate property. That Aquarion corporate property consists of the Hingham Water System (the "Water System"). The Water System includes operating assets located in (1) the Town of Hingham, MA ("Hingham"), (2) the Town of Hull, MA ("Hull"), (3) the Town of Cohasset, MA ("Cohasset"), and (4) the Town of Norwell, MA ("Norwell").

The results of our formula price analysis are presented in this report.

We understand that you ("Legal Counsel") represent Aquarion in a potential dispute with Hingham ("the dispute") over the acquisition of the Water System pursuit to section 11 of chapter 139 of the Acts of 1879 (the "1879 Charter").

We understand that Hingham is considering the exercise of its legal right to purchase the Water System corporate property. We understand that this corporate property includes both tangible plant assets in service and contributory (or other) property assets.

We understand that Hingham may exercise its purchase right by paying a price determined by the pricing formula proscribed in the 1879 Charter. The 1879 Charter provision related to the purchase right and the purchase price formula is provided as follows:

> Section 11. The town of Hingham shall have the right at any time during the continuance of the charter hereby granted, to purchase the corporate property, and all the rights and privileges of said company at the actual cost of the same, together with interest thereon at a rate not exceeding ten per centum per annum, said cost to include all actual loss or damage paid or suffered by said company for injury to person or property, deducting from said cost any and all dividends which may have been paid by said corporation, or at such price as may be mutually agreed upon between said corporation and the town of Hingham; and the said corporation is authorized to make sale of the same, and this authority to purchase said franchise and property is granted on condition that the same is

assented to by said town by a two-thirds vote of the voters present and voting thereon at any annual meeting, or at a legal meeting called for that purpose.

## OBJECTIVE AND PURPOSE OF THE ANALYSIS

The objectives of this analysis are twofold: (1) to identify all of the Aquarion corporate property (including both tangible assets and contributory assets) operating as the Water System and (2) to calculate the formula purchase price for the Water System corporate property as proscribed in the 1879 Charter.

The purpose of our analysis is to assist Legal Counsel with regard to the dispute. No other purpose is intended or should be inferred.

## THE 1879 CHARTER PURCHASE PRICE CALCULATION

Based on instructions from Legal Counsel, we calculated the Water System corporate property formula purchase price according to the 1879 Charter by:

1. calculating the historical cost of the identified corporate property assets ("historical cost component"),
2. adding the product that results from multiplying the historical cost component by a 10 percent rate of return ("rate of return component"), and
3. subtracting the total Water System dividends paid to shareholders.

The 1879 Charter allows for a rate of return not exceeding ten per centum per annum. For the purposes of our analysis, Legal Counsel instructed us to use 10 percent.

## SOURCES OF INFORMATION

During the course of this assignment, we received and analyzed several documents, including the following:

- The Commonwealth of Massachusetts, Return of the Hingham Water Company to the Department of Public Utilities ("DPU Reports"), December 31, 1929 through 1980
- The Acts of 1879, and specifically Chapter 139—subject Water System franchise agreement
- The Acts of 1881, and specifically Chapter 59—right to extend water service to Hull and Cohasset
- The Acts of 1886, and specifically Chapter 88—right to increase water supply
- Responses to our information requests from Aquarion Management regarding the Water System corporate property assets[1]

[1] Aquarion Management refers to Aquarion corporate executive Troy Dixon, director of rates and regulation and other Aquarion personnel working under the direction and supervision of Mr. Dixon.

Additionally, we met with Aquarion Management to discuss the availability of the documentation related to the Water System gross plant and equipment corporate property assets.

## ANALYSIS WORK PRODUCT

We calculated the formula purchase price of the corporate property assets according to the 1879 Charter for the following assets:

1. Gross plant and equipment
2. Assembled workforce
3. Customer information database
4. Property maintenance database
5. Water testing records database

## Gross Plant and Equipment Formula Component

On Exhibit 2 of Appendix A, we present the formula purchase price of the Water System gross plant and equipment under two scenarios. First, we present the Water System gross plant and equipment formula price assuming that the Hingham water treatment plant is purchased under the provisions of the 1879 Charter. Second, we present the Water System gross plant and equipment formula price assuming that the Hingham water treatment plant (this asset is owned by an Aquarion wholly-owned subsidiary, Aquarion Water Capital of Massachusetts, Inc.) is not included in the calculation of the purchase price formula.

For both scenarios, in order to arrive at the cost of the gross plant and equipment to be included in the formula price analysis, we made the following calculation: we subtracted (1) the contributions in aid of construction account and (2) the Advances account from (3) the Water System gross plant and equipment account.

It is our understanding that Aquarion reserves its right to include the following accounts as part of the gross plant and equipment formula purchase price component: (1) the contributions in aid of construction account and (2) the Advances account. We understand that there may be subsequent litigation over the application of the formula price under the provisions of the 1879 Charter. The exclusion of (1) the contributions in aid of construction account and (2) the Advances account as part of the gross plant and equipment formula purchase price component was solely for illustrative purposes and was performed at the direction of Legal Counsel for this report.

### Gross Plant and Equipment

Aquarion Management provided us with the gross plant and equipment account summary documents (included in Appendix B) that we relied on in this formula price analysis. We refer to these documents as "the plant and equipment documents." We understand that Aquarion Management used the following sources to prepare the plant and equipment documents:

1. Company general ledgers for the Hingham Water Company and Aquarion Water Company of Massachusetts
2. Massachusetts Department of Public Utility Reports ("DPU Reports")
3. Crystal Reports and journal entry support
4. SAP database
5. Company estimates
6. Report of physical property to the Department of Public Utilities ("DPU")
7. Hingham Water Company's Control Account Ledger

Although the DPU Reports were used to create the majority of the plant and equipment documents, the DPU did not commence operations until 1929. For the years prior to 1929, Aquarion Management relied on general ledger documentation for plant and equipment cost information.[2] Because Aquarion is an investor owned utility the DPU requires it to file annual reports. That is, Aquarion must file a DPU Report each year. A more specific description of the DPU Reports is provided below.

For the time period beginning in November 30, 1879 to June 30, 1916, the Hingham Water Company general ledger listed the total plant assets of the Water System for each year from 1879 to 1916. And, the general ledger provided a categorized asset listing for each year. Total plant assets were categorized in the following groupings: (1) land, (2) structures, (3) transmission and distribution mains ("T&D Mains"), (4) consumer meters, (5) office equipment, and (6) shop equipment.

In each year, from 1879 to 1916, the company general ledger listed the gross amount of total assets and each categorized group reflecting additions and retirements. For example, in 1894, the T&D Mains account increased by $23,685 from $265,510 in 1893 to $289,194 in 1894. The $23,685 account balance increase reflects the net change of the T&D Mains gross plant and equipment account for the one year period ended in June 1894.

For the eight year time period beginning in 1917 and ended in 1924, Aquarion Management estimated the Water System total plant assets account balances for each year. We understand that it was necessary to estimate the Water System total plant assets from 1917 to 1924 because Aquarion Management was unable to find applicable general ledgers or other supporting documentation.

During this time period, the Water System total assets balance increased by $32,603 a year. This $32,603 increase was based on the reported change in Water System total assets from $714,054 in 1916 to $1,036,335 in 1928, minus $61,458 of net additions and retirements recorded during the 1924 to 1927 period.[3]

Therefore, the 1917 to 1924 annual total plant assets account estimate used by Aquarion Management was calculated by performing two procedures as follows: (1) $1,036,335 minus ($61,458 + $714,054) = $260,823, and (2) $260,823 was divided by 8 years = $32,603.

[2] The DPU is responsible for oversight of investor-owned electric power, natural gas, and water utilities in Massachusetts.

[3] Aquarion Management located reports in 1925-1928 reflection asset additions and asset retirements over that period. The net of additions and retirements in this period was $61,458.

Plant and equipment account figures for the years ended December 31, 1928 through 1980, 1983, 1985 through 1987, were provided by the DPU Reports. Aquarion Management provided us with copies of the DPU Reports that were used as source documents for the plant and equipment account balances during the time period beginning in 1929 and ending in 1980.[4]

The starting point for the DPU Report source data was the December 31, 1929 report ("1929 DPU Report"). The 1929 DPU Report provided both (1) the Water System total plant assets and (2) a categorized listing of the Water System assets. This categorized Water System asset listing provided additions and retirements during each year.

For example, the 1929 DPU Report provided (1) the asset category balance as of December 31, 1928 and (2) the subsequent changes in the respective asset category. The DPU Report listed asset additions and retirements separately.

The 1929 DPU Report included more detailed asset classification categories than did the company general ledger reports that were relied on for the 1879 to 1916 time period. Therefore, certain of the asset categories required an adjustment in 1928 from the previously reported asset category classifications. It is important to note that the adjustment impacted the asset categorization only. The adjustment did not impact the overall dollar amount of asset investment.

As the source of the plant and equipment account data, Aquarion Management used other DPU Reports called "Report Physical Property," for years 1981 to 1987. It is important to note that information provided in the Report Physical Property reports agreed with annual DPU Reports for the years 1983, 1985, 1986, and 1987.

Also for the 1981 to 1987 time period, Aquarion Management used the Hingham Water Company's Control Accounts Ledger as another control reference document. For the year 1986, Aquarion Management made certain adjustments to reconcile the plant and equipment asset categories to the asset account categories posted in the general ledger.

Aquarion Management advised us that, after 1988, the Water System located in Hingham was combined with other Massachusetts water system assets for the purpose of filing the annual DPU reports. Since the DPU Reports no longer separated the financial and asset records of the Aquarion Massachusetts water systems, the DPU Reports prepared after 1987 were not relied on to prepare the plant and equipment documents.

From 1988 to 1999, Aquarion Management relied on the Hingham Water Company's Control Accounts Ledger for plant and equipment account asset additions and retirements.

In 2000 and 2001, the Water System was owned by American Water Company ("American Water"). In 2002, Aquarion acquired the Massachusetts assets of American Water.

Aquarion Management was not able to locate the complete and detailed 2000 and 2001 plant and equipment asset records from the American Water files. Aquarion estimated the plant and equipment

[4] Of note, the DPU Report from 1931 was not a complete copy. And, also of note, in 1938 adjusting entries were made to incorporate suggestions from DPU auditors.

asset balances based on the recorded plant and equipment asset balances at the end of 1999 and the recorded plant and equipment asset balances at the beginning of 2002.

In addition to general ledger documentation, Aquarion Management used other account ledgers and accounting journals as source documents for the plant and equipment information provided to us. For the time period beginning in 2002 and ended in 2006, Aquarion Management used reports called "crystal reports" as the source documentation for the plant and equipment account.

For the time period beginning in 2007 and ended in 2011, Aquarion Management used the Aquarion SAP database system to generate plant and equipment account detail for the Water System. The SAP database system is a comprehensive accounting database system. The SAP database contains extensive automated records of the Hingham Water System plant and equipment assets that were placed in service between fiscal year 2007 to fiscal year 2011.

Contributions in Aid of Construction Account

In the plant and equipment documents, Aquarion Management listed the Water System contributions in aid of construction ("CIAC") from 1942 to 2011. From 1942 to 1988, the CIAC is presented as an exact dollar amount in the plant and equipment.

Due to the consolidation of the financial and plant records of the Massachusetts water systems in 1987, Aquarion Management made certain assumptions to allocate CIAC to the Water System. In order to allocate the total CIAC account to the Water System, Aquarion Management applied a three factor method.[5] This CIAC account allocation method was performed in the following three procedures.

First, for each year, (1) the Water System gross plant and equipment was calculated as a percentage of the total AWCM gross plant and equipment assets, (2) the Water System gross plant and equipment including the water treatment plant asset was calculated as a percentage of the total AWCM gross plant and equipment assets, and (3) the Water System customers were calculated as a percentage of the total AWCM customers.

Second, an average of the three factors was calculated for each year. During the period of 1989 to 2002, the average allocation factor ranged from 63.2 percent to 73.6 percent.

Finally, the change in the AWCM CIAC account balance was multiplied by the average allocation factor for each year to arrive at the total CIAC adjustment allocation to the Water System.

Beginning in 1989 and through 2002, Aquarion Management added an allocation of the change in the consolidated AWCM CIAC account as compared to the prior period consolidated CIAC balance. For example, in 1999, $60,316 was added to the 1998 CIAC balance of $2,209,604.

The CIAC balance for 2002 was increased for known contribution activity for the Water System for the period of 2003 through 2011.

[5] In addition to the allocation of CIAC, this same three factor method was used to allocate Advances and distributions.

Advances Account

Advances are the initial contributions in aid of construction which are subject to refund to developers within five years from the date of the contribution. After five years, any amounts not refunded are moved to the consolidated CIAC account.

In the plant and equipment documents, Aquarion Management lists the Water System advances account balances from 1949 to 2011. From 1949 to 1988, the advances account balances are presented as an exact amount, with the exception of the years 1982 and 1984. In those two years, the dollar amounts of the Advances were estimated by calculating an average of the prior year and the subsequent year advances account balance.

Beginning in 1989 and through 2000, Aquarion Management added an allocation of the advances account to the prior period advances account balance. For example, in 1999, $704,145 was added to the 1998 advances account balance of $624,366.

Aquarion Management allocated the advances account to the Water System using the same three factor allocation method that was applied to allocate the CIAC account. This allocation procedure was necessary because the Water System advances account was combined with the total consolidated AWCM advances account.

The advances account is presented as an exact dollar amount for time periods subsequent to 2000.

## Purchase Price Formula Calculation Scenario One - With the Water Treatment Plant

On Exhibit 2, we arrived at the formula purchase price of the gross plant and equipment corporate property by performing the following procedures.

First, we calculated the historical cost component (with the water treatment plant) for each year from 1879 to 2011. In order to arrive at the historical cost component, we added:

1. the historical cost of gross plant and equipment corporate property to,
2. the historical cost of the Hingham water treatment plant, and
3. the historical balance of the Hingham water treatment plant restricted cash account.

And, we then subtracted:

4. the contributions in aid of construction account, and
5. the advances account.

We calculated the historical cost of gross plant and equipment corporate property assets to be $68.2 million, as of December 31, 2011.

Next, we multiplied the historical cost component of $68.2 million by the 10 percent rate of return component. We repeated this procedure for the each year from 1879 to 2010. We then summed the rate of

return component for the 1879 to 2011 period. We calculated a total rate of return component of $124.6 million.

Finally, we added the historical cost component of $68.2 million to the total rate of return component of $124.6 million, to arrive at a purchase price formula calculation with the water treatment plant of $192.9 million, as of December 31, 2011.

## Purchase Price Formula Calculation Scenario Two—Without the Water Treatment Plant

On Exhibit 2, we arrived at the formula purchase price of the gross plant and equipment corporate property by performing the following procedures.

First, we calculated the historical cost component (without the water treatment plant) for each year from 1879 to 2011. In order to arrive at the historical cost component, we subtracted:

1. the contributions in aid of construction account, and
2. the Advances account from,
3. the historical cost of gross plant and equipment corporate property.

We calculated the historical cost of gross plant and equipment corporate property assets to be $28 million, as of December 31, 2011.

Next, we multiplied the historical cost component of $28 million by the 10 percent rate of return component. We repeated this procedure for the each year from 1879 to 2010. We then summed the rate of return component for the 1879 to 2011 period. We calculated a total rate of return component of $60.1 million.

Finally, we added the historical cost component of $28 million to the total rate of return component of $60.1 million, to arrive at a purchase price formula calculation without the water treatment plant of $88.1 million, as of December 31, 2011.

## Assembled Workforce Corporate Property

The success of a business enterprise often depends on the training and experience of its assembled workforce. The assembled workforce represents an important and productive asset of the business, and it is valuable corporate property.

In Exhibit 3 of Appendix A, we present our calculation of the formula purchase price of the Water System assembled workforce corporate property.

In Appendix C, we present the supporting information provided to us by Aquarion Management.

As of December 31, 2011, the Water System employed 14 employees. The longest tenured employee was hired in 1973, and the most recent employee was hired in 2010. We were provided with the historical salary at the date of hire for each of the 14 employees.

Because the Water System employees experienced salary increases from their hire date to 2011, we were able to calculate a salary inflation rate. The average compound annual growth rate of salary increases was 4.35 percent for the Water System employees.

We relied on this 4.35 percent salary inflation factor to estimate the historical cost component of the Water System's assembled workforce. And, we subsequently relied on the 4.35 percent estimate to calculate the formula price of other corporate property assets.

In order to estimate the historical cost component of the Water System's assembled workforce corporate property asset, we performed the following procedure:

1. We multiplied (a) the base salary of each new employee in the year that the employee was added by (b) the cost to recruit and hire the new employee of 8.9 percent[6] (of base salary), plus
2. We added the annual cost to train employees by multiplying the cumulative payroll cost by 0.9 percent[7], i.e., the annual percentage of the total Water System employee time spent on employee training activities

We added each of the costs to recruit and hire the 14 Water System employees. We concluded this cost component to be $46,155. Next, we added the annual costs to train employees over the 1973 to 2011 time period. We concluded this cost component to be $143,929. Finally, we added the $46,155 cost component to the $143,929 cost component to conclude $190,084, the total assembled workforce historical cost component. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we concluded a $202,184 rate of return component, for the measurement period beginning in 1973 and ending in 2011.

Finally, we added the historical cost component of $190,084 to the rate of return component of $202,184, to conclude a total assembled workforce corporate property formula price of $392,267, as of December 31, 2011.

It is important to note that the historical cost to recruit and hire the assembled workforce corporate property does not include the following historical costs:

1. The internal labor costs of the company employees' time that was dedicated to interviewing employment candidates
2. Any relocation costs paid to new employees
3. The new hire's inefficiency cost to the company—this cost is typically incurred because, in general, new employees are not capable of full productivity at the date of initial hire—full productivity may take considerable time to achieve, depending on the respective job function
4. Any employee professional license costs paid by the company, as certain employees are required to keep current professional licenses related to their job

[6] The 8.9 percent cost to recruit is not specific to the Water System, this rate is the Aquarion company cost to recruit percentage rate.
[7] The 0.9 percent cost to train is not specific to the Water System, this rate is the Aquarion company cost to train percentage rate.

Adding the aforementioned historical costs to our assembled workforce historical cost estimate would increase the formula purchase price of the assembled workforce corporate property asset.

## Customer Information Database Corporate Property

On Exhibits 4A through 4D of Appendix A, we present our formula purchase price analysis of the customer information database corporate property formula purchase price. The customer information database corporate property is comprised of three categories:

1. New customer connection data
2. Move-in customer connection data
3. Meter change-out data

In Appendix D, we present the supporting documentation provided to us by Aquarion Management.

### New Customer Connection Data

On Exhibits 4A of Appendix A, we present our formula purchase price analysis of the new customer connection data corporate property. Aquarion Management was able to either find supporting documentation of or estimate the number of new Water System customers connections each year from 1879 to 2011.

The year end in 1928 was the first year that Aquarion Management could locate the total number of Water System customers, i.e., 5,406. Therefore, in order to estimate the number of Water System customers for the 1879 to 1927 time period, Aquarion Management used a simple average, assuming that new customer connections were made each year at the same amount.

We understand that Aquarion Management primarily relied on DPU Reports for new customer connection information for the period from 1929 through 2011.

Aquarion Management was not able to locate information related to 1981, 1990, and 1993. Because of this lack of information, Aquarion Management assumed that no customers were added in 1981, 1990, and 1993.

Aquarion Management estimated that the historical labor cost per new customer connection was $320 per connection, as of December 31, 2011. We understand that the historical labor costs include the time spent by Water System utility operations personnel and Water System customer service personnel.

In 2011, in order to calculate the cost of the new customer connection data, we calculated the historical cost component by multiplying (1) the number of new connection connections of 58 by (2) the historical-based labor cost per customer connection of $320, to conclude (3) the total historical direct cost of $18,572. Next, we multiplied (1) the $18,572 historical cost by (2) the payroll overhead allocation rate of 57.3 percent to conclude (3) a $29,220 total cost for the year ended December 31, 2011.

We performed the same procedures for the previous years ended December 31, 1879 through December 31, 2010 to calculate the Water System's historical cost component for each respective year. The primary calculation difference between the year ended December 31, 2011 and the previous years is due to the decrease in the labor cost per year by 4.35 percent.

We added each period's historical cost component from December 31, 1879 through December 31, 2011, in order to conclude a $1.1 million historical cost component. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we arrived at $2.5 million. We then added the $1.1 million historical cost component to the $2.5 million rate of return component to conclude the formula purchase price of the customer information database corporate property asset.

Based on our analysis, we estimated the formula purchase price of the new customer connection portion of Water System's customer information database corporate property asset was $3.6 million, as of December 31, 2011.

Move-in Connection Customer Data

On Exhibits 4B of Appendix A, we present our formula purchase price analysis of the move-in connection customer data corporate property.

Aquarion Management estimated that during a 50 month measurement period—i.e., November 1, 2007 to December 31, 2011—the Water System averaged approximately 87 customer account changes per month. On an annualized basis, that 87 account changes per month corresponds to a 1,049 account changes per year.

Aquarion Management estimated that the Water System historical labor cost per account change was $8.50, as of December 31, 2011. We understand that the historical labor costs include the time spent by Water System billing setup personnel and Water System customer service personnel.

We understand that, based on the current number of the Water System customers, it would take approximately 12 years to retire (i.e., turnover) all of the current customer accounts. Therefore, we assumed that the move-in connection customer data was relevant over a 12 year period.

In 2011, we calculated the Water System's historical cost component of the customer information database by multiplying (1) the number of connections per year of 1,049 customers by (2) the historical-based labor cost per customer connection of $8.50, to conclude on $8,919 total historical base labor cost. Next, we multiplied the $8,919 historical cost by the payroll overhead allocation rate of 57.3 percent to arrive at $14,032 total cost for the year ended December 31, 2011.

We performed the same procedures for the previous years ended December 31, 2000 through December 31, 2010 to calculate the Water System's historical cost component for each respective year. The primary calculation difference between the year ended December 31, 2011 and the previous years is due to the decrease in the labor cost per year by 4.35 percent.

We added each period's historical cost component from December 31, 2000 through December 31, 2011, in order to conclude a $134,674 historical cost component. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we arrived at $80,734. We then added the $134,674 historical cost component to the $80,734 rate of return component to conclude the formula purchase price of the customer information database corporate property asset.

