

April 9, 2018

Mr. Gary Breaux
Assistant General Manager/Chief Financial Officer
Metropolitan Water District of Southern California
700 N. Alameda St
Los Angeles, CA 90012-2944

Subject: San Diego County Water Authority – MFSG 2018 Report

Dear Mr. Breaux:

On behalf of Raftelis I am pleased to provide this response to:

1. The April 8, 2018 letter from the San Diego County Water Authority, signed by Mr. Hattam, General Counsel (SDCWA Letter)
2. The *San Diego County Water Authority Metropolitan Water District 2018 Cost of Service Report Review* dated April 8, 2018 (MFSG 2018 Report).

I received a copy of the SDCWA Letter on the afternoon of April 8, 2018 and the MFSG 2018 Report on the morning of April 9, 2018 during the Metropolitan Water District of Southern California (Metropolitan) Finance & Insurance Committee meeting that morning. I have had less than 24 hours to review these documents and prepare this response. My response, this letter, is not what I would represent as a “complete response”. To the contrary, if more time were available, it is likely that I would have additional comments on and issues with the SDCWA Letter and the MFSG 2018 Report. I am specifically responding to paragraphs II and III from the SDCWA Letter and opinions 1-3 shown on page 2 of the MFSG 2018 Report.

In 2016 I completed a review of the MFSG 2016 Report¹ and like this current review, I completed the 2016 review having only a limited amount of time. Similar to the 2016 review, my focus today is on key misrepresentations made in the SDCWA Letter and the MFSG 2018 Report regarding the American Water Works Association’s (AWWA) Seventh Edition, M1 manual Principles of Water Rates, Fees, and Charges (the M1), and other mischaracterizations relating to cost of service methods and practices.

My 2016 Letter is included as Attachment A to this letter. My current resume is included as Attachment B to this letter.

¹ San Diego County Water Authority – MFSG Report, review letter dated April 12, 2016 (2016 Letter) prepared by Raftelis Financial Consultants, Inc. (Raftelis)

I have over 39 years of utility finance and cost of service experience. From 2011 to 2017, I served as the Vice Chair and Chair of the AWWA Rates and Charges Committee. While Vice Chair of the Committee, I was the Chair of the working group that produced the Sixth Edition of the M1 (published in 2012), and subsequently, as Chair of the Rates and Charges Committee, I oversaw the preparation of the Seventh Edition of the M1 which was published in 2017.

The M1 Manual, Metropolitan's Cost of Service Process and System

On February 1, 2018 Metropolitan provided to the Board and the public in general, its cost of service report for Fiscal Years (FY) 2018/19 and 2019/20. In this report titled: Fiscal Years 2018/19 and 2019/20 Cost of Service Report for Proposed Water Rates and Charges (Cost of Service report), Metropolitan sets forth that the cost of service (COS) process, analysis and results follow the guidelines and principles of the M1 manual. It is this report that is the subject of review documented in the MFSG 2018 Report. I have reviewed the Metropolitan Cost of Service report and data output of the Metropolitan financial planning model (the model) for the fiscal years previously noted and, in my opinion, agree that the COS process used by Metropolitan conforms to the guidelines and principles articulated in the M1.

The methodology used by Metropolitan in its current Cost of Service report is the same as the approach followed in the cost of service report that was the subject of my 2016 Letter; a methodology which also conformed to the guidelines and principles articulated in the M1.

MFSG 2018 Report – Opinion 2

MFSG's opinion number 2 (page 2 of the MFSG 2018 Report) states that the "2018 COS Report" produced by Metropolitan "does not provide sufficient information to allow for an independent verification and replication of the methodologies used to calculate the 2019 and 2020 rates in order to determine compliance with cost of service." I disagree with this opinion.

MFSG, in paragraph D of the MFSG 2018 Report, characterizes my opinions on the Metropolitan cost of service methodology (from the 2016 Letter) as "based solely on what MWD says it does and not on independent verification". As noted in the 2016 Letter, I "reviewed the Metropolitan Cost of Service report and data output" and based on my nearly 37 years of experience (at the time of the 2016 Letter), could render the opinions contained in the 2016 Letter. I find it unpersuasive for MFSG to question my ability to render the opinions contained in the 2016 Letter when they and other SDCWA consultants have also rendered opinions on the Metropolitan COS methodologies using similar information; if not the exact information. Now Metropolitan, for the 2018 Cost of Service Report, has provided 150 additional pages of cost of service tables upon which the Board and others, including myself and MFSG, can further form opinions regarding the cost of service methodology.

In conducting my review of the 2018 Cost of Service report, I did not have access to the Metropolitan model, or any of the formulas or programming code that comprise this computer software. Based on my review of only the 2018 Cost of Service report and the model's data output, I am able to provide an opinion regarding the appropriateness of the Metropolitan cost of service process and its conformance to the guidelines and principles in the AWWA M1.

Access to the formulas and programming code was not needed for either me or, in my opinion, another firm with rate making experience, to provide observations and opinions on the cost allocation/cost of service methodology used by Metropolitan.

MFSG 2018 Report – Opinions 1 and 3

The SDCWA Letter, without any specific reference to any of my work or documents produced by me, states that I hold the position that the M1 does not apply to wholesale agencies (see page 2, paragraph II of the SDCWA Letter). From a reading of my 2016 Letter, it would be clear that I never made such a statement. My 2016 Letter does contain references to elements of the M1 that have only limited application to wholesale providers. Nowhere in my 2016 Letter do I state that the M1 does not apply to wholesale agencies. This is a complete fabrication.

The MFSG 2018 Report is, by and large, a re-statement of the MFSG 2016 Report in terms of the issues raised and conclusions stated. Perhaps the most redundant position held by MFSG is that the M1, with regard to the cost of service (COS) process and the determination of customer classes, is to be followed like a cookbook; in both process and terminology (MFSG 2018 Report, opinions 1 and 3, respectively). This could not be further from the truth. Having been a contributor to the M1 and led/overseen its two most recent updates, I can attest to the following two broad principles contained in the M1 and the process used by Metropolitan in its COS process. These are:

- 1. The M1 is a compendium of guidelines, concepts and options for consideration in the development of cost-based rates by retail and wholesale utilities. In this context, it is understood, if not encouraged by the AWWA, that each utility should use these concepts to inform and develop rates and charges reflective of the unique circumstances in which the utility operates.*

In this regard I reference my 2016 Letter and the numerous references in that letter from the Sixth Edition of the M1 – references still contained in the Seventh Edition of the M1.

The M1 is not a cookbook to be blindly followed as the MFSG 2018 Report would imply. See page 2, opinion 1 of the MFSG 2018 Report stating that costs must be allocated to customer classes. Per MFSG, not doing so is an indication that the utility “does not adhere to industry standard cost of service principles”. This narrow interpretation would result in every utility following a “cookie cutter” approach to the terminology it uses, the types of costs included, etc. Nothing could be further from the truth or intent of the M1.

The Preface of the Seventh Edition of the M1 – page xv states:

“...this manual will not prescribe a solution. Rather, it is intended to provide guidance and advice.”

“The examples presented...demonstrate the generally accepted methodologies...”

“The purpose of the manual is...to provide information to help users determine water rates, fees, and charges that are most relevant to a particular situation.”

To illustrate this point, one only need look across the country at the terminology and methodologies used by utilities in completing the COS process and designing rates. By way of example, I cite the cities of Portland, OR, Phoenix, AZ and El Paso, TX – three water utilities with rate structures that do not vary by customer class; customer class is not a factor in determining rates. While the rationale used by these cities may vary, one supporting position for this philosophy is a view that the differences in water use within a given customer class are greater than the differences between customers classes and hence, all customers should pay the same rate, i.e., there is not a sound basis for maintaining customer classes and associated rate differentials.

Does this mean that these communities are in “violation” of sound COS and rate design methodologies? No, it does not. These communities have followed the overarching AWWA philosophy of fairness and equity given the unique characteristics of their operations, service area, etc. For these communities there is no sound reason to “functionalize costs to customer classes”, or to use the same terminology as used in M1; both of which MFSG holds out as industry standards (page 2, opinions 1 and 3 of the MFSG 2018 Report). The above-referenced communities have developed and followed a process resulting in rates “that are most relevant to a particular situation.” (see M1 Preface, page xv).

With regards to Metropolitan, the “unbundling” of the rate structure is a classic example of adhering to COS principles. Having each of the 26 Member Agencies pay only for the services they use, is an approach directly tied to AWWA rate making principles.

2. *Fairness and equity is a common theme or goal throughout the M1 when describing COS methodologies and rate design, the Metropolitan COS process achieves this goal.*

The guidelines, concepts and options illustrated in the M1 are all useful examples of “tools” to be considered by a utility in developing or tailoring a cost of service approach to its unique situation; they are not hard and fast “standards” to be followed without regard to the local circumstances, service area, community objectives, etc. For example, designating customer classes in the M1 sense, is not required to achieve fairness and equity as evidenced by the previously described approaches used in Portland, Phoenix and El Paso.