Based on our analysis, we estimated the formula purchase price of the move-in customer connection portion of Water System's customer information database corporate property asset was $215,407, as of December 31, 2011.

Meter Change-out Data

On Exhibits 4C of Appendix A, we present our formula purchase price analysis of the meter change-out data customer data corporate property. We understand that Aquarion has a company policy to replace its customer meters every ten years.

Aquarion Management estimated that labor cost per meter change out was approximately $30 each, as of December 31, 2011. We understand that the historical labor costs include the time spent by Water System utility operation personnel and water system customer service personnel.

For 2011, we calculated the Water System's historical cost component by multiplying (1) the average number of replacement meters each year of 1,247 by (2) the historical-based labor cost per customer connection of $30, to conclude a $37,136 total historical direct cost. Next, we multiplied the $37,136 historical cost by the payroll overhead allocation rate of 57.3 percent to conclude a $58,427 total cost for the year ended December 31, 2011.

We performed the same procedures for the previous years ended December 31, 2002 through December 31, 2010 to calculate the Water System's historical cost component for each respective year. The primary calculation difference between the year ended December 31, 2011 and the previous years is due to the decrease in the labor cost per year by 4.35 percent.

We added each period's historical cost component from December 31, 2002 through December 31, 2011, in order to conclude a $486,001 historical cost component. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we arrived at $250,279. We then added the $486,001 historical cost component to the $250,279 rate of return component to conclude the formula purchase price of the meter change-out data corporate property asset.

Based on our analysis, we estimated the formula purchase price of the customer meter change-out portion of Water System's customer information database corporate property asset was $736,280, as of December 31, 2011.

## Customer Information Database Summary

On Exhibits 4D of Appendix A, we present our formula purchase price analysis of the summary data of the customer information database corporate property. We combined the three customer information database categories related to the Water System's customer information database to conclude a combined formula purchase price of $4.6 million.

Based on our analysis, we estimated the formula purchase price of the Water System's customer information database corporate property asset was $4.6 million, as of December 31, 2011.

## Property Maintenance Database Corporate Property

On Exhibit 5 of Appendix A, we present our analysis of the formula purchase price of the Water System's property maintenance database corporate property asset.

In Appendix E, we present the supporting source information provided to us by Aquarion Management.

Based on the source documentation provided to us, the historical labor cost of creating the Water System property maintenance records was $9,320 per year, as of December 31, 2011.

Also, according to the company source documentation, based on the life and age of the company's Massachusetts utility property from a book depreciation perspective, it would take 44 years to fully depreciate all the Massachusetts corporate property, as of December 31, 2011. Therefore, we analyzed data for the Water System's property maintenance database corporate property for a 44 year period.

We calculated the historical cost component of the property maintenance database by multiplying (1) the Water System's historical base labor cost of $9,320, by (2) the 57.3 percent payroll overhead allocation percentage. We concluded a $14,664 historical cost component of the property maintenance database for the year ended December 31, 2011.

We performed the same procedures for the previous years ended December 31, 1968 through December 31, 2010 to calculate the historical cost component for each respective year. The primary calculation difference between the year ended December 31, 2011 and previous years is due to the decrease in the labor cost per year by 4.35 percent.

We added each period's historical cost component from December 31, 1968 through December 31, 2011, to conclude a $297,736 total historical cost component. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we concluded a $476,515 total rate of return component. We then added the $297,736 historical cost component to the $476,515 rate of return component to conclude the formula purchase price of the property maintenance database corporate property asset.

Based on our analysis, we estimated that the formula purchase price of the maintenance database corporate property asset was $774,251, as of December 31, 2011.

## Water Testing Records Database Corporate Property

On Exhibit 6 of Appendix A, we present our analysis of the formula purchase price of the water testing records database corporate property asset.

In Appendix F, we present the supporting source information provided to us by Aquarion Management.

Historical water testing records are maintained for bacteria testing, turbidity results, sanitary surveys, chemical usage, lead and copper levels, and other agency required testing records.

Based on the supporting source documentation, the historical labor cost spent to create the Water System's property maintenance records was $6,746 per year, as of December 31, 2011. The historical labor costs are based on the required time spent per year by (1) a company administrative assistant and (2) a water treatment plant operator.

Also, based on our analysis of supporting documentation, the Water System retains its water testing records for a period of three to 12 years. Therefore, we analyzed 12 years of data related to the Water System water testing records.

We calculated the historical cost component of the water testing records database corporate property by multiplying (1) the Water System's historical base labor cost of $6,746, by (2) the 57.3 percent payroll allocation percentage. We concluded the $10,614 historical cost component price of the water testing records database corporate property for the year ended December 31, 2011.

We performed the same procedures for the previous years ended December 31, 2000 through December 31, 2010 to calculate the historical cost component for each respective year. The primary calculation difference between the year ended December 31, 2011 and previous years is due to the decrease in the labor cost per year by 4.35 percent.

We added each period's historical cost component from December 31, 2000 through December 31, 2011, to conclude a $101,868 total historical cost component. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we conclude a $61,068 rate of return component. We then added the $101,868 historical cost component to the $61,068 rate of return component to conclude the formula purchase price of the water testing records database corporate property asset.

Based on our analysis, we calculated the formula purchase price of the water testing records database corporate property asset was $162,936, as of December 31, 2011.

## Water System Corporate Dividends

On Exhibit 7 of Appendix A, we present our analysis of the total Water System corporate dividends over the 1879 to 2011 time period. Total Water System corporate dividends are presented for both Scenario 1 and Scenario 2.

In Appendix B, we present the supporting source information provided to us by Aquarion Management.

For the time period beginning in 1881 and ending in 1916, the general ledger documentation provided the dividend information. From 1917 to 1927, there was a break in information, whereby Aquarion Management could not locate supporting dividend payment information.

For the time period beginning in 1917 and ended in 1927, dividends are assumed to be equal to the 1928 dividend payment of $26,400 each year. We note that this 1928 dividend payment was larger than any previously observed dividend payment.

For the time period beginning in 1928 and ended in 1980, the dividends (both common stock and preferred stock dividends) data were derived from the DPU Reports source documentation.

Starting in 1954 and ended in 1990, the Water System had preferred stock outstanding. Therefore, the Water System paid preferred dividends over that period. In 1981, 1982, and 1984, preferred dividends were estimated using the prior ten-year average of preferred dividend payments. For example, in 1981, the ten-year average was calculated using preferred stock dividend payments from 1971 to 1980. The ten-year average figure that was used for 1981 was $10,518.

Over the 1981, 1982, and 1984 time period, the Water System common stock dividends were estimated based on the calculation of a proceeding ten-year average common stock dividend payment. The common stock dividend estimate was performed similarly to the preferred stock dividend estimate.

For the period beginning in 1985 and ended in 1988, Aquarion Management used the Water System company ledgers to provide preferred stock and common stock dividend payments.

For the period beginning in January 1, 1989 and ended in December 31, 2011, Aquarion Management allocated a portion of the total Aquarion corporate dividend payment to the Water System. Aquarion Management based this allocation on a three factor allocation method. This three factor method was the same allocation account method employed to arrive at the Water System CIAC account for the 1989 to 2002 time period and the Water System Advances for the 1989 to 2000 time period.

For Scenario 1, including the Aquarion Water Capital of Massachusetts (i.e., Aquarion subsidiary that owns the Hingham water treatment plant asset) total dividends, the total dividends (both common stock dividends and preferred stock dividends) to shareholders as of December 31, 2011 were $14.3 million.

For Scenario 2, not including the Aquarion Water Capital of Massachusetts total dividends, the total dividends (both common stock dividends and preferred stock dividends) to shareholders as of December 31, 2011 were $9.7 million.

## SUMMARY AND CONCLUSION OF THE 1879 CHARTER PURCHASE PRICE CALCULATION

Based on our instructions from Legal Counsel, we calculated the formula purchase price of the Water System corporate property according to the formula presented in the 1879 Hingham Charter.

We calculated the formula purchase price of the corporate property assets according to the 1879 Charter for the following assets:

1. Gross plant and equipment
2. Assembled workforce
3. Customer information database
4. Property maintenance database

5. Water testing records database

## Gross Plant and Equipment

We were asked to calculate gross plant and equipment corporate property assets under two scenarios. The primary difference between Scenario 1 and Scenario 2 is the inclusion—or exclusion—of the Hingham water treatment plant. For Scenario 1, we included the Hingham water treatment plant. And, for Scenario 2, we excluded the Hingham water treatment plant.

### Scenario 1

For Scenario 1, we calculated the historical cost of gross plant and equipment corporate property assets to be $68.2 million as of December 31, 2011.

Next, we multiplied the historical cost component of $68.2 million by the 10 percent rate of return component. We repeated this procedure for the each year from 1879 to 2010. We then summed the rate return component for the 1879 to 2011 period, we concluded a $124.6 million rate of return component.

Finally, we added the historical cost component of $68.2 million to the rate of return component of $124.6 million, to conclude a formula purchase price of $192.9 million, as of December 31, 2011.

### Scenario 2

For Scenario 2, we calculated the historical cost of gross plant and equipment corporate property assets to be $27.9 million, as of December 31, 2011.

Next, we multiplied the historical cost component of $27.9 million by the 10 percent rate of return component. We repeated this procedure for the each year from 1879 to 2010. We then summed the rate return component for the 1879 to 2011 period, to conclude a $60.1 million rate of return component.

Finally, we added the historical cost component of $27.9 million to the rate of return component of $60.1 million, to conclude a formula purchase price of $88.1 million, as of December 31, 2011.

## Assembled Workforce

Based on our analysis, we arrived at $190,084 for the historical cost of the assembled workforce corporate property. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we concluded a $202,184 rate of return component for the measurement period beginning in 1973 and ending in 2011.

Finally, we added the historical cost component of $190,084 to the rate of return component of $202,184, to conclude a formula purchase price of $392,267, as of December 31, 2011.

### Customer Information Database

We added each period historical cost component from the respective time periods for each portion of the customer information database, to conclude $1.7 million ($1.1 million, $134,674 and $486,001 respectively). The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we arrived at a $2.9 million rate of return component ($2.5 million, $80,734 and $250,279 respectively). We then added the $1.7 million historical cost component to the $2.9 million rate of return component to conclude the formula purchase price of the customer information database corporate property asset.

Based on our analysis, we estimated the formula purchase price of the customer information database corporate property asset to be $4.6 million, as of December 31, 2011.

### Property Maintenance Database

We added each period historical cost component from December 31, 1968 through December 31, 2011, to arrive at $297,736. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we concluded a $476,515 rate of return component. We then added the $297,736 historical cost component to the $476,515 rate of return component to conclude the formula purchase price of the property maintenance database corporate property asset.

Based on our analysis, we calculated the formula purchase price of the maintenance database corporate property asset to be $774,251, as of December 31, 2011.

### Water Testing Records Database

We added each period historical cost component from December 31, 2000 through December 31, 2011, to conclude $101,868. The next procedure was to apply the 10 percent rate of return component.

Based on our application of the 10 percent rate of return component, we concluded a $61,068 rate of return component. We then added the $101,868 historical cost component to the $61,068 rate of return component to conclude the formula purchase price of the water testing records database corporate property asset.

Based on our analysis, we concluded the formula purchase price of the water testing records database corporate property asset to be $162,936, as of December 31, 2011.

### Summary of Identified Water System Corporate Property

On Exhibit 1A of Appendix A, we present the summary and conclusion of our formula purchase price calculation. This summary and conclusion includes the Hingham water treatment plant in the formula purchase price.

On Exhibit 1B of Appendix A, we present the summary and conclusion of our formula purchase price calculation. This summary and conclusion excludes the Hingham water treatment plant in the formula purchase price.

Scenario 1

We added the cost components of each of the corporate property assets including: gross plant and equipment of $192.9 million, assembled workforce of $0.39 million, customer information database of $4.6 million, property maintenance records database of $0.77 million, and water testing records database of $0.16 million. We calculated the total cost formula purchase price based on the 1879 Charter pricing formula for the total corporate property of $198.8 million.

For the next procedure, we subtracted $14.3 million of Water System dividends from the total cost formula purchase price of the total corporate property of $198.8 million. We concluded a formula purchase price of the Hingham Water System corporate property of $184.5 million, based on section 11 of the 1879 Charter.

Based on our analysis, the formula purchase price of the Hingham Water System corporate property, as of December 31, 2011, is (rounded):

**$184,460,000.**[8]

Scenario 2

We added the total cost components of each of the corporate property assets including: gross plant and equipment of $88.1 million, assembled workforce of $0.39 million, customer information database of $4.6 million, property maintenance records database of $0.77 million, and water testing records database of $0.16 million. We calculated the total cost formula purchase price based on the 1879 Charter pricing formula for the total corporate property of $94.0 million.

For the next procedure, we subtracted $9.7 million of Water System dividends from the total cost purchase price of the total corporate property of $94.0 million. We concluded a formula purchase price of the Hingham Water System corporate property of $84.3 million, based on section 11 of the 1879 Charter.

Based on our analysis, the formula purchase price of the Hingham Water System corporate property, as of December 31, 2011, is (rounded):

**$84,280,000.**[9]

[8] We reserve the right to amend our opinion if and when new data become available. We note that the $184,460,000 purchase price estimate is subject to limitations.
[9] We reserve the right to amend our opinion if and when new data become available. We note that the $84,280,000 purchase price estimate is subject to limitations.

## LIMITATIONS OF OUR CONCLUSION

The historical cost of each of the Water System corporate property assets, with the exception of the gross plant and equipment corporate property assets account, was calculated over a finite time period. Therefore, the formula purchase price of each of the Water System corporate property assets could be greater than our current calculations indicate.

In addition to the finite time period limitation, we previously stated limitations of our assembled workforce corporate property asset calculation. If we receive the indicated information that is not currently available to us, then our calculation of the formula purchase price of the assembled workforce corporate property asset would be greater than the $0.39 million stated herein.

We calculated the formula purchase price of the Water System corporate property assets based on the information available to us. If additional information becomes available to us, we reserve the right to amend this analysis.

During this assignment, we were provided with unaudited financial and operational data with respect to the Water System. We accepted these data without independent verification or confirmation.

We are independent of the Hingham Water System (and its owners) and all other parties associated with the dispute. We have no current or prospective financial interest in the subject Water System corporate property. Our fee for this analysis was in no way influenced by the results of our formula purchase price calculation.

The professional qualifications of the principal analyst are presented for information purposes only.

Very truly yours,

**WILLAMETTE MANAGEMENT ASSOCIATES**

Robert F. Reilly

Robert F. Reilly

## APPENDIX A - EXHIBITS

**EXHIBIT 1A**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**SUMMARY OF CORPORATE PROPERTY INCLUDING THE RETURN ON CORPORATE PROPERTY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY (INCLUDING HINGHAM WATER TREATMENT PLANT)**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| Type of Corporate Property | Exhibit Reference | Historical Cost of Corporate Property Component | Ten Percent Return on Historical Cost Component | 1879 Charter Pricing Formula Total Corporate Property Purchase Price |
|---|---|---|---|---|
| | | $ | $ | $ |
| | | A | B | A + B |
| Gross Plant and Equipment Corporate Property Total | 2 | 68,216,367 | 124,647,781 | 192,864,148 |
| Assembled Workforce Corporate Property Total | 3 | 190,084 | 202,184 | 392,267 |
| Customer Information Database Corporate Property Total | 4D | 1,719,593 | 2,880,351 | 4,599,944 |
| Property Maintenance Database Corporate Property Total | 5 | 297,736 | 476,515 | 774,251 |
| Water Testing Records Database Corporate Property Total | 6 | 101,868 | 61,068 | 162,936 |
| Total Corporate Property | | | | 198,793,547 |
| **Minus** Hingham Water System Dividends | 7 | | | 14,334,977 |
| Formula Purchase Price of Hingham Water System Corporate Property, as of December 31, 2011 (rounded) | | | | $ 184,460,000 |

**Original Data Sources:** Aquarion Management, WMA calculations, and as indicated.

**EXHIBIT 1B**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**SUMMARY OF CORPORATE PROPERTY INCLUDING THE RETURN ON CORPORATE PROPERTY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY (EXCLUDING HINGHAM WATER TREATMENT PLANT)**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| Type of Corporate Property | Exhibit Reference | Historical Cost of Corporate Property Component<br>$<br>A | Ten Percent Return on Historical Cost Component<br>$<br>B | 1879 Charter Pricing Formula Total Corporate Property Purchase Price<br>$<br>A + B |
|---|---|---|---|---|
| Gross Plant and Equipment Corporate Property Total | 2 | 27,973,736 | 60,107,104 | 88,080,840 |
| Assembled Workforce Corporate Property Total | 3 | 190,084 | 202,184 | 392,267 |
| Customer Information Database Corporate Property Total | 4 | 1,719,593 | 2,880,351 | 4,599,944 |
| Property Maintenance Database Corporate Property Total | 5 | 297,736 | 476,515 | 774,251 |
| Water Testing Records Database Corporate Property Total | 6 | 101,868 | 61,068 | 162,936 |
| Total Corporate Property | | | | 94,010,239 |
| **Minus** Hingham Water System Dividends, Excluding Mass Cap Dividends | 7 | | | 9,730,977 |
| Formula Purchase Price of Hingham Water System Corporate Property, as of December 31, 2011 (rounded) | | | | $ 84,280,000 |

**Original Data Sources:** Aquarion Management, WMA calculations, and as indicated.

**EXHIBIT 2**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**GROSS PLANT AND EQUIPMENT CORPORATE PROPERTY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**
**PAGE (1 OF 2)**

| | Including the Water Treatment Plant | | | | | | | Excluding the Water Treatment Plant | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Cost of Gross Plant and Equipment Corporate Property | Water Treatment Plant | Water Treatment Plant Restricted Cash | Contributions in Aid of Construction | Advances | Gross Plant and Equipment Corporate Property | 10% Return on Corporate Property | Contributions in Aid of Corporate Property | 10% Return on Corporate Property |
| | A ($) | B ($) | C ($) | D ($) | E ($) | A+B+C-D-E = F ($) | F X 10% = G ($) | A-D-E = H ($) | H X 10% = I ($) |
| 1879 | 34,497 | - | - | - | - | 34,497 | 3,450 | 34,497 | 3,450 |
| 1880 | 74,625 | - | - | - | - | 74,625 | 7,463 | 74,625 | 7,463 |
| 1881 | 74,625 | - | - | - | - | 74,625 | 7,463 | 74,625 | 7,463 |
| 1882 | 121,921 | - | - | - | - | 121,921 | 12,192 | 121,921 | 12,192 |
| 1883 | 169,633 | - | - | - | - | 169,633 | 16,963 | 169,633 | 16,963 |
| 1884 | 198,546 | - | - | - | - | 198,546 | 19,855 | 198,546 | 19,855 |
| 1885 | 210,944 | - | - | - | - | 210,944 | 21,094 | 210,944 | 21,094 |
| 1886 | 249,331 | - | - | - | - | 249,331 | 24,933 | 249,331 | 24,933 |
| 1887 | 252,216 | - | - | - | - | 252,216 | 25,222 | 252,216 | 25,222 |
| 1888 | 266,837 | - | - | - | - | 266,837 | 26,684 | 266,837 | 26,684 |
| 1889 | 267,224 | - | - | - | - | 267,224 | 26,722 | 267,224 | 26,722 |
| 1890 | 267,266 | - | - | - | - | 267,266 | 26,727 | 267,266 | 26,727 |
| 1891 | 280,160 | - | - | - | - | 280,160 | 28,016 | 280,160 | 28,016 |
| 1892 | 284,260 | - | - | - | - | 284,260 | 28,426 | 284,260 | 28,426 |
| 1893 | 298,106 | - | - | - | - | 298,106 | 29,811 | 298,106 | 29,811 |
| 1894 | 325,976 | - | - | - | - | 325,976 | 32,598 | 325,976 | 32,598 |
| 1895 | 328,959 | - | - | - | - | 328,959 | 32,896 | 328,959 | 32,896 |
| 1896 | 335,220 | - | - | - | - | 335,220 | 33,522 | 335,220 | 33,522 |
| 1897 | 342,362 | - | - | - | - | 342,362 | 34,236 | 342,362 | 34,236 |
| 1898 | 345,546 | - | - | - | - | 345,546 | 34,555 | 345,546 | 34,555 |
| 1899 | 348,628 | - | - | - | - | 348,628 | 34,863 | 348,628 | 34,863 |
| 1900 | 353,552 | - | - | - | - | 353,552 | 35,355 | 353,552 | 35,355 |
| 1901 | 360,164 | - | - | - | - | 360,164 | 36,016 | 360,164 | 36,016 |
| 1902 | 363,356 | - | - | - | - | 363,356 | 36,336 | 363,356 | 36,336 |
| 1903 | 416,658 | - | - | - | - | 416,658 | 41,666 | 416,658 | 41,666 |
| 1904 | 434,508 | - | - | - | - | 434,508 | 43,451 | 434,508 | 43,451 |
| 1905 | 436,053 | - | - | - | - | 436,053 | 43,605 | 436,053 | 43,605 |
| 1906 | 459,438 | - | - | - | - | 459,438 | 45,944 | 459,438 | 45,944 |
| 1907 | 465,857 | - | - | - | - | 465,857 | 46,586 | 465,857 | 46,586 |
| 1908 | 473,478 | - | - | - | - | 473,478 | 47,348 | 473,478 | 47,348 |
| 1909 | 511,364 | - | - | - | - | 511,364 | 51,136 | 511,364 | 51,136 |
| 1910 | 615,844 | - | - | - | - | 615,844 | 61,584 | 615,844 | 61,584 |
| 1911 | 652,100 | - | - | - | - | 652,100 | 65,210 | 652,100 | 65,210 |
| 1912 | 663,879 | - | - | - | - | 663,879 | 66,388 | 663,879 | 66,388 |
| 1913 | 679,160 | - | - | - | - | 679,160 | 67,916 | 679,160 | 67,916 |
| 1914 | 688,285 | - | - | - | - | 688,285 | 68,828 | 688,285 | 68,828 |
| 1915 | 705,706 | - | - | - | - | 705,706 | 70,571 | 705,706 | 70,571 |
| 1916 | 714,054 | - | - | - | - | 714,054 | 71,405 | 714,054 | 71,405 |
| 1917 | 746,657 | - | - | - | - | 746,657 | 74,666 | 746,657 | 74,666 |
| 1918 | 779,260 | - | - | - | - | 779,260 | 77,926 | 779,260 | 77,926 |
| 1919 | 811,863 | - | - | - | - | 811,863 | 81,186 | 811,863 | 81,186 |
| 1920 | 844,466 | - | - | - | - | 844,466 | 84,447 | 844,466 | 84,447 |
| 1921 | 877,069 | - | - | - | - | 877,069 | 87,707 | 877,069 | 87,707 |
| 1922 | 909,672 | - | - | - | - | 909,672 | 90,967 | 909,672 | 90,967 |
| 1923 | 942,274 | - | - | - | - | 942,274 | 94,227 | 942,274 | 94,227 |
| 1924 | 974,877 | - | - | - | - | 974,877 | 97,488 | 974,877 | 97,488 |
| 1925 | 988,225 | - | - | - | - | 988,225 | 98,822 | 988,225 | 98,822 |
| 1926 | 1,005,880 | - | - | - | - | 1,005,880 | 100,588 | 1,005,880 | 100,588 |
| 1927 | 1,018,256 | - | - | - | - | 1,018,256 | 101,826 | 1,018,256 | 101,826 |
| 1928 | 1,036,335 | - | - | - | - | 1,036,335 | 103,634 | 1,036,335 | 103,634 |
| 1929 | 1,055,956 | - | - | - | - | 1,055,956 | 105,596 | 1,055,956 | 105,596 |
| 1930 | 1,067,191 | - | - | - | - | 1,067,191 | 106,719 | 1,067,191 | 106,719 |
| 1931 | 1,075,013 | - | - | - | - | 1,075,013 | 107,501 | 1,075,013 | 107,501 |
| 1932 | 1,084,398 | - | - | - | - | 1,084,398 | 108,440 | 1,084,398 | 108,440 |
| 1933 | 1,122,739 | - | - | - | - | 1,122,739 | 112,274 | 1,122,739 | 112,274 |
| 1934 | 1,156,693 | - | - | - | - | 1,156,693 | 115,669 | 1,156,693 | 115,669 |
| 1935 | 1,182,015 | - | - | - | - | 1,182,015 | 118,202 | 1,182,015 | 118,202 |
| 1936 | 1,188,602 | - | - | - | - | 1,188,602 | 118,860 | 1,188,602 | 118,860 |
| 1937 | 1,228,923 | - | - | - | - | 1,228,923 | 122,892 | 1,228,923 | 122,892 |
| 1938 | 1,260,796 | - | - | - | - | 1,260,796 | 126,080 | 1,260,796 | 126,080 |
| 1939 | 1,294,514 | - | - | - | - | 1,294,514 | 129,451 | 1,294,514 | 129,451 |
| 1940 | 1,311,793 | - | - | - | - | 1,311,793 | 131,179 | 1,311,793 | 131,179 |
| 1941 | 1,331,004 | - | - | - | - | 1,331,004 | 133,100 | 1,331,004 | 133,100 |
| 1942 | 1,368,125 | - | - | 5,478 | - | 1,362,646 | 136,265 | 1,362,646 | 136,265 |
| 1943 | 1,380,838 | - | - | 6,531 | - | 1,374,307 | 137,431 | 1,374,307 | 137,431 |
| 1944 | 1,382,072 | - | - | 6,799 | - | 1,375,272 | 137,527 | 1,375,272 | 137,527 |
| 1945 | 1,387,653 | - | - | 12,301 | - | 1,375,352 | 137,535 | 1,375,352 | 137,535 |
| 1946 | 1,420,535 | - | - | 21,368 | - | 1,399,167 | 139,917 | 1,399,167 | 139,917 |
| 1947 | 1,476,896 | - | - | 21,745 | - | 1,455,151 | 145,515 | 1,455,151 | 145,515 |
| 1948 | 1,558,059 | - | - | 21,745 | - | 1,536,314 | 153,631 | 1,536,314 | 153,631 |
| 1949 | 1,593,580 | - | - | 22,001 | 41,849 | 1,529,730 | 152,973 | 1,529,730 | 152,973 |
| 1950 | 1,662,307 | - | - | 24,016 | 59,044 | 1,579,247 | 157,925 | 1,579,247 | 157,925 |
| 1951 | 1,717,517 | - | - | 24,551 | 71,628 | 1,621,338 | 162,134 | 1,621,338 | 162,134 |
| 1952 | 1,822,612 | - | - | 24,821 | 93,803 | 1,703,988 | 170,399 | 1,703,988 | 170,399 |
| 1953 | 2,025,293 | - | - | 25,489 | 100,267 | 1,899,536 | 189,954 | 1,899,536 | 189,954 |
| 1954 | 2,212,911 | - | - | 27,463 | 140,623 | 2,044,824 | 204,482 | 2,044,824 | 204,482 |
| 1955 | 2,344,627 | - | - | 27,463 | 160,879 | 2,156,285 | 215,628 | 2,156,285 | 215,628 |
| 1956 | 2,586,980 | - | - | 42,071 | 202,261 | 2,342,648 | 234,265 | 2,342,648 | 234,265 |
| 1957 | 2,724,625 | - | - | 45,764 | 189,159 | 2,489,702 | 248,970 | 2,489,702 | 248,970 |

**Original Data Sources:** Company executives Troy Dixon, the director of rates and regulation and Gabrielle St. Cyr, senior accountant for Aquarion Water Company. And, documentation provided in Appendix B.

**EXHIBIT 2**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**GROSS PLANT AND EQUIPMENT CORPORATE PROPERTY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**
**PAGE (2 OF 2)**

| | Including the Water Treatment Plant | | | | | | | Excluding the Water Treatment Plant | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Cost of Gross Plant and Equipment Corporate Property | Water Treatment Plant | Water Treatment Plant Restricted Cash | Contributions in Aid of Construction | Advances | Gross Plant and Equipment Corporate Property | 10% Return on Corporate Property | Contributions in Aid of Corporate Property | 10% Return on Corporate Property |
| | A ($) | B ($) | C ($) | D ($) | E ($) | A+B+C-D-E = F ($) | F X 10% = G ($) | A-D-E = H ($) | H X 10% = I ($) |
| 1958 | 2,776,391 | - | - | 48,581 | 193,106 | 2,534,704 | 253,470 | 2,534,704 | 253,470 |
| 1959 | 2,830,076 | - | - | 55,326 | 179,279 | 2,595,472 | 259,547 | 2,595,472 | 259,547 |
| 1960 | 2,896,935 | - | - | 55,326 | 194,563 | 2,647,046 | 264,705 | 2,647,046 | 264,705 |
| 1961 | 3,006,047 | - | - | 61,547 | 237,255 | 2,707,245 | 270,725 | 2,707,245 | 270,725 |
| 1962 | 3,125,465 | - | - | 68,177 | 273,845 | 2,785,443 | 278,544 | 2,785,443 | 278,544 |
| 1963 | 3,502,386 | - | - | 82,650 | 342,148 | 3,077,588 | 307,759 | 3,077,588 | 307,759 |
| 1964 | 3,649,342 | - | - | 120,103 | 292,013 | 3,237,226 | 323,723 | 3,237,226 | 323,723 |
| 1965 | 3,814,016 | - | - | 137,055 | 328,987 | 3,347,974 | 334,797 | 3,347,974 | 334,797 |
| 1966 | 3,980,956 | - | - | 149,347 | 328,921 | 3,504,688 | 350,469 | 3,504,688 | 350,469 |
| 1967 | 4,251,732 | - | - | 163,561 | 322,933 | 3,765,238 | 376,524 | 3,765,238 | 376,524 |
| 1968 | 4,372,645 | - | - | 173,970 | 319,720 | 3,878,956 | 387,896 | 3,878,956 | 387,896 |
| 1969 | 4,704,539 | - | - | 180,006 | 373,710 | 4,150,823 | 415,082 | 4,150,823 | 415,082 |
| 1970 | 4,872,851 | - | - | 187,736 | 385,112 | 4,299,983 | 429,998 | 4,299,983 | 429,998 |
| 1971 | 5,063,938 | - | - | 189,351 | 365,191 | 4,509,396 | 450,940 | 4,509,396 | 450,940 |
| 1972 | 5,244,421 | - | - | 222,760 | 361,796 | 4,659,865 | 465,986 | 4,659,865 | 465,986 |
| 1973 | 5,341,422 | - | - | 250,792 | 341,215 | 4,749,415 | 474,941 | 4,749,415 | 474,941 |
| 1974 | 5,422,046 | - | - | 262,635 | 372,251 | 4,787,160 | 478,716 | 4,787,160 | 478,716 |
| 1975 | 5,592,603 | - | - | 316,467 | 392,729 | 4,883,407 | 488,341 | 4,883,407 | 488,341 |
| 1976 | 5,695,744 | - | - | 336,240 | 363,467 | 4,996,037 | 499,604 | 4,996,037 | 499,604 |
| 1977 | 5,800,766 | - | - | 440,717 | 271,303 | 5,088,745 | 508,875 | 5,088,745 | 508,875 |
| 1978 | 5,912,557 | - | - | 493,465 | 257,850 | 5,161,241 | 516,124 | 5,161,241 | 516,124 |
| 1979 | 5,975,633 | - | - | 535,973 | 248,197 | 5,191,463 | 519,146 | 5,191,463 | 519,146 |
| 1980 | 6,174,935 | - | - | 653,278 | 217,216 | 5,304,442 | 530,444 | 5,304,442 | 530,444 |
| 1981 | 6,485,063 | - | - | 883,177 | 166,520 | 5,435,366 | 543,537 | 5,435,366 | 543,537 |
| 1982 | 6,906,196 | - | - | 928,552 | 94,701 | 5,882,943 | 588,294 | 5,882,943 | 588,294 |
| 1983 | 7,126,364 | - | - | 1,090,264 | 22,883 | 6,013,217 | 601,322 | 6,013,217 | 601,322 |
| 1984 | 7,415,815 | - | - | 1,147,265 | 69,389 | 6,199,163 | 619,916 | 6,199,163 | 619,916 |
| 1985 | 8,505,701 | - | - | 1,524,541 | 115,895 | 6,865,265 | 686,527 | 6,865,265 | 686,527 |
| 1986 | 9,321,569 | - | - | 2,029,216 | - | 7,292,353 | 729,235 | 7,292,353 | 729,235 |
| 1987 | 9,846,943 | - | - | 2,019,270 | 152,601 | 7,675,072 | 767,507 | 7,675,072 | 767,507 |
| 1988 | 10,154,219 | - | - | 1,997,050 | 226,478 | 7,930,691 | 793,069 | 7,930,691 | 793,069 |
| 1989 | 10,649,544 | - | - | 1,968,144 | 480,032 | 8,201,368 | 820,137 | 8,201,368 | 820,137 |
| 1990 | 10,923,993 | - | - | 1,937,503 | 542,074 | 8,444,357 | 844,436 | 8,444,357 | 844,436 |
| 1991 | 11,379,591 | - | - | 1,906,707 | 604,427 | 8,868,456 | 886,846 | 8,868,456 | 886,846 |
| 1992 | 11,801,905 | - | - | 1,984,026 | 645,702 | 9,172,177 | 917,218 | 9,172,177 | 917,218 |
| 1993 | 12,147,211 | - | - | 2,032,269 | 686,732 | 9,428,210 | 942,821 | 9,428,210 | 942,821 |
| 1994 | 12,924,358 | - | - | 2,108,370 | 728,132 | 10,087,856 | 1,008,786 | 10,087,856 | 1,008,786 |
| 1995 | 15,478,439 | - | - | 2,132,430 | 600,934 | 12,745,075 | 1,274,508 | 12,745,075 | 1,274,508 |
| 1996 | 17,201,649 | 37,389,921 | 3,016,795 | 2,160,525 | 680,291 | 54,767,549 | 5,476,755 | 14,360,853 | 1,436,085 |
| 1997 | 17,862,017 | 37,389,921 | 3,016,821 | 2,176,428 | 615,306 | 55,477,025 | 5,547,702 | 15,070,283 | 1,507,028 |
| 1998 | 18,618,885 | 37,389,921 | 3,016,820 | 2,209,604 | 624,366 | 56,191,657 | 5,619,166 | 15,784,916 | 1,578,492 |
| 1999 | 19,615,432 | 37,389,921 | 3,016,717 | 2,269,920 | 1,328,511 | 56,423,639 | 5,642,364 | 16,917,001 | 1,691,700 |
| 2000 | 18,435,864 | 37,389,921 | 3,016,951 | 2,228,713 | 1,758,842 | 54,855,180 | 5,485,518 | 14,448,308 | 1,444,831 |
| 2001 | 19,976,444 | 37,389,921 | 3,016,665 | 2,187,026 | 1,051,819 | 57,144,185 | 5,714,419 | 16,737,599 | 1,673,760 |
| 2002 | 20,313,346 | 37,389,921 | 3,016,717 | 2,173,058 | 888,095 | 57,658,921 | 5,765,892 | 17,252,283 | 1,725,228 |
| 2003 | 21,496,067 | 37,389,921 | 3,016,665 | 2,173,058 | 1,052,424 | 58,677,171 | 5,867,717 | 18,270,585 | 1,827,058 |
| 2004 | 23,049,721 | 37,439,149 | 3,016,925 | 2,219,854 | 1,052,424 | 60,233,517 | 6,023,352 | 19,777,443 | 1,977,744 |
| 2005 | 25,077,166 | 37,439,149 | 2,803,367 | 2,219,854 | 1,156,804 | 61,943,024 | 6,194,302 | 21,700,509 | 2,170,051 |
| 2006 | 25,866,458 | 37,439,149 | 2,803,523 | 3,101,775 | 413,276 | 62,394,079 | 6,239,408 | 22,151,407 | 2,215,141 |
| 2007 | 27,314,296 | 37,439,149 | 2,803,133 | 3,270,670 | 329,381 | 63,956,526 | 6,395,653 | 23,714,245 | 2,371,424 |
| 2008 | 28,711,162 | 37,439,149 | 2,803,054 | 3,270,670 | 366,381 | 65,316,314 | 6,531,631 | 25,074,111 | 2,507,411 |
| 2009 | 29,758,446 | 37,439,149 | 2,803,263 | 3,270,670 | 378,381 | 66,351,807 | 6,635,181 | 26,109,395 | 2,610,939 |
| 2010 | 33,350,880 | 37,439,149 | 2,803,315 | 6,372,672 | 65,262 | 67,155,410 | 6,715,541 | 26,912,946 | 2,691,295 |
| 2011 | 34,528,290 | 37,439,149 | 2,803,481 | 6,452,292 | 102,262 | 68,216,367 | 6,821,637 | 27,973,736 | 2,797,374 |
| | | | | **Category Totals** | | 68,216,367 | 124,647,781 | 27,973,736 | 60,107,104 |

| | |
|---|---|
| **1879 Charter Pricing Formula Gross Plant and Equipment Corporate Property, Including the Water Treatment Plant Total** | $ 192,864,148 |
| **1879 Charter Pricing Formula Gross Plant and Equipment Corporate Property, Excluding the Water Treatment Plant Total** | $ 88,080,840 |

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix B.

**EXHIBIT 3**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**ASSEMBLED WORKFORCE CORPORATE PROPERTY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| Year Employed | Number of New Employees Added Per Year | Total Base Salary of New Employees Per Year | Overhead Amount @ 57.3% | Full Absorption Cost of New Employees | Cumulative Payroll Cost [a] | Cost to Recruit and Hire Employee [b] | Annual Cost to Train Employees [c] | Cumulative Cost to Recruit, Hire, and Train Employees | 10% Return on Corporate Property |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | B x (0.573) = C | B + C = D | E | B x 0.089 =F | E x 0.009 = G | F + G = H | H X 10% |
| | # | $ | $ | $ | $ | $ | $ | $ | ($) |
| 1973 | 1 | 9,682 | 5,551 | 15,233 | 15,233 | 862 | 140 | 1,003 | 100 |
| 1974 | - | - | - | - | 15,896 | - | 146 | 1,149 | 115 |
| 1975 | - | - | - | - | 16,587 | - | 153 | 1,302 | 130 |
| 1976 | 1 | 11,294 | 6,475 | 17,769 | 35,078 | 1,006 | 323 | 2,631 | 263 |
| 1977 | - | - | - | - | 36,604 | - | 337 | 2,968 | 297 |
| 1978 | 2 | 29,328 | 16,815 | 46,143 | 84,339 | 2,612 | 777 | 6,357 | 636 |
| 1979 | - | - | - | - | 88,008 | - | 811 | 7,168 | 717 |
| 1980 | - | - | - | - | 91,837 | - | 846 | 8,014 | 801 |
| 1981 | - | - | - | - | 95,832 | - | 883 | 8,897 | 890 |
| 1982 | 1 | 19,292 | 11,061 | 30,353 | 130,354 | 1,718 | 1,201 | 11,817 | 1,182 |
| 1983 | - | - | - | - | 136,024 | - | 1,253 | 13,070 | 1,307 |
| 1984 | - | - | - | - | 141,942 | - | 1,308 | 14,378 | 1,438 |
| 1985 | - | - | - | - | 148,117 | - | 1,365 | 15,743 | 1,574 |
| 1986 | - | - | - | - | 154,560 | - | 1,424 | 17,167 | 1,717 |
| 1987 | 1 | 24,731 | 14,179 | 38,910 | 200,194 | 2,202 | 1,845 | 21,214 | 2,121 |
| 1988 | - | - | - | - | 208,903 | - | 1,925 | 23,139 | 2,314 |
| 1989 | - | - | - | - | 217,991 | - | 2,009 | 25,148 | 2,515 |
| 1990 | - | - | - | - | 227,474 | - | 2,096 | 27,244 | 2,724 |
| 1991 | 1 | 24,024 | 13,774 | 37,798 | 275,167 | 2,139 | 2,536 | 31,919 | 3,192 |
| 1992 | - | - | - | - | 287,138 | - | 2,646 | 34,565 | 3,456 |
| 1993 | - | - | - | - | 299,629 | - | 2,761 | 37,326 | 3,733 |
| 1994 | - | - | - | - | 312,663 | - | 2,881 | 40,207 | 4,021 |
| 1995 | - | - | - | - | 326,265 | - | 3,006 | 43,213 | 4,321 |
| 1996 | - | - | - | - | 340,458 | - | 3,137 | 46,351 | 4,635 |
| 1997 | - | - | - | - | 355,269 | - | 3,274 | 49,624 | 4,962 |
| 1998 | - | - | - | - | 370,724 | - | 3,416 | 53,040 | 5,304 |
| 1999 | 2 | 73,091 | 41,906 | 114,997 | 501,848 | 6,509 | 4,624 | 64,174 | 6,417 |
| 2000 | - | - | - | - | 523,679 | - | 4,826 | 68,999 | 6,900 |
| 2001 | - | - | - | - | 546,460 | - | 5,035 | 74,035 | 7,403 |
| 2002 | - | - | - | - | 570,233 | - | 5,255 | 79,289 | 7,929 |
| 2003 | 1 | 45,344 | 25,998 | 71,342 | 666,381 | 4,038 | 6,141 | 89,468 | 8,947 |
| 2004 | - | - | - | - | 695,370 | - | 6,408 | 95,875 | 9,588 |
| 2005 | - | - | - | - | 725,620 | - | 6,686 | 102,562 | 10,256 |
| 2006 | 1 | 52,478 | 30,088 | 82,566 | 839,752 | 4,673 | 7,738 | 114,973 | 11,497 |
| 2007 | - | - | - | - | 876,283 | - | 8,075 | 123,048 | 12,305 |
| 2008 | 1 | 52,000 | 29,814 | 81,814 | 996,216 | 4,631 | 9,180 | 136,859 | 13,686 |
| 2009 | 1 | 140,000 | 80,268 | 220,268 | 1,259,822 | 12,467 | 11,609 | 160,935 | 16,093 |
| 2010 | 1 | 37,024 | 21,227 | 58,251 | 1,372,878 | 3,297 | 12,651 | 176,883 | 17,688 |
| 2011 | - | - | - | - | 1,432,601 | - | 13,201 | 190,084 | 19,008 |
| | | | | | Category Totals | 46,155 | 143,929 | | 202,184 |

| | |
|---|---|
| **1879 Charter Pricing Formula Assembled Workforce Corporate Property Total** | $ 392,267 |

**Footnote:**
[a] Cumulative payroll is increased by 4.35 percent per year. For example, the cumulative payroll cost for the year ended December 31, 1974 was calculated as follows: $15,233 (1+.0435) = $15896.
[b] The Aquarion Water Company estimate, provided by Aquarion Management, of 8.9 percent of salary is inclusive of the external costs of recruiting and hiring. We note that the 8.9 percent cost does not include any internal recruiting and hiring costs, such as, the cost of Aquarion Water Company employees time spent interviewing new employees.
[c] According to Aquarion Management, on average, Aquarion Water Company devotes 0.9 percent of employee time spent each year on training.

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix C.