In my 2016 Letter I provided numerous references from the Sixth Edition of the M1 that remain relevant to this discussion. And in this letter, I specifically reference the Seventh Edition of the M1 which lists objectives typically considered in establishing cost-based rates including:

- “Fairness in the apportionment of total costs of service among the different ratepayers” (source: Bonbright, Daniels, Kamerschen 1988 – as shown on page 4 of the M1, Seventh Edition)

Metropolitan’s “ratepayers” are its 26 Member Agencies. Metropolitan provides full service treated, full service untreated, and wheeling service. Fairness and equity is achieved through the Metropolitan “unbundled” rate structure, ensuring that each of the 26 Member Agencies pay only for the service provided and pay based on their unique service/demand characteristics. The Metropolitan COS process, consistent with the COS process and results illustrated in the M1, yields a unit cost of service or in the case of Metropolitan, a unit rate per rate element, which rate elements are then paid by all customers based on their demand for services (see page 93, Schedule 18 of the 2018 Cost of Service report).

We appreciate this opportunity to again be of service to you and the Metropolitan Water District of Southern California. Please contact me with any questions regarding this letter. I can be reached at 303.305.1136 and my email is rgiardina@raftelis.com.

Sincerely,
RAFTELIS



Richard D. Giardina, CPA
Executive Vice President

Attachment A



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April 12, 2016

Mr. Gary Breaux
Assistant General Manager/Chief Financial Officer
Metropolitan Water District of Southern California
700 N Alameda St
Los Angeles, CA 90012-2944

Subject: San Diego County Water Authority – MFSG Report

Dear Mr. Breaux:

On behalf of Raftelis Financial Consultants, Inc. (RFC) I am pleased to provide this response to the *San Diego County Water Authority Metropolitan Water District Cost-of-Service Rate Review* dated April 10, 2016 (the MFSG Report). I only received a copy of this report on April 11, 2016 after the Metropolitan Water District of Southern California (Metropolitan) Finance & Insurance Committee meeting that morning and have had less than 24 hours to review the document and prepare this letter. Given this limited timeframe, my focus is on key misrepresentations made in the MFSG Report regarding the American Water Works Association's (AWWA) M1 manual Principles of Water Rates, Fees, and Charges (the M1), and other mischaracterizations relating to cost of service methods and practices.

My response, this letter, is not what I would represent as a "complete response". To the contrary, if more time were available, it is likely that I would have additional comments on and issues with the MFSG Report. A second report by Stratecon Inc., was also provided by the San Diego County Water Authority (the Authority) at the Finance & Insurance Committee meeting yesterday. I have not completed a thorough review the Stratecon Inc. Report and like the MFSG Report, I believe that if such a review were completed, it is probable that I would have substantive comments on that report as well.

By way of reference, I have over 37 years of utility finance and cost of service experience. Most recently I served as the Vice Chair of the AWWA Rates and Charges Committee and in that capacity I was the Chair of the working group that produced the Sixth Edition of the M1 (published in 2012). Currently, I am Chair of the Rates and Charges Committee and am overseeing the preparation of the Seventh Edition of the M1 which is expected to be published later this year or in 2017. My resume is included as Attachment A to this letter.

The M1 Manual, Metropolitan's Cost of Service Process and System

On March 16, 2016 Metropolitan provided to the Board and the public in general, its cost of service report for Fiscal Years (FY) 2016/17 and 2017/18. In this report titled: Cost of Service for Proposed Water Rates and Charges (Cost of Service report), Metropolitan sets forth that the cost of service (COS) process, analysis and results follow the guidelines and principles of the M1 manual. It is this report that is the subject of review documented in the MFSG Report. I have reviewed the Metropolitan Cost of Service report and data output of the Metropolitan financial planning model for the fiscal years previously noted and, in my opinion, agree that the COS process used by Metropolitan conforms to the guidelines and principles articulated in the M1.

While the COS process used by Metropolitan is not a “mirror image” (nor should it be) of the example and/or process illustrated in M1, the end result is the determination of the unit COS for the services provided to the Member Agencies and effectively functions as the COS to serve each Member Agency. The M1 manual was never intended to be a “cook book”, to be blindly followed by utilities in the development of rates and charges for service. To the contrary, M1 is a compilation and discussion of guidelines and alternatives for consideration and use by utilities. The actual COS methodology for any utility should be a reflection of its own service area, customer base, objectives, etc. applied within the broad principles contained within the M1 and the process used by Metropolitan, in my opinion, achieves just that.

Metropolitan recognizes the need to incorporate the major tenants of M1 regarding reasonableness, fairness, and equity, i.e., COS, but also the need, the importance, to tailor the COS process to its own unique situation. This is a practice common in the industry – to adjust the process to reflect the characteristics of the utility. Metropolitan recognizes this as evidenced from a footnote on page 32 of the Metropolitan Cost of Service report:

“The majority of the M1 Sixth Edition is written for utilities providing retail service or combined retail and wholesale service. The distinction in practices for wholesale-only utilities is indirect; care must be taken to be attuned to these distinctions such that the guidelines are not incorrectly applied or misrepresented.”

The M1 manual is not a cookbook to be followed verbatim from cover to cover. Rather it is a compendium of guidelines, concepts and options for consideration in the development of cost-based rates. In this context, it is understood, if not encouraged by M1 manual, that each utility should use these concepts to inform and develop rates and charges reflective of the unique circumstances in which the utility operates.

The passages that follow are from the Sixth Edition of the M1 and further reinforce this point of view.

M1 page xix:

“The AWWA Rates and Charges Committee believes that a utility's full revenue requirements should be equitably recovered from classes of customers in proportion to the cost of serving those customers. However, the committee also recognizes that other considerations may, at times, be equally important in determining rates and charges and may better reflect emerging objectives of the utility of the community it serves...”

Also on page xix of the M1:

“This manual is intended to help policymakers, managers, and rate analysts consider all relevant factors when evaluating and selecting rates, charges and pricing policies. It is a comprehensive collection of discussions and guidance on a variety of issues associated with designing and developing water rates and charges.”

And on Page 5 of the M1:

“In establishing cost-based water rates, it is important to understand that a cost-of-service methodology does not prescribe a single approach. Rather, as the First Edition of the M1 manual noted, ‘the (M1 manual) is aimed at outlining the basic elements involved in water rates and suggesting alternative rules of procedure for formulating rates, thus permitting the exercise of judgment and preference to meet local conditions and requirements.’...a utility may create cost-based rates that reflect the distinct and unique characteristics of that utility and the values of the community.”

And as previously noted in this letter and by Metropolitan on page 32 of the Cost of Service report, the M1 manual clearly has a focus on retail water utility providers and it is important to understand and recognize the practices and circumstances under which wholesale providers operate so as to not inappropriately apply concepts or guidelines as discussed within M1 that are more appropriate to the retail situation.

In the balance of this letter I will react and respond to a number of comments and findings from the MFSG Report.

1. The MFSG Report suggests “typical functions (cost elements)” to which the revenue requirement is allocated (MFSG Report pages 5-6).

The listed functions are those one would expect to use for a retail utility. The MFSG Report is following the M1 Manual as if it were a cookbook, and in doing so ignores the need to tailor the COS process to the utility (as articulated in the M1 – see the earlier excerpts from M1) and the unique service functions Metropolitan provides and which are reflected in Metropolitan’s COS Methodology, as described on pages 34-35 of the Cost of Service report. As the Cost of Service report states, “These functional assignments reflect the unique services that Metropolitan provides” (page 35 of the Cost of Service Report).

2. The MFSG Report continues the misapplication of retail concepts on page 6 with its “basic flow chart” of the rate setting process.

The process illustrated, again, is one that in general applies to retail agencies and more importantly is a generic representation of the rate setting process. As used in M1 (see pages 4 and 5) this type of flow chart is but one example of the previous point I make regarding how M1 encourages utilities to *tailor the application* of M1 principles to the utility’s unique set of circumstances, goals, service requirements, etc.

For Metropolitan, the typical process illustrated in the MFSG Report (page 6) stops with the Cost of Service allocations. At this point, there is no need to establish classes of customers as is typical in a retail COS process. Metropolitan has identified service function costs to meet

average demands and calculates unit costs, or volumetric rates, to recover these costs. Metropolitan has also identified costs to be recovered through the Readiness-to-Service Charge (emergency and available capacity), the Capacity Charge (distribution capital investments to meet seasonal peak member agency needs) and costs associated with treated water service and then developed the corresponding rate(s).