**EXHIBIT 4A**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**CUSTOMER INFORMATION DATABASE CORPORATE PROPERTY - NEW CUSTOMER CONNECTION DATA**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**
**(Page 1 of 2)**

| Year | Cumulative Number of Connections | Number of Customer Connections Per Year | Historical Base Labor Cost per Customer Connection [a] | Total Historical Base Labor Costs | Overhead Allocation Percent | Full Absorption Labor Cost of Employee | Cumulative Historical Labor Cost of New Customer Connection | 10% Return on Corporate Property |
|---|---|---|---|---|---|---|---|---|
| | | A | B | A x B = C | D | C x D = E | F | F x 10% |
| | # | # | $ | $ | % | $ | $ | $ |
| 1879 | 108 | 108 | 1.16 | 125 | 57.3 | 197 | 197 | 20 |
| 1880 | 216 | 108 | 1.21 | 131 | 57.3 | 206 | 206 | 21 |
| 1881 | 324 | 108 | 1.26 | 136 | 57.3 | 215 | 215 | 21 |
| 1882 | 432 | 108 | 1.32 | 142 | 57.3 | 224 | 224 | 22 |
| 1883 | 540 | 108 | 1.38 | 149 | 57.3 | 234 | 234 | 23 |
| 1884 | 648 | 108 | 1.44 | 155 | 57.3 | 244 | 244 | 24 |
| 1885 | 756 | 108 | 1.50 | 162 | 57.3 | 254 | 254 | 25 |
| 1886 | 864 | 108 | 1.56 | 169 | 57.3 | 266 | 266 | 27 |
| 1887 | 972 | 108 | 1.63 | 176 | 57.3 | 277 | 277 | 28 |
| 1888 | 1,080 | 108 | 1.70 | 184 | 57.3 | 289 | 289 | 29 |
| 1889 | 1,188 | 108 | 1.78 | 192 | 57.3 | 302 | 302 | 30 |
| 1890 | 1,296 | 108 | 1.85 | 200 | 57.3 | 315 | 617 | 62 |
| 1891 | 1,404 | 108 | 1.93 | 209 | 57.3 | 329 | 945 | 95 |
| 1892 | 1,512 | 108 | 2.02 | 218 | 57.3 | 343 | 1,288 | 129 |
| 1893 | 1,620 | 108 | 2.11 | 227 | 57.3 | 358 | 1,646 | 165 |
| 1894 | 1,728 | 108 | 2.20 | 237 | 57.3 | 373 | 2,019 | 202 |
| 1895 | 1,836 | 108 | 2.29 | 248 | 57.3 | 390 | 2,409 | 241 |
| 1896 | 1,944 | 108 | 2.39 | 258 | 57.3 | 406 | 2,815 | 282 |
| 1897 | 2,052 | 108 | 2.50 | 270 | 57.3 | 424 | 3,239 | 324 |
| 1898 | 2,160 | 108 | 2.60 | 281 | 57.3 | 443 | 3,682 | 368 |
| 1899 | 2,268 | 108 | 2.72 | 294 | 57.3 | 462 | 4,144 | 414 |
| 1900 | 2,376 | 108 | 2.84 | 306 | 57.3 | 482 | 4,626 | 463 |
| 1901 | 2,484 | 108 | 2.96 | 320 | 57.3 | 503 | 5,129 | 513 |
| 1902 | 2,592 | 108 | 3.09 | 334 | 57.3 | 525 | 5,653 | 565 |
| 1903 | 2,700 | 108 | 3.22 | 348 | 57.3 | 548 | 6,201 | 620 |
| 1904 | 2,808 | 108 | 3.36 | 363 | 57.3 | 571 | 6,773 | 677 |
| 1905 | 2,916 | 108 | 3.51 | 379 | 57.3 | 596 | 7,369 | 737 |
| 1906 | 3,024 | 108 | 3.66 | 396 | 57.3 | 622 | 7,991 | 799 |
| 1907 | 3,132 | 108 | 3.82 | 413 | 57.3 | 649 | 8,640 | 864 |
| 1908 | 3,240 | 108 | 3.99 | 431 | 57.3 | 678 | 9,318 | 932 |
| 1909 | 3,348 | 108 | 4.16 | 449 | 57.3 | 707 | 10,025 | 1,003 |
| 1910 | 3,456 | 108 | 4.34 | 469 | 57.3 | 738 | 10,763 | 1,076 |
| 1911 | 3,564 | 108 | 4.53 | 489 | 57.3 | 770 | 11,533 | 1,153 |
| 1912 | 3,672 | 108 | 4.73 | 511 | 57.3 | 803 | 12,336 | 1,234 |
| 1913 | 3,780 | 108 | 4.93 | 533 | 57.3 | 838 | 13,174 | 1,317 |
| 1914 | 3,888 | 108 | 5.15 | 556 | 57.3 | 875 | 14,049 | 1,405 |
| 1915 | 3,996 | 108 | 5.37 | 580 | 57.3 | 913 | 14,962 | 1,496 |
| 1916 | 4,104 | 108 | 5.61 | 605 | 57.3 | 953 | 15,915 | 1,591 |
| 1917 | 4,212 | 108 | 5.85 | 632 | 57.3 | 994 | 16,909 | 1,691 |
| 1918 | 4,320 | 108 | 6.10 | 659 | 57.3 | 1,037 | 17,946 | 1,795 |
| 1919 | 4,428 | 108 | 6.37 | 688 | 57.3 | 1,082 | 19,028 | 1,903 |
| 1920 | 4,536 | 108 | 6.65 | 718 | 57.3 | 1,129 | 20,158 | 2,016 |
| 1921 | 4,644 | 108 | 6.94 | 749 | 57.3 | 1,179 | 21,336 | 2,134 |
| 1922 | 4,752 | 108 | 7.24 | 782 | 57.3 | 1,230 | 22,566 | 2,257 |
| 1923 | 4,860 | 108 | 7.55 | 816 | 57.3 | 1,283 | 23,850 | 2,385 |
| 1924 | 4,968 | 108 | 7.88 | 851 | 57.3 | 1,339 | 25,189 | 2,519 |
| 1925 | 5,076 | 108 | 8.22 | 888 | 57.3 | 1,397 | 26,586 | 2,659 |
| 1926 | 5,184 | 108 | 8.58 | 927 | 57.3 | 1,458 | 28,044 | 2,804 |
| 1927 | 5,292 | 108 | 8.96 | 967 | 57.3 | 1,522 | 29,566 | 2,957 |
| 1928 | 5,406 | 114 | 9.34 | 1,065 | 57.3 | 1,676 | 31,242 | 3,124 |
| 1929 | 5,535 | 129 | 9.75 | 1,258 | 57.3 | 1,979 | 33,221 | 3,322 |
| 1930 | 5,630 | 95 | 10.18 | 967 | 57.3 | 1,521 | 34,742 | 3,474 |
| 1931 | 5,704 | 74 | 10.62 | 786 | 57.3 | 1,236 | 35,978 | 3,598 |
| 1932 | 5,752 | 48 | 11.08 | 532 | 57.3 | 837 | 36,815 | 3,682 |
| 1933 | 5,286 | (466) | 11.56 | (5,388) | 57.3 | (8,477) | 28,338 | 2,834 |
| 1934 | 5,326 | 40 | 12.06 | 483 | 57.3 | 759 | 29,098 | 2,910 |
| 1935 | 5,390 | 64 | 12.59 | 806 | 57.3 | 1,268 | 30,365 | 3,037 |
| 1936 | 5,435 | 45 | 13.14 | 591 | 57.3 | 930 | 31,295 | 3,130 |
| 1937 | 5,489 | 54 | 13.71 | 740 | 57.3 | 1,165 | 32,460 | 3,246 |
| 1938 | 5,530 | 41 | 14.30 | 587 | 57.3 | 923 | 33,383 | 3,338 |
| 1939 | 5,615 | 85 | 14.93 | 1,269 | 57.3 | 1,996 | 35,379 | 3,538 |
| 1940 | 5,621 | 6 | 15.58 | 93 | 57.3 | 147 | 35,526 | 3,553 |
| 1941 | 5,791 | 170 | 16.25 | 2,763 | 57.3 | 4,347 | 39,874 | 3,987 |
| 1942 | 5,818 | 27 | 16.96 | 458 | 57.3 | 721 | 40,594 | 4,059 |
| 1943 | 5,826 | 8 | 17.70 | 142 | 57.3 | 223 | 40,817 | 4,082 |
| 1944 | 5,836 | 10 | 18.47 | 185 | 57.3 | 291 | 41,107 | 4,111 |
| 1945 | 5,857 | 21 | 19.27 | 405 | 57.3 | 637 | 41,744 | 4,174 |
| 1946 | 5,917 | 60 | 20.11 | 1,207 | 57.3 | 1,898 | 43,643 | 4,364 |
| 1947 | 6,087 | 170 | 20.99 | 3,568 | 57.3 | 5,613 | 49,256 | 4,926 |

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix D.

**EXHIBIT 4A**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**CUSTOMER INFORMATION DATABASE CORPORATE PROPERTY - NEW CUSTOMER CONNECTION DATA**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**
**(Page 2 of 2)**

| Year | Cummulative Number of Connections | Number of Customer Connections Per Year | Historical Base Labor Cost per Customer Connection [a] | Total Historical Base Labor Costs | Overhead Allocation Percent | Full Absorption Labor Cost of Employee | Cumulative Historical Labor Cost of New Customer Connection | 10% Return on Corporate Property |
|---|---|---|---|---|---|---|---|---|
| | | A | B | A x B = C | D | C x D = E | F | F x 10% |
| | # | # | $ | $ | % | $ | $ | $ |
| 1948 | 5,805 | (282) | 21.90 | (6,175) | 57.3 | (9,716) | 39,540 | 3,954 |
| 1949 | 6,555 | 750 | 22.85 | 17,138 | 57.3 | 26,964 | 66,504 | 6,650 |
| 1950 | 6,628 | 73 | 23.84 | 1,741 | 57.3 | 2,739 | 69,242 | 6,924 |
| 1951 | 6,659 | 31 | 24.88 | 771 | 57.3 | 1,214 | 70,456 | 7,046 |
| 1952 | 7,176 | 517 | 25.96 | 13,424 | 57.3 | 21,120 | 91,576 | 9,158 |
| 1953 | 7,021 | (155) | 27.09 | (4,200) | 57.3 | (6,607) | 84,969 | 8,497 |
| 1954 | 7,349 | 328 | 28.27 | 9,273 | 57.3 | 14,590 | 99,559 | 9,956 |
| 1955 | 7,885 | 536 | 29.50 | 15,813 | 57.3 | 24,880 | 124,439 | 12,444 |
| 1956 | 7,753 | (132) | 30.79 | (4,064) | 57.3 | (6,394) | 118,045 | 11,804 |
| 1957 | 8,189 | 436 | 32.12 | 14,006 | 57.3 | 22,037 | 140,082 | 14,008 |
| 1958 | 8,267 | 78 | 33.52 | 2,615 | 57.3 | 4,114 | 144,196 | 14,420 |
| 1959 | 8,074 | (193) | 34.98 | (6,751) | 57.3 | (10,622) | 133,574 | 13,357 |
| 1960 | 8,337 | 263 | 36.50 | 9,600 | 57.3 | 15,104 | 148,678 | 14,868 |
| 1961 | 8,360 | 23 | 38.09 | 876 | 57.3 | 1,378 | 150,056 | 15,006 |
| 1962 | 8,512 | 152 | 39.75 | 6,042 | 57.3 | 9,505 | 159,562 | 15,956 |
| 1963 | 8,504 | (8) | 41.48 | (332) | 57.3 | (522) | 159,040 | 15,904 |
| 1964 | 8,714 | 210 | 43.28 | 9,089 | 57.3 | 14,300 | 173,340 | 17,334 |
| 1965 | 8,743 | 29 | 45.16 | 1,310 | 57.3 | 2,061 | 175,400 | 17,540 |
| 1966 | 9,005 | 262 | 47.13 | 12,347 | 57.3 | 19,427 | 194,827 | 19,483 |
| 1967 | 9,098 | 93 | 49.18 | 4,574 | 57.3 | 7,196 | 202,023 | 20,202 |
| 1968 | 9,226 | 128 | 51.32 | 6,569 | 57.3 | 10,335 | 212,357 | 21,236 |
| 1969 | 9,374 | 148 | 53.55 | 7,925 | 57.3 | 12,469 | 224,826 | 22,483 |
| 1970 | 9,464 | 90 | 55.88 | 5,029 | 57.3 | 7,912 | 232,739 | 23,274 |
| 1971 | 9,530 | 66 | 58.31 | 3,848 | 57.3 | 6,055 | 238,794 | 23,879 |
| 1972 | 9,627 | 97 | 60.85 | 5,902 | 57.3 | 9,286 | 248,079 | 24,808 |
| 1973 | 9,706 | 79 | 63.49 | 5,016 | 57.3 | 7,892 | 255,971 | 25,597 |
| 1974 | 9,759 | 53 | 66.25 | 3,511 | 57.3 | 5,525 | 261,496 | 26,150 |
| 1975 | 9,840 | 81 | 69.14 | 5,600 | 57.3 | 8,811 | 270,307 | 27,031 |
| 1976 | 9,967 | 127 | 72.14 | 9,162 | 57.3 | 14,415 | 284,722 | 28,472 |
| 1977 | 10,342 | 375 | 75.28 | 28,231 | 57.3 | 44,417 | 329,139 | 32,914 |
| 1978 | 10,011 | (331) | 78.56 | (26,002) | 57.3 | (40,910) | 288,228 | 28,823 |
| 1979 | 10,129 | 118 | 81.97 | 9,673 | 57.3 | 15,219 | 303,447 | 30,345 |
| 1980 | 10,208 | 79 | 85.54 | 6,758 | 57.3 | 10,632 | 314,079 | 31,408 |
| 1981 | 10,208 | - | 89.26 | - | 57.3 | - | 314,079 | 31,408 |
| 1982 | 10,370 | 162 | 93.14 | 15,089 | 57.3 | 23,741 | 337,820 | 33,782 |
| 1983 | 10,444 | 74 | 97.20 | 7,192 | 57.3 | 11,316 | 349,136 | 34,914 |
| 1984 | 10,560 | 116 | 101.42 | 11,765 | 57.3 | 18,511 | 367,646 | 36,765 |
| 1985 | 10,659 | 99 | 105.84 | 10,478 | 57.3 | 16,485 | 384,131 | 38,413 |
| 1986 | 10,845 | 186 | 110.44 | 20,542 | 57.3 | 32,319 | 416,450 | 41,645 |
| 1987 | 10,528 | (317) | 115.24 | (36,532) | 57.3 | (57,477) | 358,973 | 35,897 |
| 1988 | 10,764 | 236 | 120.26 | 28,381 | 57.3 | 44,652 | 403,625 | 40,363 |
| 1989 | 11,149 | 385 | 125.49 | 48,313 | 57.3 | 76,012 | 479,638 | 47,964 |
| 1990 | 11,149 | - | 130.95 | - | 57.3 | - | 479,638 | 47,964 |
| 1991 | 10,827 | (322) | 136.64 | (43,999) | 57.3 | (69,225) | 410,412 | 41,041 |
| 1992 | 10,902 | 75 | 142.59 | 10,694 | 57.3 | 16,825 | 427,238 | 42,724 |
| 1993 | 10,902 | - | 148.79 | - | 57.3 | - | 427,238 | 42,724 |
| 1994 | 11,057 | 155 | 155.26 | 24,065 | 57.3 | 37,863 | 465,101 | 46,510 |
| 1995 | 11,166 | 109 | 162.02 | 17,660 | 57.3 | 27,785 | 492,885 | 49,289 |
| 1996 | 11,112 | (54) | 169.06 | (9,129) | 57.3 | (14,364) | 478,522 | 47,852 |
| 1997 | 11,168 | 56 | 176.42 | 9,879 | 57.3 | 15,544 | 494,065 | 49,407 |
| 1998 | 11,222 | 54 | 184.09 | 9,941 | 57.3 | 15,640 | 509,706 | 50,971 |
| 1999 | 11,266 | 44 | 192.10 | 8,452 | 57.3 | 13,298 | 523,004 | 52,300 |
| 2000 | 11,327 | 61 | 200.46 | 12,228 | 57.3 | 19,238 | 542,243 | 54,224 |
| 2001 | 11,404 | 77 | 209.18 | 16,106 | 57.3 | 25,341 | 567,584 | 56,758 |
| 2002 | 11,952 | 548 | 218.27 | 119,614 | 57.3 | 188,194 | 755,778 | 75,578 |
| 2003 | 12,103 | 151 | 227.77 | 34,393 | 57.3 | 54,112 | 809,890 | 80,989 |
| 2004 | 11,978 | (125) | 237.68 | (29,710) | 57.3 | (46,743) | 763,147 | 76,315 |
| 2005 | 12,024 | 46 | 248.02 | 11,409 | 57.3 | 17,950 | 781,096 | 78,110 |
| 2006 | 12,158 | 134 | 258.80 | 34,680 | 57.3 | 54,563 | 835,660 | 83,566 |
| 2007 | 12,471 | 313 | 270.06 | 84,530 | 57.3 | 132,994 | 968,654 | 96,865 |
| 2008 | 12,506 | 35 | 281.81 | 9,863 | 57.3 | 15,518 | 984,172 | 98,417 |
| 2009 | 12,598 | 92 | 294.07 | 27,054 | 57.3 | 42,566 | 1,026,738 | 102,674 |
| 2010 | 12,682 | 84 | 306.86 | 25,776 | 57.3 | 40,555 | 1,067,293 | 106,729 |
| 2011 | 12,740 | 58 | 320.21 | 18,572 | 57.3 | 29,220 | 1,096,513 | 109,651 |
| | | 12,740 | | | | | | |
| | | | | Category Totals | | 1,098,918 | | 2,549,339 |

| | |
|---|---|
| **1879 Charter Pricing Formula Customer Information Database, New Connection Data Corporate Property Total** | $ 3,648,257 |

**Footnote:**
[a] Based on an employee labor cost of $320.21 to create a new account setup, for the year ended December 31, 2011. For each previous year ended December 31, labor cost was decreased by 4.35 percent. For example, the labor cost for the year ended December 31, 2010 was calculated as follows: $320.21/(1+.0435) = $306.86.

**Original Data Sources:** Aquarion Management, and documentation provided in Apendix D.

**EXHIBIT 4B**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**CUSTOMER INFORMATION DATABASE CORPORATE PROPERTY - MOVE-IN CONNECTION CUSTOMER DATA**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| Year | Average Number of Customer Connections Per Year | Historical Base Labor Cost per Customer Connection [a] | Total Historical Base Labor Costs | Overhead Allocation Percent | Full Absorption Labor Cost of Employee | Cumulative Historical Labor Cost of Customer Database | 10% Return on Corporate Property |
|---|---|---|---|---|---|---|---|
| | A | B | A x B = C | D | C x D = E | F | F x 10% |
| | # | $ | $ | % | $ | $ | $ |
| 2000 | 1,049 | 5.32 | 5,583 | 57.3 | 8,784 | 8,784 | 878 |
| 2001 | 1,049 | 5.55 | 5,826 | 57.3 | 9,166 | 17,951 | 1,795 |
| 2002 | 1,049 | 5.79 | 6,080 | 57.3 | 9,565 | 27,516 | 2,752 |
| 2003 | 1,049 | 6.05 | 6,344 | 57.3 | 9,981 | 37,497 | 3,750 |
| 2004 | 1,049 | 6.31 | 6,620 | 57.3 | 10,415 | 47,913 | 4,791 |
| 2005 | 1,049 | 6.58 | 6,908 | 57.3 | 10,869 | 58,781 | 5,878 |
| 2006 | 1,049 | 6.87 | 7,208 | 57.3 | 11,341 | 70,123 | 7,012 |
| 2007 | 1,049 | 7.17 | 7,522 | 57.3 | 11,835 | 81,957 | 8,196 |
| 2008 | 1,049 | 7.48 | 7,849 | 57.3 | 12,350 | 94,307 | 9,431 |
| 2009 | 1,049 | 7.81 | 8,191 | 57.3 | 12,887 | 107,194 | 10,719 |
| 2010 | 1,049 | 8.15 | 8,547 | 57.3 | 13,447 | 120,641 | 12,064 |
| 2011 | 1,049 | 8.50 | 8,919 | 57.3 | 14,032 | 134,674 | 13,467 |
| | 12,591 | | | | | | |
| | | | Category Totals | | 134,674 | | 80,734 |

| | |
|---|---|
| **1879 Charter Pricing Formula Customer Information Database, Move-In Connection Data Corporate Property Total** | $ 215,407 |

**Footnote:**
[a] Based on an employee labor cost of $8.50 to change account setup, for the year ended December 31, 2011. For each previous year ended December 31, labor cost was decreased by 4.35 percent. For example, the labor cost for the year ended December 31, 2010 was calculated as follows: $8.50/(1+.0435) = $8.15.

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix D.

**EXHIBIT 4C**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**CUSTOMER INFORMATION DATABASE CORPORATE PROPERTY - METER CHANGE-OUT DATA**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| Year | Number of Meter Changeouts per Year | Historical Base Labor Cost per Customer Connection [a] | Total Historical Base Labor Costs | Overhead Allocation Percent | Full Absorption Labor Cost of Employee | Cumulative Historical Labor Cost of Customer Database | 10% Return on Corporate Property |
|---|---|---|---|---|---|---|---|
| | A | B | A x B = C | D | C x D = E | F | F x 10% |
| | # | $ | $ | % | $ | $ | $ |
| 2002 | 1,247 | 20.30 | 25,313 | 57.3 | 39,827 | 39,827 | 3,983 |
| 2003 | 1,247 | 21.18 | 26,415 | 57.3 | 41,559 | 81,386 | 8,139 |
| 2004 | 1,247 | 22.10 | 27,564 | 57.3 | 43,367 | 124,753 | 12,475 |
| 2005 | 1,247 | 23.07 | 28,763 | 57.3 | 45,254 | 170,007 | 17,001 |
| 2006 | 1,247 | 24.07 | 30,014 | 57.3 | 47,222 | 217,229 | 21,723 |
| 2007 | 1,247 | 25.12 | 31,320 | 57.3 | 49,277 | 266,505 | 26,651 |
| 2008 | 1,247 | 26.21 | 32,682 | 57.3 | 51,420 | 317,926 | 31,793 |
| 2009 | 1,247 | 27.35 | 34,104 | 57.3 | 53,657 | 371,583 | 37,158 |
| 2010 | 1,247 | 28.54 | 35,588 | 57.3 | 55,991 | 427,574 | 42,757 |
| 2011 | 1,247 | 29.78 | 37,136 | 57.3 | 58,427 | 486,001 | 48,600 |
| | 12,470 | | | | | | |
| | | | Category Totals | | 486,001 | | 250,279 |

| | |
|---|---|
| **1879 Charter Pricing Formula Customer Information Database, Meter Change-out Data Corporate Property Total** | $ 736,280 |

**Footnote:**
[a] Based on an employee labor cost of $29.78 to change out meter, for the year ended December 31, 2011. For each previous year ended December 31, labor cost was decreased by 4.35 percent. For example, the labor cost for the year ended December 31, 2010 was calculated as follows: $29.78/(1+.0435) = $28.54.

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix D.

**EXHIBIT 4 D**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**CUSTOMER INFORMATION DATABASE CORPORATE PROPERTY SUMMARY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| | Exhibit Reference | Historical Cost of Corporate Property Component | 10% Return on Corporate Property |
|---|---|---|---|
| | | $ | $ |
| | | A | B |
| Customer Information Database Corporate Property, New Customer Connection Data | 4 A | 1,098,918 | 2,549,339 |
| Customer Information Database Corporate Property, Move-in Customer Connection Data | 4 B | 134,674 | 80,734 |
| Customer Information Database Corporate Property, Meter Change-out Data | 4 C | 486,001 | 250,279 |
| | Category Totals | 1,719,593 | 2,880,351 |
| **1879 Charter Pricing Formula Customer Information Database Corporate Property Total** | | | $ 4,599,944 |

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix D.

**EXHIBIT 5**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**PROPERTY MAINTENANCE DATABASE CORPORATE PROPERTY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| Year | Historical Base Labor Cost Of Employee [a] | Overhead Allocation Percent | Full Absorption Labor Cost of Employee | Cumulative Historical Labor Cost to Maintain Property Records | 10% Return on Corporate Property |
|---|---|---|---|---|---|
| | A | B | A x (1+ B) = C | D | D x 10% |
| | $ | % | $ | $ | $ |
| 1968 | 1,494 | 57.3 | 2,350 | 2,350 | 235 |
| 1969 | 1,559 | 57.3 | 2,452 | 4,802 | 480 |
| 1970 | 1,626 | 57.3 | 2,559 | 7,361 | 736 |
| 1971 | 1,697 | 57.3 | 2,670 | 10,031 | 1,003 |
| 1972 | 1,771 | 57.3 | 2,786 | 12,817 | 1,282 |
| 1973 | 1,848 | 57.3 | 2,907 | 15,724 | 1,572 |
| 1974 | 1,928 | 57.3 | 3,034 | 18,758 | 1,876 |
| 1975 | 2,012 | 57.3 | 3,166 | 21,924 | 2,192 |
| 1976 | 2,100 | 57.3 | 3,304 | 25,228 | 2,523 |
| 1977 | 2,191 | 57.3 | 3,447 | 28,675 | 2,868 |
| 1978 | 2,286 | 57.3 | 3,597 | 32,272 | 3,227 |
| 1979 | 2,386 | 57.3 | 3,754 | 36,026 | 3,603 |
| 1980 | 2,490 | 57.3 | 3,917 | 39,943 | 3,994 |
| 1981 | 2,598 | 57.3 | 4,087 | 44,031 | 4,403 |
| 1982 | 2,711 | 57.3 | 4,265 | 48,296 | 4,830 |
| 1983 | 2,829 | 57.3 | 4,451 | 52,747 | 5,275 |
| 1984 | 2,952 | 57.3 | 4,644 | 57,391 | 5,739 |
| 1985 | 3,080 | 57.3 | 4,846 | 62,238 | 6,224 |
| 1986 | 3,214 | 57.3 | 5,057 | 67,295 | 6,730 |
| 1987 | 3,354 | 57.3 | 5,277 | 72,572 | 7,257 |
| 1988 | 3,500 | 57.3 | 5,507 | 78,079 | 7,808 |
| 1989 | 3,652 | 57.3 | 5,746 | 83,826 | 8,383 |
| 1990 | 3,811 | 57.3 | 5,996 | 89,822 | 8,982 |
| 1991 | 3,977 | 57.3 | 6,257 | 96,080 | 9,608 |
| 1992 | 4,150 | 57.3 | 6,530 | 102,609 | 10,261 |
| 1993 | 4,331 | 57.3 | 6,814 | 109,423 | 10,942 |
| 1994 | 4,519 | 57.3 | 7,110 | 116,533 | 11,653 |
| 1995 | 4,716 | 57.3 | 7,419 | 123,952 | 12,395 |
| 1996 | 4,921 | 57.3 | 7,742 | 131,694 | 13,169 |
| 1997 | 5,135 | 57.3 | 8,079 | 139,773 | 13,977 |
| 1998 | 5,358 | 57.3 | 8,430 | 148,203 | 14,820 |
| 1999 | 5,591 | 57.3 | 8,797 | 157,000 | 15,700 |
| 2000 | 5,835 | 57.3 | 9,180 | 166,180 | 16,618 |
| 2001 | 6,088 | 57.3 | 9,579 | 175,759 | 17,576 |
| 2002 | 6,353 | 57.3 | 9,996 | 185,755 | 18,575 |
| 2003 | 6,630 | 57.3 | 10,431 | 196,185 | 19,619 |
| 2004 | 6,918 | 57.3 | 10,884 | 207,069 | 20,707 |
| 2005 | 7,219 | 57.3 | 11,358 | 218,427 | 21,843 |
| 2006 | 7,533 | 57.3 | 11,852 | 230,279 | 23,028 |
| 2007 | 7,861 | 57.3 | 12,368 | 242,647 | 24,265 |
| 2008 | 8,203 | 57.3 | 12,906 | 255,552 | 25,555 |
| 2009 | 8,559 | 57.3 | 13,467 | 269,019 | 26,902 |
| 2010 | 8,932 | 57.3 | 14,053 | 283,072 | 28,307 |
| 2011 | 9,320 | 57.3 | 14,664 | 297,736 | 29,774 |
| Category Totals | | | 297,736 | | 476,515 |

| | |
|---|---|
| **1879 Charter Pricing Formula Property Maintenance Records Database Corporate Property Total** | $ 774,251 |

**Footnote:**
[a] Based on an employee salary of $88,811.71 a year whom devotes 10.4945 percent of a full year to maintaining the property maintenance record database, for the year ended December 31, 2011. For each previous year ended December 31, labor cost was decreased by 4.35 percent. For example as of December 31, 2011 the cost of the employee was calculated as follows: $88,811.71 x 10.4945 percent = 9,320.4. The employee cost for the year ended December 31, 2010 was calculated as follows: $9,320.4/(1+.0435) = $8,932.

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix E.

**EXHIBIT 6**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**WATER TESTING RECORDS DATABASE CORPORATE PROPERTY**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**

| Year | Historical Labor Cost Spent to Test Water Per Year [a] | Overhead Allocation Percent | Full Absorption Labor Cost to Test Water Per Year | Cumulative Historical Labor Cost to Test Water Per Year | 10% Return on Corporate Property |
|---|---|---|---|---|---|
| | A | B | A x B = C | E | E x 10% |
| | $ | % | $ | $ | $ |
| 2000 | 4,223 | 57.3 | 6,645 | 6,645 | 664 |
| 2001 | 4,407 | 57.3 | 6,934 | 13,578 | 1,358 |
| 2002 | 4,599 | 57.3 | 7,235 | 20,813 | 2,081 |
| 2003 | 4,799 | 57.3 | 7,550 | 28,363 | 2,836 |
| 2004 | 5,007 | 57.3 | 7,878 | 36,242 | 3,624 |
| 2005 | 5,225 | 57.3 | 8,221 | 44,463 | 4,446 |
| 2006 | 5,453 | 57.3 | 8,579 | 53,041 | 5,304 |
| 2007 | 5,690 | 57.3 | 8,952 | 61,993 | 6,199 |
| 2008 | 5,937 | 57.3 | 9,341 | 71,335 | 7,133 |
| 2009 | 6,196 | 57.3 | 9,748 | 81,082 | 8,108 |
| 2010 | 6,465 | 57.3 | 10,172 | 91,254 | 9,125 |
| 2011 | 6,746 | 57.3 | 10,614 | 101,868 | 10,187 |
| | Category Totals | | 101,868 | | 61,068 |

| | |
|---|---|
| **1879 Charter Pricing Formula Water Testing Records Database Corporate Property Total** | $ 162,936 |

**Footnote:**
[a] Based on an employee labor cost of $6,746 spent on water records testing, for the year ended December 31, 2011. For each previous year ended December 31, labor cost was decreased by 4.35 percent. For example, the labor cost for the year ended December 31, 2010 was calculated as follows: $6,746/(1+.0435) = $6,465.

**Original Datat Source:** Aquarion Management, and documentation provided in Appendix F.

**EXHIBIT 7**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**HINGHAM WATER SYSTEM DIVIDENDS**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**
**PAGE (1 OF 2)**

| Year | Preferred Stockholders Dividends A ($) | Common Stockholders Dividends B ($) | Mass Cap Dividends C ($) | Total Distributions Including Mass Cap Dividends A + B + C ($) | Total Distributions Not Including Mass Cap Dividends A + B ($) |
|---|---|---|---|---|---|
| 1879 | - | - | - | - | - |
| 1880 | - | - | - | - | - |
| 1881 | - | 2,400 | - | 2,400 | 2,400 |
| 1882 | - | 6,000 | - | 6,000 | 6,000 |
| 1883 | - | 7,200 | - | 7,200 | 7,200 |
| 1884 | - | 7,200 | - | 7,200 | 7,200 |
| 1885 | - | 7,200 | - | 7,200 | 7,200 |
| 1886 | - | 7,200 | - | 7,200 | 7,200 |
| 1887 | - | 7,200 | - | 7,200 | 7,200 |
| 1888 | - | 7,200 | - | 7,200 | 7,200 |
| 1889 | - | 7,200 | - | 7,200 | 7,200 |
| 1890 | - | 7,200 | - | 7,200 | 7,200 |
| 1891 | - | 7,200 | - | 7,200 | 7,200 |
| 1892 | - | 7,200 | - | 7,200 | 7,200 |
| 1893 | - | 7,200 | - | 7,200 | 7,200 |
| 1894 | - | 7,200 | - | 7,200 | 7,200 |
| 1895 | - | 7,200 | - | 7,200 | 7,200 |
| 1896 | - | 7,200 | - | 7,200 | 7,200 |
| 1897 | - | 7,200 | - | 7,200 | 7,200 |
| 1898 | - | 7,200 | - | 7,200 | 7,200 |
| 1899 | - | 7,200 | - | 7,200 | 7,200 |
| 1900 | - | 7,200 | - | 7,200 | 7,200 |
| 1901 | - | 7,200 | - | 7,200 | 7,200 |
| 1902 | - | 7,200 | - | 7,200 | 7,200 |
| 1903 | - | 7,200 | - | 7,200 | 7,200 |
| 1904 | - | 7,200 | - | 7,200 | 7,200 |
| 1905 | - | 9,000 | - | 9,000 | 9,000 |
| 1906 | - | 9,000 | - | 9,000 | 9,000 |
| 1907 | - | 9,000 | - | 9,000 | 9,000 |
| 1908 | - | 9,000 | - | 9,000 | 9,000 |
| 1909 | - | 9,000 | - | 9,000 | 9,000 |
| 1910 | - | 9,000 | - | 9,000 | 9,000 |
| 1911 | - | 18,000 | - | 18,000 | 18,000 |
| 1912 | - | 18,000 | - | 18,000 | 18,000 |
| 1913 | - | 21,000 | - | 21,000 | 21,000 |
| 1914 | - | 24,000 | - | 24,000 | 24,000 |
| 1915 | - | 24,000 | - | 24,000 | 24,000 |
| 1916 | - | 24,000 | - | 24,000 | 24,000 |
| 1917 | - | 26,400 | - | 26,400 | 26,400 |
| 1918 | - | 26,400 | - | 26,400 | 26,400 |
| 1919 | - | 26,400 | - | 26,400 | 26,400 |
| 1920 | - | 26,400 | - | 26,400 | 26,400 |
| 1921 | - | 26,400 | - | 26,400 | 26,400 |
| 1922 | - | 26,400 | - | 26,400 | 26,400 |
| 1923 | - | 26,400 | - | 26,400 | 26,400 |
| 1924 | - | 26,400 | - | 26,400 | 26,400 |
| 1925 | - | 26,400 | - | 26,400 | 26,400 |
| 1926 | - | 26,400 | - | 26,400 | 26,400 |
| 1927 | - | 26,400 | - | 26,400 | 26,400 |
| 1928 | - | 26,400 | - | 26,400 | 26,400 |
| 1929 | - | 13,200 | - | 13,200 | 13,200 |
| 1930 | - | - | - | - | - |
| 1931 | - | 70,400 | - | 70,400 | 70,400 |
| 1932 | - | 57,200 | - | 57,200 | 57,200 |
| 1933 | - | 52,800 | - | 52,800 | 52,800 |
| 1934 | - | 35,200 | - | 35,200 | 35,200 |
| 1935 | - | 35,200 | - | 35,200 | 35,200 |
| 1936 | - | 44,000 | - | 44,000 | 44,000 |
| 1937 | - | 35,200 | - | 35,200 | 35,200 |
| 1938 | - | 35,200 | - | 35,200 | 35,200 |
| 1939 | - | 35,200 | - | 35,200 | 35,200 |
| 1940 | - | 22,000 | - | 22,000 | 22,000 |
| 1941 | - | 28,600 | - | 28,600 | 28,600 |
| 1942 | - | 25,300 | - | 25,300 | 25,300 |
| 1943 | - | 40,400 | - | 40,400 | 40,400 |
| 1944 | - | 37,200 | - | 37,200 | 37,200 |
| 1945 | - | 34,800 | - | 34,800 | 34,800 |
| 1946 | - | 22,800 | - | 22,800 | 22,800 |
| 1947 | - | 22,800 | - | 22,800 | 22,800 |
| 1948 | - | 29,760 | - | 29,760 | 29,760 |
| 1949 | - | 35,808 | - | 35,808 | 35,808 |
| 1950 | - | 19,872 | - | 19,872 | 19,872 |
| 1951 | - | 20,976 | - | 20,976 | 20,976 |
| 1952 | - | 24,240 | - | 24,240 | 24,240 |
| 1953 | - | 67,152 | - | 67,152 | 67,152 |
| 1954 | 4,608 | 44,880 | - | 49,488 | 49,488 |
| 1955 | 10,500 | 40,320 | - | 50,820 | 50,820 |
| 1956 | 10,290 | 28,320 | - | 38,610 | 38,610 |
| 1957 | 10,080 | 28,320 | - | 38,400 | 38,400 |

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix B.

**EXHIBIT 7**
**AQUARION WATER COMPANY - HINGHAM WATER SYSTEM**
**HINGHAM WATER SYSTEM DIVIDENDS**
**FORMULA PURCHASE PRICE OF CORPORATE PROPERTY**
**ACCORDING TO THE 1879 CHARTER PRICING FORMULA**
**AS OF DECEMBER 31, 2011**
**PAGE (2 OF 2)**

| Year | Preferred Stockholders Dividends A ($) | Common Stockholders Dividends B ($) | Mass Cap Dividends C ($) | Total Distributions Including Mass Cap Dividends A + B + C ($) | Total Distributions Not Including Mass Cap Dividends A + B ($) |
|---|---|---|---|---|---|
| 1958 | 9,870 | 57,041 | - | 66,911 | 66,911 |
| 1959 | 9,660 | 71,618 | - | 81,278 | 81,278 |
| 1960 | 9,450 | 80,638 | - | 90,088 | 90,088 |
| 1961 | 9,240 | 79,928 | - | 89,168 | 89,168 |
| 1962 | 9,030 | 93,158 | - | 102,188 | 102,188 |
| 1963 | 12,462 | 104,529 | - | 116,991 | 116,991 |
| 1964 | 15,735 | 85,231 | - | 100,966 | 100,966 |
| 1965 | 15,454 | 99,718 | - | 115,172 | 115,172 |
| 1966 | 15,101 | 99,117 | - | 114,218 | 114,218 |
| 1967 | 14,749 | 84,629 | - | 99,378 | 99,378 |
| 1968 | 14,396 | 56,529 | - | 70,925 | 70,925 |
| 1969 | 14,044 | 49,531 | - | 63,575 | 63,575 |
| 1970 | 13,691 | 56,529 | - | 70,220 | 70,220 |
| 1971 | 13,439 | 56,622 | - | 70,060 | 70,060 |
| 1972 | 12,776 | 59,916 | - | 72,692 | 72,692 |
| 1973 | 12,214 | 18,114 | - | 30,328 | 30,328 |
| 1974 | 11,651 | 40,687 | - | 52,339 | 52,339 |
| 1975 | 11,089 | 14,491 | - | 25,580 | 25,580 |
| 1976 | 10,526 | 81,723 | - | 92,249 | 92,249 |
| 1977 | 6,964 | 43,827 | - | 50,790 | 50,790 |
| 1978 | 9,401 | 29,192 | - | 38,593 | 38,593 |
| 1979 | 8,839 | - | - | 8,839 | 8,839 |
| 1980 | 8,276 | 50,395 | - | 58,671 | 58,671 |
| 1981 | 10,518 | 58,467 | - | 68,985 | 68,985 |
| 1982 | 10,225 | 39,681 | - | 49,907 | 49,907 |
| 1983 | 6,589 | 37,658 | - | 44,246 | 44,246 |
| 1984 | 9,408 | 39,612 | - | 49,020 | 49,020 |
| 1985 | 5,464 | 110,636 | - | 116,100 | 116,100 |
| 1986 | 4,901 | - | - | 4,901 | 4,901 |
| 1987 | 4,339 | - | - | 4,339 | 4,339 |
| 1988 | 3,776 | - | - | 3,776 | 3,776 |
| 1989 | 3,633 | - | - | 3,633 | 3,633 |
| 1990 | 290 | - | - | 290 | 290 |
| 1991 | - | 199,418 | - | 199,418 | 199,418 |
| 1992 | - | 370,595 | - | 370,595 | 370,595 |
| 1993 | - | 449,620 | - | 449,620 | 449,620 |
| 1994 | - | 334,309 | - | 334,309 | 334,309 |
| 1995 | - | 211,850 | - | 211,850 | 211,850 |
| 1996 | - | 307,381 | - | 307,381 | 307,381 |
| 1997 | - | 335,581 | - | 335,581 | 335,581 |
| 1998 | - | 373,358 | - | 373,358 | 373,358 |
| 1999 | - | 418,349 | - | 418,349 | 418,349 |
| 2000 | - | 235,618 | - | 235,618 | 235,618 |
| 2001 | - | 309,297 | - | 309,297 | 309,297 |
| 2002 | - | 225,003 | - | 225,003 | 225,003 |
| 2003 | - | 421,087 | - | 421,087 | 421,087 |
| 2004 | - | 437,656 | - | 437,656 | 437,656 |
| 2005 | - | 296,281 | - | 296,281 | 296,281 |
| 2006 | - | 329,992 | - | 329,992 | 329,992 |
| 2007 | - | 103,371 | 3,100,000 | 3,203,371 | 103,371 |
| 2008 | - | 210,851 | - | 210,851 | 210,851 |
| 2009 | - | 285,147 | - | 285,147 | 285,147 |
| 2010 | - | 160,573 | - | 160,573 | 160,573 |
| 2011 | - | - | 1,504,000 | 1,504,000 | - |
| Dividend Totals | 362,678 | 9,368,299 | 4,604,000 | 14,334,977 | 9,730,977 |

| | |
|---|---|
| **1879 Charter Pricing Formula Hingham Water System Dividends, Including Mass Cap** | $ 14,334,977 |
| **1879 Charter Pricing Formula Hingham Water System Dividends, Excluding Mass Cap** | $ 9,730,977 |