The Cost of Service is the nexus between Metropolitan's expenditures and its rates and charges as Member Agencies pay for what they use; the service they need – full service treated water, full service untreated water and wheeling. Furthermore, Member Agencies have unique usage characteristics that are captured in the Metropolitan rates and charges relating to treatment, peak use on the Metropolitan system, the need for emergency and available capacity, or average use. For this reason it is not necessary to group Member Agencies into traditional customer classes as would be done in a typical retail rate setting process. The end result of the Metropolitan process is the determination of the cost of each service available to a Member Agency and to the extent the Member Agency uses that service, an amount, a rate or charge, is paid by the Member Agency that is reflective of the cost of that service.

3. The MFSG Report continues with the misapplication on page 9 by using a retail definition of “standby service”.

Metropolitan's Cost of Service Report clearly addresses the unique function Metropolitan provides by creating a Fixed Standby cost allocation category. As explained on pages 73-74 of the Cost of Service report, Metropolitan ensures regional reliability during emergencies, loss of local supplies, changed economic conditions, and hydrologic variability, as well as providing available capacity to move water during a wide range of Member Agency demands that far exceed the range of responsibilities and variability experienced by retail agencies. This unique obligation necessitates an approach that is not a standard retail definition and again the MFSG Report fails to recognize, in this case, the service or relationship between Metropolitan and the Member Agencies.

4. The MFSG Report states that using Net Book Value of assets to functionalize capital financing costs is “inappropriate” (pages 10-11); it is quite appropriate and widely used by utilities.

The M1 Manual describes this very method as an acceptable approach to the allocation of capital financing costs, i.e., using Net Book Value to functionalize capital financing costs is consistent with cost-of-service standards. The MFSG Report provides an example of how this approach seemingly allocates debt service (inappropriately per the MFSG Report) to various functional categories and completely ignores the underlying premise for using this approach: the reality that the decision to issue debt for one functional category versus another is/can be a relatively subjective decision and this determination is mitigated through the use of the Net Book Value method described in M1.

5. The MFSG Report criticizes the use of an historical base period for a treatment charge alternative, which is a common wholesale rate practice.

This criticism of the use of a base period of 1998-2007 and determination of a “Test Year” (pages 15 and 16 of the MFSG report) for allocating treatment costs fails to recognize a common rate-making practice as well as a wholesale rate practice relating to the use of historic periods and associated data in the rate determination process and the application of take-or-pay rate mechanisms or minimum usage levels by wholesale providers across the country. The MFSG Report states that “...the ‘Test Year’ for any rate setting process must reflect one of two things: the most recently available actual data (current year) or the most reasonably projected data for the next year.” (MFSG report page 16). This ignores that fact that historical data is regularly, justifiably and routinely used in the cost of service process by wholesale entities; and for that matter retail utilities as well.

And in this case, i.e., the Metropolitan COS and proposed treated water fixed charge, the use of this 1998-2007 base period is appropriate and provides the link or nexus between the capital and debt service costs existing today and the capacity related to those costs or investments; a link that the Stratecon Inc. Report states is essential for “Justifiable water rates...” that must be based on “...how their [Member Agencies] demands are driving investments and operational decisions.” (Stratecon Inc. Report page 18). The Member Agency demands during the stated base period drove the capacity investments at that time and are still very much linked to the treated water capital investments (i.e., costs) that have been made over the last decade.

It is interesting to note the apparent inconsistency or conflicting positions articulated by the MFSG Report and Stratecon Inc. Report regarding the use of current or future data. The MFSG Report advocates for the use of “...actual data (current year) or the most reasonably projected data for the next year.” (MFSG Report page 16), while the Stratecon Inc. Report supports the use of future year data: “For cost of service purposes (as well as investment), reasonably projected future circumstances are more relevant than current circumstances” (Stratecon Inc. Report page 17).

We appreciate this opportunity to again be of service to you and your organization. Please contact me with any questions regarding this letter. I can be reached at 303.305.1136 and my email is rgiardina@raftelis.com.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.



Richard D. Giardina, CPA

Executive Vice President

Attachment A – R. Giardina resume

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ATTACHMENT A

R. Giardina - Resume

RICHARD D. GIARDINA

EXECUTIVE VICE PRESIDENT

Raftelis Financial Consultants, Inc.

Mr. Giardina is an Executive Vice President with Raftelis Financial Consultants, Inc. and while serving in a national role, also leads the Rocky Mountain region business practice. His extensive managerial and financial experience includes over 350 financial studies serving both the private and public sector. His experience covers technical areas and industries such as municipal fee development, utility cost-of-service and rate structure studies, litigation support, economic feasibility analyses, privatization feasibility and implementation studies, impact fee studies, management and operational audits, reviews of policies and procedures and operating practices, mergers and acquisitions, valuation services, and rate filing and reporting. He has also served as an arbitrator for several wholesale rate disputes.

As a member of several industry associations, he has also developed industry guidelines regarding financial and ratemaking practices. In particular, as a long-standing member of the American Water Works Association (AWWA) Rates and Charges Committee (currently the chair of the Committee), he chaired one group that prepared the first edition of the Small System Rate Manual (M54) and another that re-wrote the Water Utility Capital Financing Manual. He also chaired the re-write of M1 – Principles of Water Rates, Fees, and Charges (the Sixth Edition was published in June of 2012) and as chair he is currently overseeing the production of the Seventh Edition of M1. He was also a contributing author to the Water Environment Federation Finances and Charges Manual. Mr. Giardina also organized and led a WEF-sponsored seminars in 2010 and 2011 titled "Weathering the Storm: Is This the Right Time for You to Form a Stormwater Utility?"; a seminar on the opportunities and challenges surrounding the creation of a stormwater utility. In 2011 he was appointed to the EPA Environmental Financial Advisory Board and today, continues to serve on the Board.



YEARS OF EXPERIENCE

- 37 years

EDUCATION

- BA Business Administration Western State College of Colorado 1978

LICENSES AND CERTIFICATIONS

- Certified Public Accountant

SPECIAL RECOGNITION

- Appointed to the EPA Environmental Financial Advisory Board, 2011-present
- Rates and Charges Committee, American Water Works Association, member 1999 to present, Chair 2014 to present
- Financing and Charges Task Force, Water Environment Federation
- Utility Management Conference, AWWA-WEF, past co-chair and organizing committee, 2005 to 2010
- Water For People, Annual Fund Raising Event, Organizing Committee, 2006 to 2012
- Conference President, National Impact Fee Roundtable (now known as the Growth and Infrastructure Consortium), 2005
- Board Member, East Cherry Creek Valley Water & Sanitation District, 2001-2002

SOCIETIES

- American Institute of Certified Public Accountants
- American Water Works Association
- Government Financial Officers Association
- Water Environment Federation

EMPLOYMENT HISTORY

- Raftelis Financial Consultants, Inc., 1993 to 1995, 2013 to present
- Malcolm Pirnie-Arcadis-US, 2004 to 2013
- Rick Giardina & Associates, Inc. 1995 to 2004
- Ernst & Young 1984 to 1993
- Stone & Webster, Inc. 1981 to 1984
- State of Colorado Public Utilities Commission 1978 to 1981

LITIGATION / RATE CASE EXPERIENCE

- » Mr. Giardina provided expert testimony in PUC Docket No. 42857, SOAH Docket No. 473-14-5138 in support of Austin Water in a matter brought by four of its wholesale customers. The wholesale customers raised numerous concerns including the allocation of costs between water, wastewater and recycled operations, financial plan preparation, revenue requirements, cost-of-service and rate design. His testimony addressed issues around industry practices and the equitable assignment of costs between retail and wholesale customer groups.
- » Mr. Giardina prepared an expert report and provided expert witness testimony in support of the City of Westlake, Ohio in Case No. CV-12-782910 in the State of Ohio, County of Cuyahoga, against the City of Cleveland, Ohio. Consistent with the terms of its agreement, Westlake discontinued receiving wholesale water service from Cleveland and in turn Cleveland sought to recover “stranded costs” from Westlake. Mr. Giardina prepared an expert report and provided expert testimony at trial refuting Cleveland’s claims on the grounds that among other things, Cleveland had been fully compensated for all investment costs and no monies were due as a result of Westlake’s decision to exercise its contract rights to no longer be a Cleveland wholesale water customer. He used Cleveland’s own rate study and cost of service methodology to illustrate his conclusions including how under Cleveland’s utility approach to defining revenue requirements and determining rates, Cleveland’s claims were without merit.
- » Mr. Giardina served as an expert witness in support of the El Paso Water Utilities, Public Service Board (EPWU) in a lawsuit brought by the El Paso Apartment Users Association challenging the newly implemented EPWU stormwater user fees. In addition to preparing pre-filed testimony, being deposed and providing expert witness testimony at trial, Mr. Giardina assisted legal counsel for the EPWU in the deposition of the Association’s expert witness. The issues addressed by Mr. Giardina included the determination of billing units, financial plan preparation, revenue requirements, cost-of-service and rate design. The Court ruled in favor of the EPWU on all counts.
- » For the City of Chandler, Arizona Mr. Giardina served as Project Director in completing an outside city cost of service study. For a number of years the City had charged outside city water customers at twice the inside City rates. The rate differential was repealed when outside city customers sought to litigate this policy. The City retained Mr. Giardina to complete a cost of service study and recommend, if warranted, an outside rate differential. The approach used included the identification of assets serving strictly outside customers and development of an allocation methodology for common facilities. The City’s cash revenue requirements were converted to the utility basis for the purposes of determining the cost of outside service. Included in the cost of service was a return component based on the net rate base serving outside customers. Results of this analysis indicated that a differential was justified. The precise differential varied from 1.80 to 2.01 times inside city rates based on a variety of factors including the assignment or allocation of utility assets and the inclusion of contributed property. An automated rate model was delivered to the City and staff training was completed.
- » In a wholesale rate dispute between Bay City (as the supplier) and Bay County (and other municipal customers) Mr. Giardina was selected and served as the independent, third arbitrator. The rate consultant for each party served on the arbitration panel with Mr. Giardina. As the independent arbitrator Mr. Giardina presided over the hearing and drafted the arbitration decision (with input and comment from the other panel members).
- » Mr. Giardina was retained to participate on a three-member arbitration panel in a wholesale rate dispute between the cities of Kalamazoo and Portage, Michigan, in an attempt to avoid litigation. The panel received