**Original Data Sources:** Aquarion Management, and documentation provided in Appendix B.

## APPENDIX B – GROSS PLANT AND EQUIPMENT AND DIVIDENDS SOURCE DOCUMENTATION

## Summary Sheet of Gross Plant and Dividends

Hingham/Hull/Cohasset Water System

| Year | Gross Plant | CIAC | Advances | Preferred | Dividends Common | Total | HWTP Gross Plant | Restricted Cash Reserve | Dividends |
|---|---|---|---|---|---|---|---|---|---|
| 1879 | 34,497 | | | | | - | | | |
| 1880 | 74,625 | | | | | - | | | |
| 1881 | 74,625 | | | | 2,400 | 2,400 | | | |
| 1882 | 121,921 | | | | 6,000 | 6,000 | | | |
| 1883 | 169,633 | | | | 7,200 | 7,200 | | | |
| 1884 | 198,546 | | | | 7,200 | 7,200 | | | |
| 1885 | 210,944 | | | | 7,200 | 7,200 | | | |
| 1886 | 249,331 | | | | 7,200 | 7,200 | | | |
| 1887 | 252,216 | | | | 7,200 | 7,200 | | | |
| 1888 | 266,837 | | | | 7,200 | 7,200 | | | |
| 1889 | 267,224 | | | | 7,200 | 7,200 | | | |
| 1890 | 267,266 | | | | 7,200 | 7,200 | | | |
| 1891 | 280,160 | | | | 7,200 | 7,200 | | | |
| 1892 | 284,260 | | | | 7,200 | 7,200 | | | |
| 1893 | 298,106 | | | | 7,200 | 7,200 | | | |
| 1894 | 325,976 | | | | 7,200 | 7,200 | | | |
| 1895 | 328,959 | | | | 7,200 | 7,200 | | | |
| 1896 | 335,220 | | | | 7,200 | 7,200 | | | |
| 1897 | 342,362 | | | | 7,200 | 7,200 | | | |
| 1898 | 345,546 | | | | 7,200 | 7,200 | | | |
| 1899 | 348,628 | | | | 7,200 | 7,200 | | | |
| 1900 | 353,552 | | | | 7,200 | 7,200 | | | |
| 1901 | 360,164 | | | | 7,200 | 7,200 | | | |
| 1902 | 363,356 | | | | 7,200 | 7,200 | | | |
| 1903 | 416,658 | | | | 7,200 | 7,200 | | | |
| 1904 | 434,508 | | | | 7,200 | 7,200 | | | |
| 1905 | 436,053 | | | | 9,000 | 9,000 | | | |
| 1906 | 459,438 | | | | 9,000 | 9,000 | | | |
| 1907 | 465,857 | | | | 9,000 | 9,000 | | | |
| 1908 | 473,478 | | | | 9,000 | 9,000 | | | |
| 1909 | 511,364 | | | | 9,000 | 9,000 | | | |
| 1910 | 615,844 | | | | 9,000 | 9,000 | | | |
| 1911 | 652,100 | | | | 18,000 | 18,000 | | | |
| 1912 | 663,879 | | | | 18,000 | 18,000 | | | |
| 1913 | 679,160 | | | | 21,000 | 21,000 | | | |
| 1914 | 688,285 | | | | 24,000 | 24,000 | | | |
| 1915 | 705,706 | | | | 24,000 | 24,000 | | | |
| 1916 | 714,054 | | | | 24,000 | 24,000 | | | |
| 1917 | 746,657 | | | | 26,400 | 26,400 | | | |
| 1918 | 779,260 | | | | 26,400 | 26,400 | | | |
| 1919 | 811,862 | | | | 26,400 | 26,400 | | | |
| 1920 | 844,465 | | | | 26,400 | 26,400 | | | |
| 1921 | 877,068 | | | | 26,400 | 26,400 | | | |
| 1922 | 909,671 | | | | 26,400 | 26,400 | | | |
| 1923 | 942,273 | | | | 26,400 | 26,400 | | | |
| 1924 | 974,876 | | | | 26,400 | 26,400 | | | |
| 1925 | 988,224 | | | | 26,400 | 26,400 | | | |
| 1926 | 1,005,878 | | | | 26,400 | 26,400 | | | |
| 1927 | 1,018,255 | | | | 26,400 | 26,400 | | | |
| 1928 | 1,036,335 | - | - | | 26,400 | 26,400 | | | |
| 1929 | 1,055,956 | | | | 13,200 | 13,200 | | | |
| 1930 | 1,067,191 | | | | - | - | | | |
| 1931 | 1,075,013 | | | | 70,400 | 70,400 | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1932 | 1,084,398 | | | | 57,200 | 57,200 | | | |
| 1933 | 1,122,739 | | | | 52,800 | 52,800 | | | |
| 1934 | 1,156,693 | | | | 35,200 | 35,200 | | | |
| 1935 | 1,182,015 | | | | 35,200 | 35,200 | | | |
| 1936 | 1,188,602 | | | | 44,000 | 44,000 | | | |
| 1937 | 1,228,923 | | | | 35,200 | 35,200 | | | |
| 1938 | 1,260,796 | | | | 35,200 | 35,200 | | | |
| 1939 | 1,294,514 | | | | 35,200 | 35,200 | | | |
| 1940 | 1,311,793 | | | | 22,000 | 22,000 | | | |
| 1941 | 1,331,004 | - | | | 28,600 | 28,600 | | | |
| 1942 | 1,368,125 | 5,478 | | | 25,300 | 25,300 | | | |
| 1943 | 1,380,838 | 6,531 | | | 40,400 | 40,400 | | | |
| 1944 | 1,382,072 | 6,799 | | | 37,200 | 37,200 | | | |
| 1945 | 1,387,653 | 12,301 | | | 34,800 | 34,800 | | | |
| 1946 | 1,420,535 | 21,368 | | | 22,800 | 22,800 | | | |
| 1947 | 1,476,896 | 21,745 | | | 22,800 | 22,800 | | | |
| 1948 | 1,558,059 | 21,745 | | | 29,760 | 29,760 | | | |
| 1949 | 1,593,580 | 22,001 | 41,849 | | 35,808 | 35,808 | | | |
| 1950 | 1,662,307 | 24,016 | 59,044 | | 19,872 | 19,872 | | | |
| 1951 | 1,717,517 | 24,551 | 71,628 | | 20,976 | 20,976 | | | |
| 1952 | 1,822,612 | 24,821 | 93,803 | | 24,240 | 24,240 | | | |
| 1953 | 2,025,293 | 25,489 | 100,267 | | 67,152 | 67,152 | | | |
| 1954 | 2,212,911 | 27,463 | 140,623 | 4,608 | 44,880 | 49,488 | | | |
| 1955 | 2,344,627 | 27,463 | 160,879 | 10,500 | 40,320 | 50,820 | | | |
| 1956 | 2,586,980 | 42,071 | 202,261 | 10,290 | 28,320 | 38,610 | | | |
| 1957 | 2,724,625 | 45,764 | 189,159 | 10,080 | 28,320 | 38,400 | | | |
| 1958 | 2,776,391 | 48,581 | 193,106 | 9,870 | 57,041 | 66,911 | | | |
| 1959 | 2,830,076 | 55,326 | 179,279 | 9,660 | 71,618 | 81,278 | | | |
| 1960 | 2,896,935 | 55,326 | 194,563 | 9,450 | 80,638 | 90,088 | | | |
| 1961 | 3,006,047 | 61,547 | 237,255 | 9,240 | 79,928 | 89,168 | | | |
| 1962 | 3,125,465 | 66,177 | 273,845 | 9,030 | 93,158 | 102,188 | | | |
| 1963 | 3,502,386 | 82,650 | 342,148 | 12,462 | 104,529 | 116,991 | | | |
| 1964 | 3,649,342 | 120,103 | 292,013 | 15,735 | 85,231 | 100,966 | | | |
| 1965 | 3,814,016 | 137,055 | 328,987 | 15,454 | 99,718 | 115,172 | | | |
| 1966 | 3,980,956 | 149,347 | 326,921 | 15,101 | 99,117 | 114,218 | | | |
| 1967 | 4,251,732 | 163,561 | 322,933 | 14,749 | 84,629 | 99,378 | | | |
| 1968 | 4,372,645 | 173,970 | 319,720 | 14,396 | 56,529 | 70,925 | | | |
| 1969 | 4,704,539 | 180,006 | 373,710 | 14,044 | 49,531 | 63,575 | | | |
| 1970 | 4,872,831 | 187,736 | 385,112 | 13,691 | 56,529 | 70,220 | | | |
| 1971 | 5,063,938 | 189,351 | 365,191 | 13,439 | 56,622 | 70,060 | | | |
| 1972 | 5,244,421 | 222,760 | 361,796 | 12,776 | 59,916 | 72,692 | | | |
| 1973 | 5,341,422 | 250,792 | 341,215 | 12,214 | 18,114 | 30,328 | | | |
| 1974 | 5,422,046 | 262,635 | 372,251 | 11,651 | 40,687 | 52,339 | | | |
| 1975 | 5,592,603 | 316,467 | 392,729 | 11,089 | 14,491 | 25,580 | | | |
| 1976 | 5,695,744 | 336,240 | 363,467 | 10,526 | 81,723 | 92,249 | | | |
| 1977 | 5,800,766 | 440,717 | 271,303 | 6,964 | 43,827 | 50,790 | | | |
| 1978 | 5,912,557 | 493,465 | 257,850 | 9,401 | 29,192 | 38,593 | | | |
| 1979 | 5,975,633 | 535,973 | 248,197 | 8,839 | - | 8,839 | | | |
| 1980 | 6,174,935 | 653,278 | 217,216 | 8,276 | 50,395 | 58,671 | | | |
| 1981 | 6,485,063 | 883,177 | 166,520 | 10,518 | 58,467 | 68,985 | | | |
| 1982 | 6,906,196 | 928,552 | 94,701 | 10,225 | 39,681 | 49,907 | | | |
| 1983 | 7,126,364 | 1,090,264 | 22,883 | 6,589 | 37,658 | 44,246 | | | |
| 1984 | 7,415,815 | 1,147,263 | 69,389 | 9,408 | 39,612 | 49,020 | | | |
| 1985 | 8,505,701 | 1,524,541 | 115,895 | 5,464 | 110,636 | 116,100 | | | |
| 1986 | 9,321,569 | 2,029,216 | - | 4,901 | - | 4,901 | | | |
| 1987 | 9,846,943 | 2,019,270 | 152,601 | 4,339 | - | 4,339 | | | |
| 1988 | 10,154,219 | 1,997,050 | 226,478 | 3,776 | - | 3,776 | | | |
| 1989 | 10,649,544 | 1,968,144 | 480,032 | 3,633 | - | 3,633 | | | |
| 1990 | 10,923,933 | 1,937,503 | 542,074 | 290 | - | 290 | | | |
| 1991 | 11,379,591 | 1,906,707 | 604,427 | - | 199,418 | 199,418 | | | |
| 1992 | 11,801,905 | 1,984,026 | 645,702 | - | 370,595 | 370,595 | | | |
| 1993 | 12,147,211 | 2,032,269 | 686,732 | - | 449,620 | 449,620 | | | |
| 1994 | 12,924,358 | 2,108,370 | 728,132 | - | 334,309 | 334,309 | | | |
| 1995 | 15,478,439 | 2,132,430 | 600,934 | - | 211,850 | 211,850 | | | |
| 1996 | 17,201,649 | 2,160,525 | 680,291 | - | 307,381 | 307,381 | 37,389,921 | 3,016,795 | |
| 1997 | 17,862,017 | 2,176,428 | 615,306 | - | 335,581 | 335,581 | 37,389,921 | 3,016,821 | |
| 1998 | 18,618,885 | 2,209,604 | 624,366 | - | 373,358 | 373,358 | 37,389,921 | 3,016,820 | |
| 1999 | 19,615,432 | 2,269,920 | 1,328,511 | - | 418,349 | 418,349 | 37,389,921 | 3,016,717 | |
| 2000 | 18,435,864 | 2,228,713 | 1,758,842 | - | 235,168 | 235,168 | 37,389,921 | 3,016,951 | - |
| 2001 | 19,976,444 | 2,187,026 | 1,051,819 | - | 308,736 | 308,736 | 37,389,921 | 3,016,665 | - |
| 2002 | 20,313,346 | 2,173,058 | 888,005 | - | 224,600 | 224,600 | 37,389,921 | 3,016,717 | - |
| 2003 | 21,496,067 | 2,173,058 | 1,052,424 | - | 420,400 | 420,400 | 37,389,921 | 3,016,665 | - |
| 2004 | 23,049,721 | 2,219,854 | 1,052,424 | - | 436,974 | 436,974 | 37,439,149 | 3,016,925 | - |
| 2005 | 25,077,166 | 2,219,854 | 1,156,804 | - | 295,848 | 295,848 | 37,439,149 | 2,803,367 | - |
| 2006 | 25,666,458 | 3,101,775 | 413,276 | - | 329,521 | 329,521 | 37,439,149 | 2,803,523 | - |
| 2007 | 27,314,296 | 3,270,670 | 329,381 | - | 103,231 | 103,231 | 37,439,149 | 2,803,133 | 3,100,000 |
| 2008 | 28,711,162 | 3,270,670 | 366,381 | - | 210,575 | 210,575 | 37,439,149 | 2,803,054 | - |
| 2009 | 29,758,446 | 3,270,670 | 378,381 | - | 284,784 | 284,784 | 37,439,149 | 2,803,263 | - |
| 2010 | 33,350,880 | 6,372,672 | 65,262 | - | 160,385 | 160,385 | 37,439,149 | 2,803,315 | - |
| 2011 | 34,528,290 | 6,452,292 | 102,262 | - | - | - | 37,439,149 | 2,803,481 | 1,504,000 |

# Three-Factor Method Allocation Schedule and Dividend Allocation

**Three-Factor Method Allocation Schedule and Dividend Allocation**

| | 1 | 2 | 3 = 1 / 2 | 4 | 5 = 1 + 4 | 6 = 2 + 4 | 7= 5 / 6 | 8 | 9 | 10 = 8 / 9 | 11 = Avg (3,7,10) | 12 | 13 | 14 = 12 + 13 | 15 = 11 x 14 | 16 = 11 x 12 | 17 = 11 x 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Hingham/Hull/ Cohasset (HHC) Plant | Total Aquarion Water Company of MA (AWCMA) Plant | HHC % | Hingham Water Treatment Plant (HWTP) | HHC w/HWTP | AWCMA Plant w/HWTP | HHC% | HHC Customers | AWCMA Customers | HHC % | Avg HHC % | AWCMA Common Dividends | AWCMA Preferred Dividends | Total AWCMA Dividends | HHC Dividend Share | HHC Dividend Share (C) | HHC Dividend Share (P) |
| 1989 | 10,649,544 | 16,907,223 | 63.0% | - | 10,649,544 | 16,907,223 | 63.0% | 10,902 | 16,103 | 67.7% | 64.6% | - | 5,627 | 5,627 | 3,633 | - | 3,633 |
| 1990 | 10,923,933 | 17,645,683 | 61.9% | - | 10,923,933 | 17,645,683 | 61.9% | 10,902 | 16,103 | 67.7% | 63.8% | - | 455 | 455 | 290 | - | 290 |
| 1991 | 11,379,591 | 18,240,518 | 62.4% | - | 11,379,591 | 18,240,518 | 62.4% | 10,902 | 16,103 | 67.7% | 64.2% | 310,823 | - | 310,823 | 199,418 | 199,418 | - |
| 1992 | 11,801,905 | 19,073,532 | 61.9% | - | 11,801,905 | 19,073,532 | 61.9% | 10,902 | 16,244 | 67.1% | 63.6% | 582,496 | - | 582,496 | 370,595 | 370,595 | - |
| 1993 | 12,147,211 | 19,800,747 | 61.3% | - | 12,147,211 | 19,800,747 | 61.3% | 10,988 | 16,390 | 67.0% | 63.2% | 710,916 | - | 710,916 | 449,620 | 449,620 | - |
| 1994 | 12,924,358 | 20,819,002 | 62.1% | - | 12,924,358 | 20,819,002 | 62.1% | 11,057 | 16,434 | 67.3% | 63.8% | 523,884 | - | 523,884 | 334,309 | 334,309 | - |
| 1995 | 15,478,439 | 23,547,937 | 65.7% | - | 15,478,439 | 23,547,937 | 65.7% | 11,166 | 16,588 | 67.3% | 66.3% | 319,730 | - | 319,730 | 211,850 | 211,850 | - |
| 1996 | 17,201,649 | 25,832,000 | 66.6% | 37,389,921 | 54,591,570 | 63,221,921 | 86.3% | 11,112 | 16,550 | 67.1% | 73.4% | 419,000 | - | 419,000 | 307,381 | 307,381 | - |
| 1997 | 17,862,017 | 26,579,000 | 67.2% | 37,389,921 | 55,251,938 | 63,968,921 | 86.4% | 11,168 | 16,619 | 67.2% | 73.6% | 456,000 | - | 456,000 | 335,581 | 335,581 | - |
| 1998 | 18,618,885 | 27,641,009 | 67.4% | 37,389,921 | 56,008,806 | 65,030,930 | 86.1% | 11,222 | 16,704 | 67.2% | 73.6% | 507,584 | - | 507,584 | 373,358 | 373,358 | - |
| 1999 | 19,615,432 | 29,934,138 | 65.5% | 37,389,921 | 57,005,353 | 67,324,059 | 84.7% | 11,266 | 16,781 | 67.1% | 72.4% | 577,466 | - | 577,466 | 418,349 | 418,349 | - |
| 2000 | 18,435,864 | 31,330,077 | 58.8% | 37,389,921 | 55,825,785 | 68,719,998 | 81.2% | 11,327 | 16,918 | 67.0% | 69.0% | 340,769 | - | 340,769 | 235,168 | 235,168 | - |
| 2001 | 19,976,444 | 32,870,331 | 60.8% | 37,389,921 | 57,366,365 | 70,260,252 | 81.6% | 11,404 | 17,014 | 67.0% | 69.8% | 442,211 | - | 442,211 | 308,736 | 308,736 | - |
| 2002 | 20,313,346 | 33,208,556 | 61.2% | 37,389,921 | 57,703,267 | 70,598,477 | 81.7% | 11,952 | 17,665 | 67.7% | 70.2% | 320,000 | - | 320,000 | 224,600 | 224,600 | - |
| 2003 | 21,496,067 | 40,191,000 | 53.5% | 37,389,921 | 58,885,988 | 77,580,921 | 75.9% | 12,103 | 17,884 | 67.7% | 65.7% | 640,000 | - | 640,000 | 420,400 | 420,400 | - |
| 2004 | 23,049,721 | 42,297,000 | 54.5% | 37,439,149 | 60,488,870 | 79,736,149 | 75.9% | 12,181 | 18,001 | 67.7% | 66.0% | 662,000 | - | 662,000 | 436,974 | 436,974 | - |
| 2005 | 25,077,166 | 46,189,000 | 54.3% | 37,439,149 | 62,516,315 | 83,628,149 | 74.8% | 12,024 | 17,979 | 66.9% | 65.3% | 453,000 | - | 453,000 | 295,848 | 295,848 | - |
| 2006 | 25,666,458 | 48,166,000 | 53.3% | 37,439,149 | 63,105,607 | 85,605,149 | 73.7% | 12,158 | 18,192 | 66.8% | 64.6% | 510,000 | - | 510,000 | 329,521 | 329,521 | - |
| 2007 | 27,314,296 | 51,309,000 | 53.2% | 37,439,149 | 64,753,445 | 88,748,149 | 73.0% | 12,471 | 18,514 | 67.4% | 64.5% | 160,000 | - | 160,000 | 103,231 | 103,231 | - |
| 2008 | 28,711,162 | 53,364,000 | 53.8% | 37,439,149 | 66,150,311 | 90,803,149 | 72.9% | 12,506 | 18,630 | 67.1% | 64.6% | 326,000 | - | 326,000 | 210,575 | 210,575 | - |
| 2009 | 29,758,446 | 54,889,648 | 54.2% | 37,439,149 | 67,197,595 | 92,328,797 | 72.8% | 12,598 | 18,754 | 67.2% | 64.7% | 440,000 | - | 440,000 | 284,784 | 284,784 | - |
| 2010 | 33,350,880 | 60,345,546 | 55.3% | 37,439,149 | 70,790,029 | 97,784,695 | 72.4% | 12,682 | 18,889 | 67.1% | 64.9% | 247,000 | - | 247,000 | 160,385 | 160,385 | - |
| 2011 | 34,528,290 | 61,790,801 | 55.9% | 37,439,149 | 71,967,439 | 99,229,950 | 72.5% | 12,740 | 18,960 | 67.2% | 65.2% | - | - | - | - | - | - |

## Aquarion Allocation of CIAC and Advances

| | Aquarion Water Company of Massachusetts (AWCMA) | | | | | | | Hingham/Hull/Cohasset (HHC) | |
|---|---|---|---|---|---|---|---|---|---|
| | CIAC | | | ADVANCES | | | | CIAC | ADVANCES |
| Year | Begin | End | Difference | Begin | End | Difference | Allocation | HHC Shared | HHC Shared |
| 1989 | 2,857,707 | 2,812,933 | (44,774) | 226,478 | 619,223 | 392,745 | 64.56% | (28,905.61) | 253,553.53 |
| 1990 | 2,812,933 | 2,764,934 | (47,999) | 619,223 | 716,409 | 97,186 | 63.84% | (30,641.78) | 62,042.47 |
| 1991 | 2,764,934 | 2,716,935 | (47,999) | 716,409 | 813,596 | 97,186 | 64.16% | (30,795.13) | 62,352.96 |
| 1992 | 2,716,935 | 2,838,464 | 121,529 | 813,596 | 878,471 | 64,875 | 63.62% | 77,318.88 | 41,274.95 |
| 1993 | 2,838,464 | 2,914,742 | 76,278 | 878,471 | 943,347 | 64,875 | 63.25% | 48,242.17 | 41,030.52 |
| 1994 | 2,914,742 | 3,033,998 | 119,256 | 943,347 | 1,008,222 | 64,875 | 63.81% | 76,101.60 | 41,399.26 |
| 1995 | 3,033,998 | 3,070,310 | 36,312 | 1,008,222 | 816,252 | (191,970) | 66.26% | 24,059.89 | (127,197.61) |
| 1996 | 3,070,310 | 3,108,607 | 38,297 | 816,252 | 924,426 | 108,174 | 73.36% | 28,094.86 | 79,357.24 |
| 1997 | 3,108,607 | 3,130,218 | 21,610 | 924,426 | 836,121 | (88,305) | 73.59% | 15,903.43 | (64,985.65) |
| 1998 | 3,130,218 | 3,175,320 | 45,102 | 836,121 | 848,438 | 12,317 | 73.56% | 33,175.52 | 9,059.87 |
| 1999 | 3,175,320 | 3,258,577 | 83,257 | 848,438 | 1,820,401 | 971,963 | 72.45% | 60,315.81 | 704,145.83 |
| 2000 | 3,258,577 | 3,198,867 | (59,710) | 1,820,401 | 2,443,970 | 623,569 | 69.01% | (41,206.22) | 430,330.85 |
| 2001 | 3,198,867 | 3,139,157 | (59,710) | N/A | N/A | N/A | 69.82% | (41,687.29) | N/A |
| 2002 | 3,139,157 | 3,119,256 | (19,901) | N/A | N/A | N/A | 70.19% | (13,968.03) | N/A |

## Plant Detail Account Descriptions

| Account Number | Account Description |
|---|---|
| | *Source of Supply Plant* |
| 311 | Structures & Improvements (Supply) |
| 312 | Collecting & Impounding Reservoirs |
| 313 | Lake, River, & Other Intakes |
| 314 | Wells & Springs |
| 315 | Infiltration galleries and tunnels |
| 316 | Supply Mains |
| 317 | Other Water Source Plant |
| | *Pumping Plant* |
| 321 | Structures & Improvements (Pumping) |
| 323 | Other Power Production Equipment |
| 325 | Electric Pumping Equipment |
| 326 | Diesel Pumping Equipment |
| 327 | Hydraulic Pumping Equipment |
| 328 | Other Pumping Equipment |
| | *Water Treatment Plant* |
| 331 | Structures & Improvements (Treatment) |
| 332 | Water Treatment Equipment |
| | *Transmission & Distribution Plant* |
| 341 | Structures & Improvements (T&D) |
| 342 | Distribution Reservoirs & Standpipes |
| 343 | Transmission & Distribution Mains |
| 344 | Fire Mains |
| 345 | Services |
| 346 | Meters |
| 347 | Meter Installation |
| 348 | Hydrants |
| 349 | Other T & D Plant |
| | *General Plant* |
| 390 | Structures & Improvements (General) |
| 391 | Office Furniture & Equipment |
| 391H | Computer Equipment |
| 391S | Computer Equipment |
| 392 | Transportation Equipment |
| 393 | Stores Equipment |
| 394 | Tools, Shop & Garage Equipment |
| 395 | Laboratory Equipment |
| 396 | Power Operated Equipment |
| 397 | Communications Equipment |
| 398 | Miscellaneous Equipment |
| 399 | Other Tangible Property |