testimony, reviewed briefs and related materials and led a consensus building process culminating in a settlement agreement.

- » Mr. Giardina was retained to participate on a three-member arbitration panel in a capital recovery fee dispute between the cities of Holland and Zeeland, Michigan. The panel received testimony, reviewed briefs and related documents and rendered a written, binding opinion.
- » Mr. Giardina provided consulting services to legal counsel of a homeowners association regarding water rates charged by a large municipally-owned water utility. At issue was the association's designated customer classification and the rates charged for service. The association was served through a single master meter and was responsible for the initial investment and all on-going costs associated with all facilities on their side of the metering point. This included meter reading and billing (under the association's rate structure) activities for their own retail customers. Mr. Giardina completed a comprehensive review of the utility's rate ordinance regarding customer class designations. He also evaluated a utility-prepared analysis on the cost of serving the association. His recommendations included the re-classification of the association from residential to a special "non-retail" service category or the utility's wholesale class and a rate for service reflective of the cost incurred by the utility and the service provided by the association.
- » Mr. Giardina provided litigation support on a contract rate dispute for one of the largest cities in the United States. For this case, the city was in litigation with ten wastewater contracting agencies (wholesale customers) who disagreed with the manner in which their rates were calculated and implemented. Mr. Giardina assisted this west coast city in evaluating the appropriateness of using settlement amounts for general fund purposes. This included a comprehensive analysis of the city charter and code, EPA and state wastewater grant and user charge regulations, bond ordinances and covenants and governmental accounting and reporting literature.
- » Mr. Giardina conducted an outside city cost of service study for the City of Prescott, Arizona. In anticipation of litigation the City retained Mr. Giardina to complete a cost of service study and recommend, if warranted, an outside rate differential. The approach used included the identification of assets serving strictly outside customers and development of an allocation methodology for common facilities. The City's cash revenue requirements were converted to the utility basis for the purpose of determining the cost of outside service. Included in the cost of service was a return component based on the net rate base serving outside customers.
- » Mr. Giardina served as Project Manager on an engagement to provide litigation support services in a lawsuit involving the recovery of closure and post-closure costs associated with a California landfill and transfer station. Mr. Giardina was retained by counsel for the plaintiff, the landfill and transfer owner, to provide expert witness testimony relating to the process used to establish rates for the owner and to also estimate damages resulting from the regulator's disallowance of closure and post-closure costs. Mr. Giardina also assisted in the depositions of the defendant's experts and assisted plaintiff's counsel on the development of closure and post-closure litigation strategies.
- » Mr. Giardina served as Project Manager on an engagement for the Colorado Ute Water District to evaluate (as part of a law suit between the District and the City of Grand Junction) the financial impact if the City were to assume utility service to approximately 20% of the District's service territory. He also assisted legal counsel in preparing deposition questions and trial material.

- » Mr. Giardina served as an expert witness in Colorado Water Court. Mr. Giardina was retained to evaluate the feasibility of a proposed water supply project. The evaluation included a comprehensive review of work completed by witnesses for the defendant, and the development of independent technical analysis relating to the project feasibility. He assisted legal counsel in deposing other experts and was deposed by defendants outside counsel.
- » Mr. Giardina served as an expert witness on an engagement to provide litigation support services to the City of Thornton, Colorado. Suit was filed in Adams County District Court against the City asserting that the City violated its agreement with outside City water and sewer customers calling for non-discriminatory rates. Mr. Giardina assisted the City's outside legal counsel in preparing requests for discovery and deposition of plaintiff's witnesses and the development and presentation of expert testimony. A key issue in this case was the cost justification and the evaluation of legal precedents and industry practices regarding the development of outside city rates for utility services.
- » Mr. Giardina provided litigation support services in an engineering and construction lawsuit involving a major southeastern water utility and claims regarding failure or potential failure of a large diameter transmission pipeline. Mr. Giardina was retained by counsel to provide analysis and evaluation of data for the purpose of assessing damage claims asserted by the plaintiff.
- » Mr. Giardina served as Project Manager to provide litigation support regarding a suit involving Alpine Cascade Corporation et. al. v. Pagosa Area Water and Sanitation District, Case No. 97CV15, Archuleta County District Court. Mr. Giardina will review and analyze the financial records of the Pagosa Area District and other related tasks. One of the primary issues that will be addressed is whether the District's purported "enterprise" is being operated as a self-supporting business.
- » For the City of Edmonton, Alberta, Mr. Giardina was retained to provide financial and cost allocation consulting services to the City in a wholesale customer rate dispute before the Alberta Public Utilities Board. Mr. Giardina provided independent advice to the City of Edmonton regarding a broad range of rate-related issues including cost of service determination, cost allocation and rate design. He also assisted the City in the review and preparation of testimony (direct and rebuttal).
- » Mr. Giardina was retained to evaluate damage claims as part of a law suit regarding a contaminated water treatment plant site. His focus was on the damages, as asserted by the plaintiff, which resulted from the "inability" of the plaintiff to refinance outstanding long-term debt. Additionally, RGA assisted legal counsel and other experts in the evaluation and analysis of finance and rate-related issues.
- » Mr. Giardina served as Project Manager on a number of litigation support engagements. Responsibilities have included the development of microcomputer models for use in calculating damage claims and extensive research relating to cost and management accounting issues and preparation of testimony.
- » Financial Analyst for the Colorado Public Utilities Commission. While employed by the PUC, Mr. Giardina presented expert testimony in a number of rate and cost allocation proceedings before the Commission. Areas of coverage included revenue requirement determination in general and specifically numerous accounting and financial issues relating to rate base, cost of capital and the cost of service. As a member of the PUC staff he conducted a number of rate-related audits focusing on cost analysis and cost allocation procedures. These audits then became the basis for development of expert testimony and preparation for cross-examination.

SAMPLE OF OTHER RELEVANT EXPERIENCE

» **City and County of Denver (CO)**

This project was the first ever bond issue (\$30.7 million) for the City of Denver's (City) Wastewater Management Division and, as such, required the development of a number of "bond-related" documents in addition to the financial feasibility plan. The engagement was completed in two phases:

- Reviewed the City's ordinances and regulatory materials concerning the storm drainage utility, including the Denver revised municipal code, wastewater policies and procedures related to the assessment and collection of storm drainage fees within the City. The storm drainage capital projects 6-year and long-term needs were reviewed and the costs of services for maintaining and operating the storm drainage utility, including assessing the current and projected financial requirements of operating the utility and the planned capital projects was assessed.
- Prepared a plan of finance, including projections of storm drainage fees which supported completion of the planned capital projects.

» **Seattle Water Department (WA)**

Mr. Giardina served as Project Manager on an engagement to assist the Seattle Water Department in conducting a comprehensive water cost-of-service and rate study and another rate study a couple of years later. The base-extra capacity cost allocation approach was used for this study. The Department provides retail service to in-city residents and wholesale service to 29 purveyor customers. Issues examined in this study included marginal cost pricing; seasonal rate development; rate of return; and inside/outside rate differentials. He provided consulting services and direction to the Department on each of these issues.

» **Metropolitan Water District of Southern California (CA)**

In 2007-2009, Mr. Giardina facilitated a series of workshops with management, member agencies and stakeholders to assess the economic, political and technical feasibility of a growth-related infrastructure charge. He led workshops to inform participants of the prevailing industry standards for adhering to cost of service principles and navigating California's complex legal environment. Again, in 2011, he led the Long Range Financial Planning process with a focus on better aligning fixed costs with fixed revenue sources in addition to evaluating a number of financial-related issues.

» **City of Austin Water Utility (TX)**

Mr. Giardina served as Project Director under the Water and Wastewater Cost of Service Rate Study contract for the City of Austin Water Utility (AWU) The project included cost of service and rate studies for the water and wastewater utilities and development of cost of service and rate models. He supervised the preparation several issue papers to educate Public Involvement Committee (PIC) about issues relating to cost of service methodologies and rate design and presented issue paper topics to PIC and the AWU Executive Committee.

Mr. Giardina also served as Project Director for a Revenue Stability Fee Study. He provided expertise relating to revenue stability efforts among water and wastewater utilities throughout the country. In addition, he researched and presented information regarding options for improving utility revenue stability to AWU staff and appointed Joint Subcommittee on AWU's Financial Plan. He assisted in the formulation of the recommendations ultimately adopted by the City including a revenue stability fee structure and associated policies.

» **City of San Diego (CA)**

Mr. Giardina served as Project Director for a Bond Feasibility Study for the City of San Diego Municipal Water and Wastewater Department (MWWD). Mr. Giardina conducted a financial analysis to determine if current rates and proposed future rates could reasonably be expected to provide the revenues necessary to support all costs

of the MWWD and City systems, including capital expenditures, O&M expenses, debt payments, debt coverage requirements, and financial reserve requirements.

Additionally, Mr. Giardina served as Project Director for a project for the City's on-going training initiative. Specifically, he led managers and staff of the Utility Department through a comprehensive financial planning and rate study program. He conducted sessions with the groups during which the fundamental concepts and approaches to financial planning, cost of service and rate design were presented.

He also served as the Project Director for a multi-phased study to assess the feasibility of implementing an individualized or water budget rate methodology.

» **City Council of Salt Lake City (UT)**

Mr. Giardina led the Council through a process of identifying and ranking water rate or pricing objectives. This effort resulted in the adoption of a seasonal rate approach (the existing method was a uniform rate). On the basis of the most recent rate study, the City has adopted a combination fixed-block rate for its residential accounts and a customer-specific block approach for nonresidential accounts. This approach was the result of a comprehensive evaluation of rate options using a 20-member citizen committee.

He also assisted the City Council in developing financial policies and leading a discussion regarding pay-as-you-go versus debt financing for capital projects, and in providing a detailed analysis of a bonding proposal. The work included General Fund activities as well as water, sewer, and storm drainage operations. Mr. Giardina analyzed such issues as alternative financing vehicles (including impact fees) and customer/taxpayer impact analyses. He completed a rate alternative workshop with the City Council which led to the implementation of a seasonal (replacing a uniform) water rate structure. Mr. Giardina developed alternative strength-based sewer rate methodology and assisted the Utility in implementation of both user rates and impact fees.

» **City of Phoenix (AZ)**

Mr. Giardina was retained by the City of Phoenix (City) Water Services Department to develop a long-range financial planning model of the City's water and wastewater utilities. The models, to be used by Department Management and the Natural Resources subcommittee of the City Council, had the capability to examine alternative funding sources for the capital improvement program and project results of operations in overall cash flows. The financial parameters of the City were incorporated into the model so that such indicators could be readily reviewed to ensure that debt service coverage requirements were met or that the use of debt to fund capital projects did not exceed target levels.

As part of an on-going contract with the Department, he converted this model for use with the wastewater utility. The wastewater financial planning model was enhanced so that the revenue requirement can be projected by customer class. The primary reason for this enhancement was to provide the Department with the ability to analyze the impact that anticipated upgrades to the City's two wastewater treatment plants would have on various customer classes. These upgrades were necessary in order to comply with anticipated NPDES permit requirements.

» **City of Tucson (AZ)**

Mr. Giardina served as Project Manager in providing rate and financial services for Tucson Water under a multi-year contract for services, including cost allocation and alternative rate design considerations. Specifically, he assisted the City in analyzing the rate blocks for its inclining block water rate structure and customer class designations. He developed new impact fees and provided recommendations on revenue projections and financial modeling.

» **City of Reno (NV)**

Mr. Giardina served as Project Officer on this comprehensive wastewater rate study. He directed the consulting team in developing a financial model that was used to evaluate revenue sufficiency, determine the cost of providing wastewater service including charges for excess-strength discharges, and determine equitable connection fees based on the cost of expansion. Our interactive approach facilitated the development of a rate structure that was legally defensible, and met the City's goals related to rate defensibility and equitably paying for growth. Unanimous consensus was reached in all forums and the project ended with a unanimous vote by the City Council to adopt all recommendations.

» **City of Santa Fe (NM)**

Mr. Giardina served as Technical Advisor on a project to conduct a financial feasibility study. He evaluated the financial implications of City acquisition of the privately-owned water company. Project objectives included: (1) developing operational costs and revenues; (2) analyzing integration and start-up costs; (3) developing a financial plan for acquiring the water company; (4) determining capital improvement funding requirements; (5) computing a probable range of values for the water company; and (6) quantifying the rate impacts of acquisition on existing customers.

» **El Paso Water Utilities Public Service Board (TX)**

Mr. Giardina served as Project Officer to assist the City of El Paso in identifying and assessing potential organizational and institutional arrangements for the management and funding of stormwater-related activities; and recommend the preferred structure for providing stormwater management and prepare an implementation plan. Subsequently, Mr. Giardina assisted the utility in the creation of the stormwater utility, development of staffing plan and organization structure, preparation of financial plan, rate design and customer billing data base all culminating with the issuance of stormwater bills 18 months after beginning the initial feasibility effort.

Mr. Giardina also served as Project Director for a water and sewer rate and financial planning study for the City of El Paso Water Utilities Public Service Board. He evaluated a number of pricing alternatives including the board's inverted residential block structure and excess use approach for nonresidential customers. Mr. Giardina projected demand reductions based on price elasticity estimates so that, when considered within the spectrum of a comprehensive water conservation program, per capita usage would decrease from 200 to 160 gallons per day by the year 2000. He also developed excess strength sewer surcharges as well as permit fees for significant industrial users and other permitted accounts.

» **Honolulu Board of Water Supply (HI)**

Mr. Giardina served as Project Director on an engagement to conduct a comprehensive rate and financial planning study for the Honolulu Board of Water Supply. He developed several alternative rate methodologies that addressed the pricing objectives of the community. These included the development of impact fees by functional area (e.g., supply, treatment). A major interest to the client was the consideration of a conservation pricing structure which included an increasing unit charge for increasing amounts of water consumed.

In addition, we completed a study for the Board to examine the relationship between impact fees, user charges and conservation pricing and develop a recommended rate and financial plan. This was completed with the development and use of an automated rate, financial planning, and customer impact model.

» **Puerto Rico Aqueduct & Sewer Authority (PUERTO RICO)**

Mr. Giardina served as Technical Advisor for the review of financial forecasts in support of planned capital financing for the Puerto Rico Aqueduct & Sewer Authority (Authority) multi-year capital needs in support of new money and refunding bond issues, and for completing a comprehensive rate study. Mr. Giardina represented the Authority in meetings and presentations with rating agencies and insurance companies for their first public issue

in over a decade. The financial forecast and additional work completed included a comprehensive assessment of efficiency initiatives, resulting increases in revenues and/or decreases in expenditures. This effort proved to be critical in building credibility with the rating agencies as the Authority sought to raise capital through a series of bond issues.

» **City of Winnipeg (Canada)**

Mr. Giardina served as Project Director for an organizational and financial management study for the City of Winnipeg Waterworks, Waste & Disposal Department to evaluate the potential for creating a stormwater utility and establishing a means of financing both capital and operations and maintenance costs.

» **City of San Jose (CA)**

Mr. Giardina also served as Project Director on a study to develop pricing methodologies and rate structures for non-residential water users. He evaluated the range of options available for recovering the cost of providing water service to non-residential customers. The evaluation entailed a conceptual assessment of alternative user charge approaches based on demand characteristics.

Mr. Giardina served as Project Director to conduct a customer class cost-of-service study using a conservation rate approach, and developed impact fees to recover costs associated with major facilities required to serve new development in the City's service area. He developed a methodology for determining amounts to be transferred annually to the City's General Fund. He also developed a microcomputer rate and financial planning model in order to project rates over a five-year time frame. Public input on both the user charges and impact fees were considered when developing the final study recommendations.