**Plant Detail Summary – Water System Assets (Hingham, Hull, Cohasset, and Norwell) in Place as of December 31, 2011**

| | Hingham | Hull | Cohasset | Norwell | Total |
|---|---|---|---|---|---|
| 1212 | - | 1,076 | - | - | 1,076 |
| 301 | 82,595 | - | - | - | 82,595 |
| 310 | 168,756 | - | - | - | 168,756 |
| 311 | 543,070 | 11,494 | - | - | 554,564 |
| 312 | 70,527 | - | - | - | 70,527 |
| 313 | 1,109 | - | - | - | 1,109 |
| 314 | 3,165,982 | - | - | - | 3,165,982 |
| 316 | 1,137,583 | - | - | - | 1,137,583 |
| 317 | 611,825 | - | - | - | 611,825 |
| 320 | - | - | - | - | - |
| 321 | 1,042,307 | 1,428 | - | - | 1,043,735 |
| 325 | 760,426 | 268,663 | - | - | 1,029,089 |
| 328 | 41,681 | - | - | - | 41,681 |
| 331 | 370,253 | - | - | - | 370,253 |
| 332 | 736,811 | - | - | - | 736,811 |
| 340 | - | - | - | - | - |
| 341 | 17,562 | 38,565 | - | - | 56,127 |
| 342 | 156,602 | - | - | 181,911 | 338,513 |
| 343 | 13,239,752 | 2,775,797 | 720,573 | - | 16,736,121 |
| 345 | 3,120,155 | 1,279,786 | 23,832 | - | 4,423,773 |
| 346 | 963,480 | 367,695 | 24,708 | 1,012 | 1,356,895 |
| 347 | 252,189 | 138,170 | - | - | 390,359 |
| 348 | 22,152 | 34,755 | - | - | 56,907 |
| 349 | 500,420 | 16,176 | 7,636 | - | 524,233 |
| 390 | 273,469 | - | - | - | 273,469 |
| 391 | 126,726 | - | - | - | 126,726 |
| 391H | 146,067 | - | - | - | 146,067 |
| 391S | 85,605 | - | - | - | 85,605 |
| 392 | 399,452 | - | - | - | 399,452 |
| 393 | 20,025 | - | - | - | 20,025 |
| 394 | 238,516 | 2,579 | - | - | 241,095 |
| 395 | 34,055 | - | - | - | 34,055 |
| 396 | 51,654 | - | - | - | 51,654 |
| 397 | 160,882 | - | - | - | 160,882 |
| 398 | 90,747 | - | - | - | 90,747 |
| | 28,632,435 | 4,936,183 | 776,748 | 182,923 | 34,528,289 |

## APPENDIX C – ASSEMBLED WORKFORCE SOURCE DOCUMENTATION

**Hingham Water System Salary Inflation (Redacted) - Provided by Aquarion Personnel**
**WMA Calculated the Specific Years Worked Time Period and the Compound Annual Growth Rate**

| Employee | Date of Hire | Beginning Salary | Years Worked | Current Salary | Increase | Average Increase % | Compound Annual Growth Rate |
|---|---|---|---|---|---|---|---|
| | | | 12/31/2011 | | | | |
| A | 3/2/2009 | [redacted] | 2.8 | [redacted] | $ 8,533.00 | 2.15% | 3.28% |
| B | 11/20/2008 | | 3.1 | | $ 4,555.00 | 2.81% | 4.06% |
| C | 4/17/1973 | | 38.7 | | $ 54,194.60 | 14.45% | 5.13% |
| D | 9/7/1999 | | 12.3 | | $ 21,651.60 | 4.65% | 4.08% |
| E | 3/15/1976 | | 35.8 | | $ 50,937.60 | 12.59% | 5.02% |
| F | 9/18/2006 | | 5.3 | | $ 8,859.60 | 3.19% | 3.71% |
| G | 6/28/1982 | | 29.5 | | $ 40,174.00 | 7.05% | 4.02% |
| H | 8/30/1999 | | 12.3 | | $ 28,869.20 | 6.63% | 5.41% |
| I | 12/11/1978 | | 33.1 | | $ 46,071.00 | 9.50% | 4.53% |
| J | 5/26/1987 | | 24.6 | | $ 36,003.80 | 5.91% | 3.88% |
| K | 5/16/1991 | | 20.6 | | $ 36,711.00 | 7.40% | 4.84% |
| L | 4/29/2010 | | 1.7 | | $ 1,102.00 | 1.78% | 4.45% |
| M | 4/22/2003 | | 8.7 | | $ 14,122.00 | 3.58% | 3.58% |
| N | 9/5/1978 | | 33.3 | | $ 54,661.00 | 11.18% | 4.92% |
| | | **$ 518,289.60** | | **$ 924,735.00** | | **6.63%** | **4.35%** |

**WMA Suggested using the Compound Annual Growth Rate instead of a simple average.**
**WMA Calculated the Compound Annual Growth Rate instead of a simple average.**
**WMA Changed the Years Worked to a more accurate figure.**
**WMA Rolled this XXX% percent forward into other exhibits.**

**Aquarion Water Company - Cost of Recruiting**

| | 2007 | 2008 | 2009 | 2010 | 2011 | Total |
|---|---|---|---|---|---|---|
| *Recruiting Costs* | | | | | | |
| AWC-CT | $ 143,612 | $ 64,393 | $ 8,769 | $ 23,846 | $ 52,279 | $ 292,899 |
| AWC-MA | $ 219 | $ - | $ 209 | $ - | $ 32,446 | $ 32,874 |
| AWC-NH | $ - | $ 13,256 | $ 66 | $ - | $ - | $ 13,322 |
| Total AWC | $ 143,831 | $ 77,649 | $ 9,044 | $ 23,846 | $ 84,725 | $ 339,095 |
| | | | | | | |
| Total New Salaries | $ 1,640,493 | $ 968,554 | $ 526,603 | $ 381,972 | $ 290,211 | $ 3,807,833 |
| # of New Employees | 24 | 15 | 8 | 7 | 6 | 60 |
| Average New Salary | $ 68,354 | $ 64,570 | $ 65,825 | $ 54,567 | $ 48,369 | $ 63,464 |
| | | | | | | |
| Recruiting Fee % | 8.8% | 8.0% | 1.7% | 6.2% | 29.2% | 8.9% |

**Aquarion Water Company - Annual Training Time Estimate**

| | 2009 | 2010 | 2011 | Average | Average/2080 Hours |
|---|---|---|---|---|---|
| *Training Hours/Employee* | | | | | |
| Actual | 19.1 | 18.0 | 20.4 | 19.2 | 0.9% |
| Budget | 15.0 | 15.0 | 15.0 | 15.0 | 0.7% |

**Aquarion Water Company of Massachusetts - Overhead Rate Calculation**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | Average |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Fringe Benefits | $ 613,813 | $ 793,089 | $ 688,382 | $ 751,961 | $ 498,919 | $ 603,618 | $ 474,146 | $ 966,885 | $ 1,012,687 | $ 984,810 | $ 7,388,310 |
| Payroll Taxes | $ 85,085 | $ 137,679 | $ 145,188 | $ 133,169 | $ 128,049 | $ 122,544 | $ 123,673 | $ 130,285 | $ 127,534 | $ 130,439 | $ 1,263,644 |
| Payroll Expense | $ 1,237,891 | $ 1,715,907 | $ 1,617,677 | $ 1,429,855 | $ 1,369,410 | $ 1,512,844 | $ 1,550,944 | $ 1,535,992 | $ 1,506,098 | $ 1,598,936 | $ 15,075,555 |
| Fringe Benefit Rate | 49.59% | 46.22% | 42.55% | 52.59% | 36.43% | 39.90% | 30.57% | 62.95% | 67.24% | 61.59% | 49.01% |
| Payroll Tax Rate | 6.87% | 8.02% | 8.98% | 9.31% | 9.35% | 8.10% | 7.97% | 8.48% | 8.47% | 8.16% | 8.38% |
| Total Overhead Rate | 56.46% | 54.24% | 51.53% | 61.90% | 45.78% | 48.00% | 38.54% | 71.43% | 75.71% | 69.75% | 57.33% |

## APPENDIX D – CUSTOMER INFORMATION DATABASE SOURCE DOCUMENTATION

**Aquarion Water Company of Massachusetts - Tap/Customer/Meter Data**

| | Process | Department | Time Required Minutes | Time Required Hours | Hourly Rate | Task Cost for Direct Labor |
|---|---|---|---|---|---|---|
| | | | | | | |
| A | New Service Inquiry Call | Customer Service | 7 | 0.12 | $ 19.01 | $ 2.22 |
| B | Follow up on Call | New Services | 10 | 0.17 | $ 27.19 | $ 4.53 |
| C | Investigation on availability of service | New Services | 30 | 0.50 | $ 33.33 | $ 16.66 |
| D | 2nd call re. availability of water. 3rd call is for signed paperwork appointment and payment. 4th phone call is ready for tap. | New Services | 45 | 0.75 | $ 27.19 | $ 20.39 |
| E | Field Visit. Tap installed. | New Services | 480 | 8.00 | $ 30.02 | $ 240.15 |
| F | Getting meter route, application; Setup business partner in SAP | New Services | 60 | 1.00 | $ 33.33 | $ 33.33 |
| G | Creating Technical Master Data (SAP) | New Services | 5 | 0.08 | $ 35.02 | $ 2.92 |
| | | | | | **Total Costs Related to Initial Tap Set Up & Installation** | **$ 320.21** |
| H | New Service Inquiry Call | Customer Service | 7 | 0.12 | $ 19.01 | $ 2.22 |
| I | Follow up on Call | Customer Service | 10 | 0.17 | $ 27.19 | $ 4.53 |
| J | Moving In Account | Customer Service | 5 | 0.08 | $ 20.97 | $ 1.75 |
| | | | | | **Total Costs Related to Customer Move-Ins/Move-Outs** | **$ 8.50** |
| K | Administrative time related to meter purchasing/receipts. | Utility Operations | 0.38 | 0.01 | $ 33.33 | $ 0.21 |
| L | Administrative time related to setting up meter routes and other inputs into SAP system. | Utility Operations | 0.73 | 0.01 | $ 22.68 | $ 0.28 |
| M | Generate customer letters and set up service appointment. | Customer Service | 4.14 | 0.07 | $ 19.01 | $ 1.31 |
| N | Generate customer letters (2nd notice) and set up service appointment. | Customer Service | 2.14 | 0.04 | $ 19.06 | $ 0.68 |
| O | Schedule workforce activities and perform meter replacements. | Utility Operations | 55.71 | 0.93 | $ 29.40 | $ 27.30 |
| | | | | | **Total Costs Related to Periodic Meter Changeout Program** | **$ 29.78** |

**Aquarion Water Company of Massachusetts (Hingham/Hull/Cohasset)**
**Connections/Move-In Data**

| | |
|---|---|
| *Customer Move-In Data* | |
| Move-Ins (11/01/2007-12/31/2011) | 4,372 |
| # of Months | 50 |
| Average per Month | 87.44 |
| Average per Year (A) | 1,049.28 |
| | |
| *Customer Counts at 12/31/2011* | |
| Hingham | 7,835 |
| Hull | 4,580 |
| Cohasset | 325 |
| Total (B) | 12,740 |

**# of Years for Customer Turnover (B)/(A): 12.14**

**# of Years for Meter Replacement Program 10.00**

## APPENDIX E – PROPERTY MAINTENANCE DATABASE SOURCE DOCUMENTATION

**Aquarion Water Company - Allocation Percentage Calculation 12-31-2011**

| Allocation | Assumption | 1/3 Allocation | Hingham Hull Cohasset Customer % | Hingham/ Hull/ Cohasset Allocation |
|---|---|---|---|---|
| 1 | Assumes tasks of plant accountant are shared equally among CT, MA and NH (i.e. reporting takes just as long for smallest jurisdiction as it does for largest) | 33.0% | 67.2% | 22.2% |
| | | | | |
| **Allocation** | **Assumption** | **Hingham/ Hull/ Cohasset Total Utility Plant** | **Combined AWC Total Utility Plant** | **Hingham/ Hull/ Cohasset Allocation** |
| 2 | Measures relation ofvolume of assets and job/order/asset creation and maintenance of records | $ 37,097,237 | $ 1,120,805,112 | 3.3% |
| | | | | |
| **Allocation** | **Assumption** | **Hingham/ Hull/ Cohasset Customers** | **Total AWC Customers** | **Hingham/ Hull/ Cohasset Allocation** |
| 3 | Customer share provides weightings indicative of activity for specific assets: meters, services, hydrant | 12,740 | 212,346 | 6.0% |
| | | | | |
| | | | ***Average of Allocations 1, 2 & 3:*** | **10.5%** |

**Aquarion Water Company - Customer Counts**

| | 12/31/2011 | AWC Massachusetts Allocation | AWC Total Allocation |
|---|---|---|---|
| *Customer Counts & Percentages* | | | |
| AWC-Connecticut | 184,286 | | 86.79% |
| **AWC-Massachusetts (Hingham/Hull/Cohasset)** | **12,740** | **67.19%** | **6.00%** |
| AWC-Massachusetts (Millbury/Oxford) | 6,220 | 32.81% | 2.93% |
| AWC-New Hampshire | 9,100 | | 4.29% |
| Total | 212,346 | 100.00% | 100.00% |

**Aquarion Water Company of Massachusetts - Utility Plant Turnover**

| | 12/31/2011 |
|---|---|
| *Depreciable Life* | |
| Average Depreciable Property (beg bal + end bal) / 2 | $60,641,010 |
| | |
| Depreciation Expense per Ledger Acct 403000 | $ 1,385,905 |
| | |
| Composite Depreciation Rate | 2.29% |
| | |
| Inherent Asset Turnover Period (in years) | **44** |

## APPENDIX F – WATER TESTING RECORDS DATABASE SOURCE DOCUMENTATION

**Aquarion Water Company of Massachusetts (Hingham/Hull/Cohasset) - Water Testing Requirements (redacted)**

| Report | Entity | Retention Time (in years) |
|---|---|---|
| *Reporting Requirements* | | |
| Bacti and Turbidity Records | DEP | 5 |
| Sanitary Survey Records | DEP | 10 |
| Chemical Usage Records | DEP | 5 |
| CCR Info | DEP | 3 |
| Lead and Copper Rule Info | DEP | 12 |
| DBPR Rule Info and Analysis | DEP | 12 |
| Water Management Act Records | DEP | 10 |

| Position | Hours per Month | Rate | Annual Cost |
|---|---|---|---|
| *Time Required to Maintain Required Reports* | | | |
| Administrative Assistant | [redacted] | [redacted] | $ 3,915.35 |
| Treatment Plant Operator | | | $ 2,830.98 |
| | | | **$ 6,746.33** |

## Appendix G – Hingham Charter and Acts of 1879, 1881, and 1886



An Act for the better protection of the fishery of the Nine Mile Pond Fishing Company. *Chap.* 137

*Be it enacted, &c., as follows:*

Alewife fishery in Barnstable.

Section 1. Whoever takes or catches any alewives in Centreville River, so called, in the town of Barnstable, between that part of said river where the mouth of the canal of the Nine Mile Pond Fishing Company opens into the same, and a point fifteen rods above said mouth, shall forfeit and pay a fine of not less than five, nor more than fifty dollars for each offence.

Alewives not to be taken between mouth of canal and tide water.

Section 2. Nothing herein contained shall be construed to authorize the taking of alewives by any person between said mouth of said canal and tide water.

Section 3. This act shall take effect upon its passage.

*Approved March 21, 1879.*

An Act to amend the charter of the city of Lowell. *Chap.* 138

*Be it enacted, &c., as follows:*

City charter.

Section 1. Section twenty-six of chapter one hundred and seventy-three of the acts of the year eighteen hundred and seventy-five is hereby amended by striking out the words "owners thereof," in the twelfth and thirteenth lines and inserting in place thereof the words "abutters thereon."

Amendment to 1875, 173, § 26.

Amendment to 1875, 173, § 27.

Section 2. Section twenty-seven of said chapter is hereby amended by inserting the words "the city," between the words "and" and "shall" in the sixth line.

Section 3. This act shall take effect upon its passage.

*Approved March 21, 1879.*

An Act to incorporate the Hingham Water Company. *Chap.* 139

*Be it enacted, &c., as follows:*

Corporators.

Section 1. John D. Long, Samuel Downer, Charles B. Barnes, E. Waters Burr, David Cushing, Junior, William J. Nelson, George P. Hayward, Ebed L. Ripley, Starkes Whiton, Elijah Shute, Edmund Hersey and George Cushing, their associates and successors, are hereby made a corporation by the name of the Hingham Water Company, for the purpose of furnishing the inhabitants of Hingham with pure water for the extinguishment of fires, generation of steam, domestic and other purposes: with all the powers and privileges and subject to all the duties, restrictions and liabilities set forth in all general laws which now are or hereafter may be in force, so far as the same may be applicable to this corporation.

Name and purpose.

May take waters of Accord Pond.

Section 2. Said corporation, for the purposes aforesaid, may take, hold and convey into and through the town of Hingham, or any part thereof, the waters of Accord Pond, so called, situate in the towns of Hingham, South Scituate and Rockland, and the waters which flow into and from the same, together with any water rights connected therewith; and may take and hold, by purchase or otherwise, any real estate necessary for the preservation and purity of the said waters, or for forming any dams or reservoirs to hold the same, and for laying and maintaining aqueducts and pipes for distributing the waters so taken and held; and for the purpose of making all needed repairs or service connections may lay its water pipes through any private lands, with the right to enter upon the same and dig therein, and for any of the purposes aforesaid may carry its pipes under or over any water course, street, railroad, highway or other way, in such manner as not unnecessarily to obstruct the same, and may, under the direction of the board of selectmen, enter upon and dig up any road or other way, in such manner as least to obstruct the same, for the purpose of laying or repairing its aqueducts, pipes, or other works, and in general may do any other acts and things necessary, convenient or proper for carrying out the purposes of this act.

May take and hold real estate.

May enter upon and dig up roads under direction of selectmen.

To file in registry of deeds, a description of the land taken.

Section 3. Said corporation shall, within ninety days after the taking of any land under this act, otherwise than by purchase, file in the registry of deeds for the county of Plymouth, a description thereof sufficiently accurate for identification, with a statement of the purpose for which the same is taken, signed by the president of the corporation; and the title of the land so taken shall vest in the said corporation.

Assessment of damages.

Section 4. Any person or corporation injured in property by any of the acts of said corporation under this act, and failing to agree with said corporation as to the amount of damages, may have the same assessed and determined in the manner provided when land is taken for highways, but no application shall be made to the county commissioners for the assessment of damages for the taking of water rights until the water is actually taken and diverted by said corporation. Any person whose water rights are thus taken or affected, may apply as aforesaid within three years from the time the water is actually withdrawn or diverted, and not thereafterwards, and no suit for injury to person shall be brought after two years from the alleged date of the receipt of injury.

Application to be made for damages, within three years.

Penalty for diverting water or rendering it impure.

SECTION 5. If any person shall use any of said water taken under this act without the consent of said corporation, or shall divert the water or any part thereof so taken, or corrupt the same or render it impure, or destroy or injure any dam, aqueduct, pipe, conduit, hydrant, machinery or other works or property held, owned or used by said corporation under the authority of, and used for the purposes of this act, he shall forfeit and pay to said corporation three times the amount of damage assessed therefor to be recovered in an action of tort; and on conviction of either of the acts aforesaid may be punished by a fine not exceeding three hundred dollars, or by imprisonment in jail not exceeding one year.

May distribute water through town of Hingham.

SECTION 6. Said corporation may distribute the water through said Hingham; may establish and fix from time to time rates for the use of said water and collect the same; and may make such contracts with the town of Hingham, or with individuals or corporations, to supply water for fire, or other purposes, as may be agreed upon by said town, individuals or corporation and said corporation.

May extend pipes to Nantasket and Nantasket Beach.

SECTION 7. The said Hingham Water Company, for the purpose of supplying that part of the town of Hull called Nantasket and Nantasket Beach with pure water for domestic, fire and other purposes, is hereby authorized to extend its water pipes or conduits to the said Nantasket and Nantasket Beach and shall have the same rights and powers in and for these said localities that are granted it by the other sections of this act in and for the town of Hingham, whenever the said town of Hull shall, by a majority of the voters present and voting thereon at a town meeting duly called for the purpose, accept the provisions of this act so far as applicable to them: *provided*, that whenever for any reason the supply of water shall not be more than sufficient for the needs of the residents of the town of Hingham, the residents of the town of Hingham shall be first supplied.

Proviso.

Capital stock and shares.

SECTION 8. The capital stock of said corporation shall not exceed one hundred and fifty thousand dollars, and shall be divided into shares of one hundred dollars each; and said corporation may at any time issue bonds to an amount equal to the capital stock actually paid in.

Corporations may take stock in company.

SECTION 9. Manufacturing and other corporations doing any business in said towns of Hingham and Hull are hereby authorized to subscribe for and hold stock of said Hingham Water Company.

Town of Hingham may take stock.

Section 10. The town of Hingham may take and hold twenty-five per centum of the capital stock of said corporation, and have a proportionate voice in the management of the affairs of said corporation, provided it shall vote so to do by a two-thirds vote of the voters present and voting thereon at any legal meeting called for the purpose.

Town may purchase property and rights of company.

Section 11. The town of Hingham shall have the right at any time during the continuance of the charter hereby granted, to purchase the corporate property, and all the rights and privileges of said company at the actual cost of the same, together with interest thereon at a rate not exceeding ten per centum per annum, said cost to include all actual loss or damage paid or suffered by said company for injury to person or property, deducting from said cost any and all dividends which may have been paid by said corporation, or at such a price as may be mutually agreed upon between said corporation and the town of Hingham; and the said corporation is authorized to make sale of the same, and this authority to purchase said franchise and property is granted on condition that the same is assented to by said town by a two-thirds vote of the voters present and voting thereon at any annual meeting, or at a legal meeting called for that purpose.

Town may issue scrip for defraying cost of property.

Hingham Water Loan.

Section 12. For the purpose of defraying the cost of such property, lands, water and water rights, as shall be purchased for the purposes aforesaid, the town of Hingham through its treasurer may from time to time issue notes, bonds, scrip or certificates of debt, to be denominated on the face thereof "Hingham Water Loan," to an amount not exceeding the amount paid by the town for said purchase, and bearing interest at a rate not exceeding six per centum per annum, payable semi-annually; and the principal being payable at periods not more than thirty years from the issuing of said notes, bonds, scrip, or certificates of debt respectively. Said treasurer, under the authority of the town, may sell such notes, bonds, scrip or certificates of debt, or any part thereof, from time to time, or pledge the same for any money borrowed for the purposes aforesaid, on such terms and conditions as he may deem proper, or as may be prescribed by the town. Said town may further make appropriations, and assess from time to time, amounts not exceeding in any one year the sum of five thousand dollars, towards payment of the principal of the money borrowed as aforesaid, and also a sum sufficient to pay the interest thereon in the same manner as money is assessed and appropriated for other town purposes.