PUBLICATIONS / PRESENTATIONS

- » Giardina, R.D., Ash, T., "Constructing Successful Rates: The Art and Science of Revenue and Efficiency," presented at the 5th Annual WaterWise Pre-Conference Workshop, Denver, CO October 24, 2013.
- » Giardina, R.D., Ash, T., Mayer, P., "Constructing Successful Rates," presented at the WaterSmart Innovations Annual Conference, Las Vegas, NV, October 4, 2013.
- » Giardina, R.D., Burr-Rosenthal, Kyrsten, "Considering Water Budget Rates? One City's Approach," presented at the 2013 CA-NV AWWA Spring Conference, Las Vegas, NV, March 27, 2013.
- » Corssmit, C.W., Editor, and contributing editors, reviewers, and technical editors: Hildebrand, M., Giardina, R.D., Malesky, C.F., Matthews, P.L., Mastracchio, J.M., "Water Rates, Fees, and the Legal Environment," American Water Works Association (AWWA), 2nd Edition, 2010. ISBN 978-1-58321-796-2.
- » Giardina, R.D., "Is This the Right Time for You to Form a Stormwater Utility?," presented at a Seminar on Weathering the Storm: Is This the Right Time for You to Form a Stormwater Utility? sponsored by the Water Environment Federation (WEF), Alexandria VA, May 18, 2010. This seminar was also presented in 2011. See also <http://www.wef.org/blogs/blog.aspx?id=7312&blogid=17296>
- » Giardina, R.D., "Financial Viability - Can Budget or Individualized Water Rates Work for You?," presented at the Utility Management Conference sponsored jointly by the American Water Works Association and Water Environment Federation (AWWA/WEF), San Francisco CA, February 21-24, 2010.

- » Giardina, R.D., "Attaining Sustainable Business Performance Finance - Water Budget Based Rates," presented at a Meeting of the Association of Metropolitan Water Agencies (AMWA), New Orleans LA, October 20, 2008.
- » Jackson, D.E., Giardina, R.D., "Financing Options for Drinking Water CIP Projects," presented at a Seminar sponsored by the Arizona Water and Pollution Control Association (AWPCA) on Treatment Technologies for Compliance with the Stage 2 Disinfection Byproducts Rule, Phoenix AZ, February 16, 2006.
- » Giardina, R.D., "Impact Fee with a Defined Short-Term Build-Out Horizon," presented at the National Impact Fee Roundtable, Naples FL, October 22, 2004.
- » Giardina, R.D., "Calculating Impact Fees: Methods," presented at the American Planning Association State Conference, Vail CO, September 24, 2004.
- » Giardina, R.D., "Funding Local Government Services," presented at the 97th Annual Convention of the Utah League of Cities and Towns, Salt Lake City UT, September 15, 2004.
- » Giardina, R.D., "Understanding Water Issues in Arizona," presented at the Government Finance Officers Association Summer Training Program, Tucson AZ, August 20, 2004.
- » Giardina, R.D., "Impact Fees: A Vote of Confidence for Economic Growth?," published in Colorado Government Finance Officers Association (GFOA) Footnotes, December 2003, the Arizona GFOA Newsletter, January 2004, and the Illinois Government Finance Leader, Spring 2004.
- » Giardina, R.D., "Impact Fee Basics / Impact Fees with a Defined Short-Term Build-Out Horizon," presented at the National Impact Fee Roundtable, San Diego CA, October 16, 2003.
- » Giardina, R.D., "Local Government Utilities Establishing Rates for Service," presented at Arizona State University, Phoenix AZ, September 23, 2003.
- » Giardina, R.D., "Selecting a Water Rate Structure through Public Involvement," presented at the Annual Conference of the American Water Works Association, Intermountain Section, Jackson Hole WY, September 17, 2003.
- » Giardina, R.D., "Ratemaking 101," presented at the Government Finance Officers Association of Arizona, Summer Training, Flagstaff AZ, August 22, 2003.
- » Giardina, R.D., "Impact Fees," presented at the Colorado Government Finance Officers Association, Metro Coalition, Golden CO, May 9, 2003.
- » Giardina, R.D., "Impact Fees – A Primer," presented at a Conference of the Colorado River Finance Officers Association, Parker AZ, February 4, 2003.
- » Giardina, R.D., "Impact Fees and Economic Development," presented at the Annual Conference of the Colorado Government Finance Officers Association, Vail CO, November 20, 2002.
- » Giardina, R.D., "Case Study: City of Chandler, Arizona, Utility System Development Charges," presented at the National Impact Fee Roundtable, Phoenix AZ, October 24, 2002.

- » Giardina, R.D., "Using Impact Fees to Fund Streets and Roads," presented at the Utah League of Cities and Towns 2001 City Streets and County Road School Convention, St. George UT, April 25, 2001.
- » Giardina, R.D., "Addressing Capital Needs," presented at the Utah League of Cities and Towns Mid-Year Conference 2001, St. George UT, April 5, 2001.
- » Giardina, R.D., "Fine Tuning Your Rate Structure Using a Citizen Committee," presented at the Annual Conference and Exposition of the American Water Works Association, Denver CO, June 14, 2000.
- » Giardina, R.D., "Impact Fees without Getting in Trouble," presented at the Annual Convention of the Utah League of Cities and Towns, St. George UT, April 13, 2000.
- » Giardina, R.D., "Impact Fees for Small Communities," presented at the Annual Convention of the Utah League of Cities and Towns, Salt Lake City UT, September 16, 1999.
- » Giardina, R.D., "Trends in Privatization," presented at a Conference of the Water Environment Association of Utah, St. George UT, April 24, 1998.
- » Giardina, R.D., "Isn't Competition Wonderful?," presented at the Joint Technical Advisory Committee (JTAC) of the American Water Works Association, Rocky Mountain Section and the Rocky Mountain Water Environment Association, Denver CO, February 26, 1998.
- » Giardina, R.D., "Strategies and Approaches for the Development of Utility Impact Fees," presented at the Annual Conference of the Rural Water Association of Utah, Park City UT, August 25, 1998; and the Joint Annual Winter Conference of the Water Environment Association of Utah/American Water Works Association, Intermountain Section, Salt Lake City UT, January 21, 1998.
- » Giardina, R.D., "Private Sector Competition - What Is It? Who Does It? and Can It Help You?," Workshop presented at the 1997 Joint Annual Conference of the American Water Works Association, Rocky Mountain Section and the Rocky Mountain Water Environment Association, Ruidoso NM, September 14, 1997.
- » Giardina, R.D., "Impact Fees as a Capital Financing Approach," presented at a Conference of the Rocky Mountain Water Environment Association, Denver CO, January 30, 1997.
- » Giardina, R.D., "Conservation Pricing: Meeting Your Conservation Objectives," presented at the Joint Annual Conference of the American Water Works Association, Rocky Mountain Section and the Rocky Mountain Water Pollution Control Association, Sheridan WY, September 10, 1995; and the Annual Conference of the American Water Works Association, Kansas Section, Wichita KS, September 25, 1996.
- » Giardina, R.D., "Turnkey vs. Conventional Approach to Biosolids Facility Construction," presented at the 10th Annual Residuals and Biosolids Management Conference: 10 Years of Progress and a Look Toward the Future, Denver CO, August 20, 1996.
- » Giardina, R.D., Ambrose, R.D., Olstein, M., "Private-Sector Financing," Chapter 15, *Manual of Water Supply Practices, M47 - Construction Contract Administration*, 1996. American Water Works Association.

- » Giardina, R.D., "Contract Operations," Chapter 15, *Operation of Municipal Wastewater Treatment Plants, Manual of Practice-MOP 11*, Fifth Edition, 1996. Water Environment Federation.
- » Giardina, R.D., "Selecting an Appropriate Contract Operator," presented at the 1995 WEF/AWWA Joint Management Conference of the Water Environment Federation/American Water Works Association, Tulsa OK, February 13, 1995.
- » Giardina, R.D., "Wastewater Reuse Capital Funding and Cost Recovery Approaches," presented at the Rocky Mountain Sections of the American Water Works Association and Water Pollution Control Association, Crested Butte CO, September 14, 1994; and the Annual Conference and Exposition of the Water Environment Association of Utah, St. George UT, April 20, 1995.
- » Giardina, R.D., "Private Sector Financing of Public Facilities – When and Why It May Be Appropriate," presented at the Annual Conference of the American Water Works Association, New York NY, June 21, 1994; and Joint Annual Conference of the American Water Works Association, Rocky Mountain Section/Rocky Mountain Water Environment Federation, Steamboat Springs CO, September 10, 1996.
- » Giardina, R.D., "Use of Innovative Pricing Strategies in a Conservation or Demand Management Program," presented at the 67th Annual Conference of the Arizona Water and Pollution Control Association, Prescott AZ, May 6, 1994.
- » Giardina, R.D., "Funding Environmental Compliance – One City’s Approach," presented at the Annual Conference of the Rocky Mountain Water Pollution Control Association, Denver CO, January 28, 1994.
- » Giardina, R.D., "Conservation Pricing – Trends and Examples," presented at the CONSERV 93 Conference and Exposition on The New Water Agenda, Las Vegas NV, December 14, 1993.
- » Giardina, R.D., Simpson, S.L., "A Case Study of the Impact of Conservation Measures on Water Use in Boulder, Colorado," presented at the Joint Annual Conference of the Rocky Mountain Sections of the American Water Works Association and Water Environment Federation, Conservation Workshop, Albuquerque NM, September 19, 1993.
- » Giardina, R.D., "Creating Water Resources through Conservation Pricing," presented at the Western Water Conference of the National Water Resources Association, Durango CO, August 6, 1993.
- » Giardina, R.D., Archuleta, E.G., "A Case Study of the Impact of Conservation Measures on Water Use in El Paso, Texas," presented at the Annual Conference and Exposition of the American Water Works Association, San Antonio TX, June 9, 1993.
- » Giardina, R.D., "Trends in Water Rates," presented at the Annual Conference of the American Water Works Association, Pacific Northwest Section, Seattle WA, May 7, 1993.
- » Giardina, R.D., Blundon, E.G., "Environmental Impact Fees," presented at the Annual Customer Service Workshop sponsored by the American Water Works Association, Seattle WA, March 29, 1993.
- » Giardina, R.D., "Privatization and Other Innovative Approaches to Financing Wastewater Facilities," presented at the Annual Conference of the Nevada Water Pollution Control Association, Las Vegas NV, March 12, 1993.