Town may appropriate money for payment of principal and interest.

Liabilities of town in case of purchase.

Section 13. In case the town of Hingham shall purchase the property, rights, privileges and franchises of the corporation established by this act, the said town shall exercise all the rights, powers and authority, and be subject to all the restrictions, duties and liabilities herein contained, in such manner, and by such officers, servants or agents as the town may direct, and the town shall be liable to pay all damages for land, water or water rights taken for the purposes set forth in this act which shall not have been previously paid by said corporation.

If town accepts chap. 130 of the acts of 1876, this act to be void.

Section 14. In case the town of Hingham shall accept chapter one hundred and thirty of the acts of the year eighteen hundred and seventy-six, within the time and in the manner therein provided, and shall also, within three months after so accepting the same, vote to construct the works contemplated therein, and to raise and appropriate the necessary sum of money therefor, this act shall be void, otherwise this act shall take effect at and upon the expiration of the time granted to said town in said chapter, within which to accept the same, and said chapter one hundred and thirty of the year eighteen hundred and seventy-six shall become void. *Approved March 21, 1879.*

---

An Act to authorize the Boston, Clinton, Fitchburg and New Bedford Railroad Company to issue bonds. *Chap.* 140

*Be it enacted, &c., as follows:*

May issue bonds, not exceeding $3,500,000, for payment of outstanding debt.

Section 1. The Boston, Clinton, Fitchburg and New Bedford Railroad Company, is hereby authorized by vote at a meeting called for the purpose, to issue bonds in sums of not less than one hundred dollars each, payable at periods not exceeding thirty years from the date thereof, and bearing interest not exceeding the rate of six per centum a year, payable semi-annually, to an amount not exceeding the sum of three raillion five hundred thousand dollars, the proceeds thereof to be used exclusively for the payment of the debt of the corporation now outstanding; and the interest upon all or any portion of said bonds may be secured by the Old Colony Railroad Company, by an agreement in writing thereon, according to the provisions of the existing lease, to said last named company of the Boston, Clinton, Fitchburg and New Bedford Railroad.

Section 2. This act shall take effect upon its passage. *Approved March 21, 1879.*

the date of filing as if it had been filed under the provisions of said chapter.

Section 2. This act shall take effect upon its passage.

*Approved March 3, 1881.*

---

An Act relating to the bonds of persons appointed by the governor or by the governor and council. *Chap.* 56

*Be it enacted, etc., as follows:*

Bond to be delivered before commission is issued.

When a bond is by law required of any person appointed by the governor or by the governor and council, the commission or certificate of appointment shall not issue until a satisfactory bond has been delivered.

*Approved March 3, 1881.*

---

An Act authorizing the governor and council to revoke certain appointments. *Chap.* 57

*Be it enacted, etc., as follows:*

Appointments may be revoked by governor, etc.

Appointments made by the governor or by the governor and council may be by them revoked at any time, for cause, unless the tenure of office or trust is expressly determined by the constitution or by law.

*Approved March 3, 1881.*

---

An Act relative to the appointment of special sheriffs. *Chap.* 58

*Be it enacted, etc., as follows:*

Return of appointment of special sheriff to be made to the secretary.

The sheriffs of the several counties shall immediately after the appointment and qualification of any person as special sheriff in their respective counties send notice thereof in writing, giving the name and residence of the appointee, to the secretary of the Commonwealth, who shall thereupon make an entry of the receipt of such notice in a book to be kept for the purpose.

*Approved March 3, 1881.*

---

An Act in addition to "An act to incorporate the Hingham Water Company." *Chap.* 59

*Be it enacted, etc., as follows:*

May extend water pipes through Hull and Cohasset.

Section 1. The Hingham Water Company is hereby authorized to extend its water pipes or conduits through the towns of Hull and Cohasset, or any parts thereof, for the purpose of supplying the inhabitants of said towns, respectively, with pure water for the extinguishment of fires, generation of steam, domestic and other purposes; and it shall have the same privileges, rights and powers in and for these localities that are granted it by chapter

one hundred and thirty-nine of the acts of the year eighteen hundred and seventy-nine in and for the town of Hingham: *provided*, that whenever for any reason the supply of water shall not be more than sufficient for the needs of the residents of the towns of Hingham and Hull, the residents of the towns of Hingham and Hull shall be first supplied; and *provided, further*, that whenever for any reason the supply of water shall not be more than sufficient for the needs of the residents of the town of Hingham, the residents of the town of Hingham shall be first supplied.

Proviso.

Proviso.

To file in the registry of deeds a description of the land taken.

Section 2. Said corporation shall within ninety days after the taking of any land under this act, otherwise than by purchase, file in the registry of deeds for the county in which the land so taken lies, a description thereof sufficiently accurate for identification, with a statement of the purpose for which the same is taken, signed by the president of the corporation; and the title of the land so taken shall vest in the said corporation.

Water supply for Hull and Cohasset.

Section 3. Said corporation may make such contracts with the towns of Hull and Cohasset, respectively, to supply water for fire or other purposes, as may be agreed upon by said towns, respectively, and said corporation.

Assessment of damages.

Section 4. Any person or corporation injured in property by any of the acts of said corporation under this act, and failing to agree with said corporation as to the amount of damages, may have the same assessed and determined in the manner provided when land is taken for highways. There shall be the same limitation as to the time in which suits for injury to person shall be brought, as is provided in section four of said chapter one hundred and thirty-nine of the acts of the year eighteen hundred and seventy-nine, and the same forfeitures, payments, fines and penalties for the destruction or injury of the works or property held, owned or used by said corporation, under the authority of and used for the purposes of this act, as are provided in section five of said act; and the town of Hingham shall have the same right to purchase the corporate property and rights acquired by said corporation under this act: and, in case of purchase, the same rights to issue notes, bonds, scrip or certificates of debt, and to sell or pledge the same, or any part thereof, and be subject to the same liabilities, and have the same powers, as are provided in said former act.

Hingham may purchase corporate property, etc.

Section 5. This act shall take effect upon its passage.

*Approved March 3, 1881.*

AN ACT TO PROVIDE THAT THE RECEIVERS OF INSOLVENT SAVINGS BANKS AND INSTITUTIONS FOR SAVINGS SHALL DEPOSIT CERTAIN MONEYS WITH THE TREASURER OF THE COMMONWEALTH. *Chap.* 70

*Be it enacted, etc., as follows:*

Unclaimed dividends to be deposited with treasurer of the Commonwealth.

Receivers of insolvent savings banks and institutions for savings, having unclaimed moneys or dividends belonging to the estate of any such corporation remaining in their hands for one year after final settlement ordered by the court, shall deposit the amount so remaining uncalled for with the treasurer of the Commonwealth, with a schedule of the names and residences, so far as known, of the parties entitled thereto; and said treasurer shall receive and hold the same in trust for such parties and their representatives; and said treasurer shall pay over the same to the parties entitled thereto, upon proper demand made therefor, upon being furnished with evidence satisfactory to him of the identity of the claimant and the justice of the claim.

*Approved March 8, 1881.*

---

AN ACT TO MAKE THE THIRTIETH DAY OF MAY, KNOWN AS MEMORIAL DAY, A LEGAL HOLIDAY. *Chap.* 71

*Be it enacted, etc., as follows:*

Memorial Day made a legal holiday.

SECTION 1. The thirtieth day of May in each year, being the day set apart for the decoration of the graves of deceased soldiers, and known as Memorial Day, is hereby made a legal public holiday, to all intents and purposes, in the same manner as Thanksgiving, Fast and Christmas days, the twenty-second day of February, and the fourth day of July, are now by law made public holidays.

SECTION 2. This act shall take effect upon its passage.

*Approved March 8, 1881.*

---

AN ACT IN ADDITION TO "AN ACT TO INCORPORATE THE NEWBURYPORT WATER COMPANY." *Chap.* 72

*Be it enacted, etc., as follows:*

Water supply for Newburyport.

SECTION 1. The city of Newburyport is hereby authorized to contract with the Newburyport Water Company for a supply of water, for purposes other than fire purposes, for a term of years.

SECTION 2. This act shall take effect upon its passage.

*Approved March 8, 1881.*

every employee engaged in its business the wages earned by such employee to within six days of the date of said payment: *provided, however*, that if at any time of payment any employee shall be absent from his regular place of labor he shall be entitled to said payment at any time thereafter upon demand.

Proviso.

Penalty.

SECTION 2. Any corporation violating any of the provisions of this act shall be punished by a fine not exceeding fifty and not less than ten dollars on each complaint under which it is convicted: *provided*, complaint for such violation is made within thirty days from the date thereof.

Proviso.

Corporation failing to appear to be defaulted, etc.

SECTION 3. When a corporation against which a complaint is made under this act fails to appear after being duly served with process, its default shall be recorded, the allegations in the complaint taken to be true, and judgment shall be rendered accordingly.

Warrant of distress for penalty and costs may be issued.

SECTION 4. When judgment is rendered upon any such complaint against a corporation, the court may issue a warrant of distress to compel the payment of the penalty prescribed by law, together with costs and interest.

To take effect July 1, 1886.

SECTION 5. This act shall take effect upon the first day of July in the year eighteen hundred and eighty-six.

*Approved March 22, 1886.*

---

*Chap.* 88 AN ACT TO ENABLE THE HINGHAM WATER COMPANY TO INCREASE ITS WATER SUPPLY.

*Be it enacted, etc., as follows:*

May increase water supply.

SECTION 1. The Hingham Water Company, a corporation established under chapter one hundred and thirty-nine of the acts of the year eighteen hundred and seventy-nine, for the purpose of increasing the capacity and efficiency of its water works and for the purposes set forth in said act and the acts in addition thereto, may take by purchase or otherwise and hold the waters of any pond, stream or other water source within the limits of the town of Hingham and the water rights connected therewith, and convey the same into and through the same territory and in the same manner as it is now authorized to do with the waters of Accord pond; and may take by purchase or otherwise and hold all lands, rights of way and easements, necessary for holding, preserving and conveying such water; and may erect on the land thus taken or held proper dams, buildings, fixtures and other structures; and may make excavations, procure and operate machinery,

May take lands, rights of way and easements.

and provide such other means and appliances as may be necessary for the maintenance of more complete and effective water works; and for distributing said waters may construct and lay down conduits, pipes and other works, under or over any lands, water courses, railroads, or public or private ways, and along any such way, in such manner as not unnecessarily to obstruct the same, and connect the same with its present system of water works; and for the purpose of constructing, maintaining and repairing such conduits, pipes and other works, and for all proper purposes of this act may dig up any such lands, and, under the direction of the board of selectmen of the town in which any such ways are situated, may enter upon and dig up any such ways in such manner as to cause the least hindrance to public travel on such ways; and said corporation shall have the same privileges, rights and powers and be subject to the same limitations with regard to the said waters that are granted and provided for it by law for the said waters of Accord Pond.

May construct and lay down conduits.

May dig up lands under the direction of the selectmen.

Section 2. Said corporation shall within ninety days after the taking of any land under this act, otherwise than by purchase, file in the registry of deeds for the county in which the land so taken lies a description thereof sufficiently accurate for identification, with a statement of the purpose for which the same is taken, signed by the president of the corporation; and the title of the land so taken shall vest in the said corporation.

To file in the registry of deeds within ninety days a description of the land taken.

Section 3. Any person or corporation injured in property by any of the acts of said corporation under this act, and failing to agree with said corporation as to the amount of damages, may have the same assessed and determined in the manner provided when land is taken for highways; but no application shall be made to the county commissioners for the assessment of damages for the taking of water rights until the water is actually taken and diverted by said corporation. There shall be the same limitation as to the time in which application for the assessment of damages and suits for injury to person shall be brought, as is provided in section four of said chapter one hundred and thirty-nine of the acts of the year eighteen hundred and seventy-nine, and the same forfeitures, payments, fines and penalties for the destruction or injury of the works or property held, owned or used by said corporation under the authority of and used for the

Assessment and determination of damages.

Right of the town of Hingham to purchase property.

purposes of this act, as are provided in section five of said act; and the town of Hingham shall have the same right to purchase the corporate property and rights acquired by said corporation under this act; and in case of purchase the same rights to issue notes, bonds, scrip, or certificates of debt, and to sell or pledge the same, or any part thereof, and be subject to the same liabilities and have the same powers as are provided in said former acts.

SECTION 4. This act shall take effect upon its passage.

*Approved March 22, 1886.*

---

*Chap.* 89 AN ACT TO CONFIRM THE PROCEEDINGS AND TITLE TO LANDS OF THE TRUSTEES OF THE ROSLINDALE METHODIST EPISCOPAL CHURCH.

*Be it enacted, etc., as follows:*

Organization confirmed.

SECTION 1. The organization of the Trustees of the Roslindale Methodist Episcopal Church as a corporation, on the third day of October in the year eighteen hundred and eighty-five, is hereby confirmed, and said corporation is hereby made the lawful successor of William Blakemore and others named as the Trustees of the Roslindale Methodist Episcopal Church, the grantees described in a deed of John E. Blakemore, dated the sixteenth day of September in the year eighteen hundred and seventy-three and recorded with Norfolk county deeds libro four hundred and forty-five, folio two hundred and sixty-six, and in a deed of Ezra Conant, dated the seventh day of March in the year eighteen hundred and seventy-nine and recorded with Suffolk county deeds libro fourteen hundred and fifty-four, folio thirty-three. And said corporation its successors and assigns shall have and hold, in fee simple, the real estate described in both of said deeds.

Proceedings confirmed.

And all proceedings of said corporation concerning said real estate are hereby confirmed and made valid.

SECTION 2. This act shall take effect upon its passage.

*Approved March 22, 1886.*

---

*Chap.* 90 AN ACT TO AMEND SECTION FOUR OF CHAPTER SEVENTY-FOUR OF THE PUBLIC STATUTES RELATIVE TO THE PRINTED NOTICE REQUIRED IN MANUFACTURING ESTABLISHMENTS.

*Be it enacted, etc., as follows:*

Notice to be posted in manufacturing establishments.

Section four of chapter seventy-four of the Public Statutes is hereby amended by adding after the word "week" in the eleventh line of said section, the following words:

## APPENDIX H - QUALIFICATIONS OF THE PRINCIPAL ANALYST

## ROBERT F. REILLY, CPA

Robert Reilly is a managing director of Willamette Management Associates. His practice includes business valuation, forensic analysis, and financial opinion services.

Robert has performed the following types of valuation and economic analyses: economic event analyses, merger and acquisition valuations, divestiture and spin-off valuations, solvency and insolvency analyses, fairness and adequacy opinions, ESOP formation and adequate consideration analyses, private inurement/intermediate sanctions opinions, acquisition purchase accounting allocations, reasonableness of compensation analyses, restructuring and reorganization analyses, tangible asset/intangible asset intercompany transfer price analyses, and lost profits/economic damages analyses.

He has prepared these valuation and economic analyses for the following purposes: transaction pricing and structuring (merger, acquisition, liquidation, and divestiture); taxation planning and compliance (federal income, gift, and estate tax; state and local property tax; transfer tax); financing securitization and collateralization; employee corporate ownership (ESOP employer stock transactions and compliance valuations); forensic analysis and dispute resolution; corporate strategic planning and management information; bankruptcy and troubled company support (recapitalization, reorganization, restructuring); financial accounting and public reporting; and regulatory compliance and corporate governance.

Robert has valued the following types of business entities and securities: close corporation business enterprise, close corporation fractional ownership interests, public corporation restricted stock, public corporation subsidiaries/ divisions, complex capital structures (various classes of common/preferred stock; options, warrants, grants, rights), general and limited partnership interests, joint ventures, proprietorships, professional service corporations, professional practices, LLPs and LLCs, license agreements, and franchises.

He has performed valuation, remaining useful life, lost profits/economic damages, and arm's-length royalty rate/transfer price analyses related to the following types of intangible assets: advertising campaigns and programs, appraisal plants, broadcast licenses, building permits, cable TV franchises, certificates of need, computer software, computer databases, contract rights, core depositors, copyrights, credit information files, customer and supplier contracts, customer lists and customer relationships, development/commercialization rights, distribution rights, distribution systems, employment contracts, engineering drawings, film libraries, franchise contracts and rights, going-concern value, goodwill, leasehold interests, licenses, literary compositions, loan portfolios, management contracts, manuscripts, mining and mineral rights, mortgage servicing rights, musical compositions, noncompete covenants, patent applications, patents, patient charts and records, permits, possessory interests, prizes and awards, procedural manuals, production backlogs, proprietary technology, solicitation rights, subscriber lists, technical documentation and libraries, trained and assembled workforces, trade names, trademarks, trade secrets, training manuals and documentation, and air/water/land use rights.

Robert has performed business and property valuations in the following industries: accounting and consulting, advertising, administrative services, aerospace, apparel, appraisal, automobile dealerships, automobile manufacturing, automobile suppliers, aviation, bottling, broadband, brokerage, cable television, cement, chemical, commercial banking, chemicals, communications, computer services, construction and contracting, consumer finance, consumer products, cosmetics, cruise ship lines, data processing, decontamination, defense, distribution, education, entertainment, equipment leasing, fast food, financial

services, food processing, food service, forest products, grocery, health care, home health services, hotel and hospitality, insurance, internet, investment banking, leasing, manufacturing, marine, medical and dental practice, mining and mineral extraction, money management, natural resources, petrochemical, petroleum, pharmaceuticals, plastics, printing, public utilities, publishing, radio broadcasting, railroad, real estate development, recreational services, refinery, restaurant, retailing, shipping, steel, telecommunications, television broadcasting, textiles, thrift institutions, transportation and trucking, vacation and leisure, vocational training, waste management, water and wastewater, and wholesaling.

He has prepared financial advisory analyses and economic analyses for merger and acquisition purposes: identification of M&A targets, valuation of target company synergistic/strategic benefits, identification and assessment of divestiture/spin-off opportunities, economic analysis of alternative deal structures, negotiation of deal price and terms, assessment of fairness and solvency of proposed transactions, and design/valuation of alternative equity and debt instruments.

Robert has valued the following types of real property interests: commercial office buildings, easements, facades, hospitals, hotels, industrial cooperatives, industrial and manufacturing facilities, industrial parks, land improvements and infrastructures, mines, nursing homes, quarries, railroads, regional shopping malls, residential apartment complexes, restaurants, retail stores, rights of way, strip shopping malls, timber land, vacant rural land, vacant urban land, and warehouses. These valuations have valued the following real estate interests: fee simple, leasehold interest, leasehold estate, possessory interests, life interests, reversionary interest, air rights, water rights, mineral rights, use rights and development rights.

Robert has been accepted as an expert witness in various federal, state, and international courts and before various boards and tribunals. This expert testimony has related to business, stock, and property valuation matters and to lost profits/economic damages matters. He has served as an expert witness in the following types of litigation: bankruptcy, breach of contract, breach of fiduciary duty, condemnation, conservatorship, corporate dissolution, expropriation, federal income tax, federal gift and estate tax, intellectual property infringement, lender liability, marital dissolution, dissenting shareholder appraisal rights/shareholder oppression, property tax appeal, reasonableness of executive compensation, solvency and insolvency, stockholder suits, tort claims, wrongful death/personal injury, and reasonableness of royalty rates and/or transfer prices. He has served as a court-appointed arbitrator with respect to squeeze-out merger dissenting shareholder rights actions.

## PREVIOUS EXPERIENCE

Prior to Willamette Management Associates, Robert Reilly was a partner and national director of valuation services for the Deloitte & Touche accounting firm. Prior to Deloitte & Touche, Robert Reilly was vice president of Arthur D. Little Valuation, Inc., a valuation services firm. Prior to that, Robert was the director of corporate development for Huffy Corporation, a manufacturing company. Prior to that, he was a senior consultant for Booz, Allen & Hamilton, a management consulting firm.

## EDUCATION

Master of Business Administration, finance, Columbia University Graduate School of Business

Bachelor of Arts, economics, Columbia University

**PROFESSIONAL AFFILIATIONS**

Accredited in Business Valuation (ABV)—American Institute of Certified Public Accountants
Accredited Senior Appraiser (ASA)—American Society of Appraisers, in business valuation
Accredited Tax Advisor (ATA)—Accreditation Council for Accountancy & Taxation
Associate Member—Appraisal Institute
Certified Business Appraiser (CBA)—Institute of Business Appraisers
Certified in Financial Forensics (CFF)—American Institute of Certified Public Accountants
Certified Management Accountant (CMA)—Institute of Management Accountants
Certified Public Accountant (CPA)—Ohio and Illinois
Certified Real Estate Appraiser (CREA)—National Association of Real Estate Appraisers
Certified Review Appraiser (CRA)—National Association of Review Appraisers and Mortgage Underwriters
Certified Valuation Consultant (CVC)—National Association of Review Appraisers and Mortgage Underwriters
Chartered Financial Analyst (CFA)—CFA Institute
Chartered Global Management Accountant (CGMA)—Association of International Certified Professional Accountants
Enrolled Agent (EA)—licensed to practice before the Internal Revenue Service

Robert is a member of the American Bankruptcy Institute, American Economic Association, American Institute of Certified Public Accountants, American Society of Appraisers, Business Valuation Association, The ESOP Association, Illinois Society of Certified Public Accountants, Institute of Business Appraisers, CFA Institute, Institute of Professionals in Taxation, Institute of Certified Management Accountants, International Association of Assessing Officers, National Association of Business Economists, National Association of Real Estate Appraisers, and Ohio Society of Certified Public Accountants.

Robert is a state certified general appraiser in the states of Illinois, Michigan, New York, Utah, and Virginia.

He has completed the following Appraisal Institute appraisal courses: 110–appraisal principles, 120–appraisal procedures, 200R–residential market analysis and highest & best use, 210–residential case study, OL300GR–online real estate finance statistics and valuation modeling, 310–basic income capitalization, 320–general applications, 400–USPAP update, 410A–standards of professional practice, 420–standards of professional appraisal practice, 420B–business practices and ethics, 430C–standards of professional practice, 510–advanced income capitalization, 520–highest and best use analysis, 530–advanced cost and sales comparison approaches, 540–report writing and valuation analysis, 550–advanced applications, SE700–the appraiser as an expert witness: preparation & testimony, online using your HP12C financial calculator, 7-hour National USPAP course, and 15-hour National USPAP course.