- » Giardina, R.D., "Guidelines to the Pricing of Municipal Water Service," presented at the First National Water Conference, sponsored by the Canadian Water and Wastewater Association, Winnipeg MB, February 5-6, 1993.
- » Giardina, R.D., "Rates and the Public – Alternative Rate Approaches," presented at a Workshop sponsored by the American Water Works Association, Rocky Mountain Section, Denver CO, November 4, 1992.
- » Giardina, R.D., "Results of the 1992 National Water and Wastewater Rate Survey," presented at the 44th Annual Conference of the Western Canada Water and Wastewater Association, Calgary AB, October 15, 1992; and the 13th Annual Western Utility Seminar, sponsored by the Water Committee of the National Association of Regulatory Utility Commissioners, Redondo Beach CA, April 28, 1993.
- » Giardina, R.D., "Economic Feasibility of Waste Minimization: Assessing All Costs, Including 'Hidden Costs' and Indirect Benefits," presented at the Annual Meeting of the Colorado GEM Network, Denver CO, March 17, 1992.
- » Giardina, R.D., "State of the Art in Rate Setting: Results of the 1990 Water and Wastewater Rate Survey," presented at the Annual Conference of the Canadian Water and Wastewater Association, Montréal QC, November 4, 1991.
- » Giardina, R.D., "Impact of Rates on Water Conservation," presented at Waterscapes'91, an international conference on water management for a sustainable environment, Saskatoon SK, June 2-8, 1991.
- » Giardina, R.D., Birch, D., "Stormwater Management – A Technical and Financial Case Study," presented at the Symposium on Urban Hydrology of the American Water Resources Association, Denver CO, November 8, 1990.
- » Giardina, R.D., "Financing Environmental Site Cleanup Liabilities," presented at the Annual Conference of the Colorado Hazardous Waste Management Society, Denver CO, October 18, 1990.
- » Giardina, R.D., "Rate Making with Conservation in Mind: Results of the 1990 National Water Rate Survey," presented at the CONSERV 90 Conference and Exposition on Water Supply Solutions for the 1990s, Phoenix AZ, August 14, 1990.
- » Giardina, R.D., "Water Marketing – A Case Study," presented at the Profiting from Water Seminar, Santa Monica CA, May 11, 1989.
- » Giardina, R.D., "Landfill Development – the Planning and Management Process," presented at the American Bar Association's Solid Waste Integrated Management Workshop, San Francisco CA, March 1989.
- » Giardina, R.D., "Developing an Equitable Water Rate Structure," published in the American Water Works Association's monthly *Opflow*, February 1989.
- » Giardina, R.D., "Alternative Techniques for Financing Water and Wastewater Capital Expansions," presented at the Joint Annual Conference of the American Water Works Association and Water Pollution Control Association, Rocky Mountain Sections, Snowmass CO, September 14-17, 1988.
- » Giardina, R.D., "Excess Deferred Income Taxes Under the New Tax Law," *Public Utilities Fortnightly*, January 8, 1987.

- » Giardina, R.D., "Trends in Capital Financing for Environmental Facilities," presented at the 1987 Annual Conference of the Missouri Water Pollution Control Association and the 1987 Annual Conference of the Rocky Mountain WPCA Clean Water Conference.

Attachment B

RICHARD D. GIARDINA

EXECUTIVE VICE PRESIDENT

Raftelis Financial Consultants, Inc.

Mr. Giardina is an Executive Vice President with Raftelis Financial Consultants, Inc. and while serving in a national role, also leads the Rocky Mountain region business practice. His extensive managerial and financial experience spanning nearly 40 years, includes hundreds of financial studies serving both the private and public sector. His experience covers technical areas and industries such as local government fee development, utility cost of service and rate structure studies, litigation support, economic feasibility analyses, privatization feasibility and implementation studies, impact fee studies, management and operational audits, reviews of policies and procedures and operating practices, mergers and acquisitions, valuation services, and rate filing and reporting. He has also served as an arbitrator for several wholesale rate disputes.

As a member of several industry associations, he has also developed industry guidelines regarding financial and ratemaking practices. In particular, as a long-standing member of the American Water Works Association (AWWA) Rates and Charges Committee (chair of the Committee from 2014-2017), he chaired one group that prepared the first edition of the Small System Rate Manual (M54) and chaired another group that re-wrote the Water Utility Capital Financing Manual. He also chaired the re-write of M1 – Principles of Water Rates, Fees, and Charges (the Sixth Edition was published in June of 2012) and as chair of the Rates & Charges Committee he oversaw the production of the Seventh Edition of M1 (published in January of 2017). He is currently vice-chair of the AWWA Management and Leadership Division.

He was also a contributing author to the Water Environment Federation (WEF) Finances and Charges Manual. Mr. Giardina also organized and led WEF-sponsored seminars in 2010 and 2011 titled

YEARS OF EXPERIENCE

- 39 years

EDUCATION

- BA Business Administration Western State College of Colorado 1978

LICENSES AND CERTIFICATIONS

- Certified Public Accountant - Colorado
- Series 50 Municipal Advisor Representative

SPECIAL RECOGNITION

- Management and Leadership Division, American Water Works Association, Vice Chair, 2017 to present
- Appointed to the EPA Environmental Financial Advisory Board, 2011 to 2017
- American Water Works Association, Rates and Charges Committee, 1999 to present, Vice Chair 2011 to 2014 and Chair 2014 to 2017
- Water Rates Summit, Invited Expert, Alliance for Water Efficiency (AWE), The Johnson Foundation, August 2012 and April 2014
- Financing and Charges Task Force, Water Environment Federation, 2005 to 2011
- Utility Management Conference, AWWA-WEF, past co-chair and organizing committee, 2005 to 2010
- Water For People, Annual Fund Raising Event, Organizing Committee, 2006 to 2012
- Conference President, National Impact Fee Roundtable (now known as the Growth and Infrastructure Consortium), 2005
- Board Member, East Cherry Creek Valley Water & Sanitation District, 2001 to 2002

PROFESSIONAL MEMBERSHIPS

- American Institute of Certified Public Accountants
- American Water Works Association
- Government Financial Officers Association
- Water Environment Federation

PROFESSIONAL HISTORY

- Raftelis Financial Consultants, Inc., 1993 to 1995, 2013 to present
- Malcolm Pirnie-Arcadis-US, 2004 to 2013
- Rick Giardina & Associates, Inc. 1995 to 2004
- Ernst & Young 1984 to 1993
- Stone & Webster, Inc. 1981 to 1984
- State of Colorado Public Utilities Commission 1978 to 1981



"Weathering the Storm: Is This the Right Time for You to Form a Stormwater Utility?"; a seminar on the opportunities and challenges surrounding the creation of a stormwater utility.

In 2011, he was appointed to the EPA Environmental Financial Advisory Board serving two terms through June of 2017. The EFAB provides ideas and advice to EPA's Administrator and program offices on ways to lower the costs of and increase investments in environmental and public health protection. EFAB's work focuses on:

- Lowering the cost of environmental protection;
- Removing financial and programmatic barriers that raise costs;
- Increasing public and private contribution in environmental facilities and services; and
- Building state and local financial ability to meet environmental laws.

LITIGATION / RATE CASE EXPERIENCE

- » Mr. Giardina prepared an expert report and provided expert witness testimony in support of the Fort Collins-Loveland Water District and the South Fort Collins Sanitation District in Case Number: 2015CV030658 in District Court, Larimer County, Colorado in an action brought by a developer regarding water and wastewater Plant Investment Fees and Impact fees. His report and testimony addressed issues around industry practices in the determination and assessment of Plant Investment Fees and Impact Fees.
- » Mr. Giardina provided expert testimony in PUC Docket No. 42857, SOAH Docket No. 473-14-5138 in support of Austin Water in a matter brought by four of its wholesale customers. The wholesale customers raised numerous concerns including the allocation of costs between water, wastewater and recycled operations, financial plan preparation, revenue requirements, cost of service and rate design. His testimony addressed issues around industry practices and the equitable assignment of costs between retail and wholesale customer groups.
- » Mr. Giardina prepared an expert report and provided expert witness testimony in support of the City of Westlake, Ohio in Case No. CV-12-782910 in the State of Ohio, County of Cuyahoga, against the City of Cleveland, Ohio. Consistent with the terms of its agreement, Westlake discontinued receiving wholesale water service from Cleveland and in turn Cleveland sought to recover "stranded costs" from Westlake. Mr. Giardina prepared an expert report and provided expert testimony at trial refuting Cleveland's claims on the grounds that among other things, Cleveland had been fully compensated for all investment costs and no monies were due as a result of Westlake's decision to exercise its contract rights to no longer be a Cleveland wholesale water customer. He used Cleveland's own rate study and cost of service methodology to illustrate his conclusions including how under Cleveland's utility approach to defining revenue requirements and determining rates, Cleveland's claims were without merit.
- » Mr. Giardina served as an expert witness in support of the El Paso Water Utilities, Public Service Board (EPWU) in a lawsuit brought by the El Paso Apartment Users Association challenging the newly implemented EPWU stormwater user fees. In addition to preparing pre-filed testimony, being deposed and providing expert witness testimony at trial, Mr. Giardina assisted legal counsel for the EPWU in the deposition of the Association's expert witness. The issues addressed by Mr. Giardina included the determination of billing units, financial plan preparation, revenue requirements, cost of service and rate design. The Court ruled in favor of the EPWU on all counts.

- » For the City of Chandler, Arizona Mr. Giardina served as Project Director in completing an outside city cost of service study. For a number of years the City had charged outside city water customers at twice the inside City rates. The rate differential was repealed when outside city customers sought to litigate this policy. The City retained Mr. Giardina to complete a cost of service study and recommend, if warranted, an outside rate differential. The approach used included the identification of assets serving strictly outside customers and development of an allocation methodology for common facilities. The City's cash revenue requirements were converted to the utility basis for the purposes of determining the cost of outside service. Included in the cost of service was a return component based on the net rate base serving outside customers. Results of this analysis indicated that a differential was justified. The precise differential varied from 1.80 to 2.01 times inside city rates based on a variety of factors including the assignment or allocation of utility assets and the inclusion of contributed property. An automated rate model was delivered to the City and staff training was completed.
- » In a wholesale rate dispute between Bay City (as the supplier) and Bay County (and other municipal customers) Mr. Giardina was selected and served as the independent, third arbitrator. The rate consultant for each party served on the arbitration panel with Mr. Giardina. As the independent arbitrator Mr. Giardina presided over the hearing and drafted the arbitration decision (with input and comment from the other panel members).
- » Mr. Giardina was retained to participate on a three-member arbitration panel in a wholesale rate dispute between the cities of Kalamazoo and Portage, Michigan, in an attempt to avoid litigation. The panel received testimony, reviewed briefs and related materials and led a consensus building process culminating in a settlement agreement.
- » Mr. Giardina was retained to participate on a three-member arbitration panel in a capital recovery fee dispute between the cities of Holland and Zeeland, Michigan. The panel received testimony, reviewed briefs and related documents and rendered a written, binding opinion.
- » Mr. Giardina provided consulting services to legal counsel of a homeowner's association regarding water rates charged by a large municipally-owned water utility. At issue was the association's designated customer classification and the rates charged for service. The association was served through a single master meter and was responsible for the initial investment and all on-going costs associated with all facilities on their side of the metering point. This included meter reading and billing (under the association's rate structure) activities for their own retail customers. Mr. Giardina completed a comprehensive review of the utility's rate ordinance regarding customer class designations. He also evaluated a utility-prepared analysis on the cost of serving the association. His recommendations included the re-classification of the association from residential to a special "non-retail" service category or the utility's wholesale class and a rate for service reflective of the cost incurred by the utility and the service provided by the association.
- » Mr. Giardina provided litigation support on a contract rate dispute for one of the largest cities in the United States. For this case, the city was in litigation with ten wastewater contracting agencies (wholesale customers) who disagreed with the manner in which their rates were calculated and implemented. Mr. Giardina assisted this west coast city in evaluating the appropriateness of using settlement amounts for general fund purposes. This included a comprehensive analysis of the city charter and code, EPA and state wastewater grant and user charge regulations, bond ordinances and covenants and governmental accounting and reporting literature.

- » Mr. Giardina conducted an outside city cost of service study for the City of Prescott, Arizona. In anticipation of litigation the City retained Mr. Giardina to complete a cost of service study and recommend, if warranted, an outside rate differential. The approach used included the identification of assets serving strictly outside customers and development of an allocation methodology for common facilities. The City's cash revenue requirements were converted to the utility basis for the purpose of determining the cost of outside service. Included in the cost of service was a return component based on the net rate base serving outside customers.
- » Mr. Giardina served as Project Manager on an engagement to provide litigation support services in a lawsuit involving the recovery of closure and post-closure costs associated with a California landfill and transfer station. Mr. Giardina was retained by counsel for the plaintiff, the landfill and transfer owner, to provide expert witness testimony relating to the process used to establish rates for the owner and to also estimate damages resulting from the regulator's disallowance of closure and post-closure costs. Mr. Giardina also assisted in the depositions of the defendant's experts and assisted plaintiff's counsel on the development of closure and post-closure litigation strategies.
- » Mr. Giardina served as Project Manager on an engagement for the Colorado Ute Water District to evaluate (as part of a law suit between the District and the City of Grand Junction) the financial impact if the City were to assume utility service to approximately 20% of the District's service territory. He also assisted legal counsel in preparing deposition questions and trial material.
- » Mr. Giardina served as an expert witness in Colorado Water Court. Mr. Giardina was retained to evaluate the feasibility of a proposed water supply project. The evaluation included a comprehensive review of work completed by witnesses for the defendant, and the development of independent technical analysis relating to the project feasibility. He assisted legal counsel in deposing other experts and was deposed by defendants outside counsel.
- » Mr. Giardina served as an expert witness on an engagement to provide litigation support services to the City of Thornton, Colorado. Suit was filed in Adams County District Court against the City asserting that the City violated its agreement with outside City water and sewer customers calling for non-discriminatory rates. Mr. Giardina assisted the City's outside legal counsel in preparing requests for discovery and deposition of plaintiff's witnesses and the development and presentation of expert testimony. A key issue in this case was the cost justification and the evaluation of legal precedents and industry practices regarding the development of outside city rates for utility services.
- » Mr. Giardina provided litigation support services in an engineering and construction lawsuit involving a major southeastern water utility and claims regarding failure or potential failure of a large diameter transmission pipeline. Mr. Giardina was retained by counsel to provide analysis and evaluation of data for the purpose of assessing damage claims asserted by the plaintiff.
- » Mr. Giardina served as Project Manager to provide litigation support regarding a suit involving Alpine Cascade Corporation et. al. v. Pagosa Area Water and Sanitation District, Case No. 97CV15, Archuleta County District Court. Mr. Giardina will review and analyze the financial records of the Pagosa Area District and other related tasks. One of the primary issues that will be addressed is whether the District's purported "enterprise" is being operated as a self-supporting business.
- » For the City of Edmonton, Alberta, Mr. Giardina was retained to provide financial and cost allocation consulting services to the City in a wholesale customer rate dispute before the Alberta Public Utilities Board. Mr. Giardina provided independent advice to the City of Edmonton regarding a broad range of rate-related issues including

cost of service determination, cost allocation and rate design. He also assisted the City in the review and preparation of testimony (direct and rebuttal).

- » Mr. Giardina was retained to evaluate damage claims as part of a law suit regarding a contaminated water treatment plant site. His focus was on the damages, as asserted by the plaintiff, which resulted from the “inability” of the plaintiff to refinance outstanding long-term debt. Additionally, RGA assisted legal counsel and other experts in the evaluation and analysis of finance and rate-related issues.
- » Mr. Giardina served as Project Manager on a number of litigation support engagements. Responsibilities have included the development of microcomputer models for use in calculating damage claims and extensive research relating to cost and management accounting issues and preparation of testimony.
- » Financial Analyst for the Colorado Public Utilities Commission. While employed by the PUC, Mr. Giardina presented expert testimony in a number of rate and cost allocation proceedings before the Commission. Areas of coverage included revenue requirement determination in general and specifically numerous accounting and financial issues relating to rate base, cost of capital and the cost of service. As a member of the PUC staff he conducted a number of rate-related audits focusing on cost analysis and cost allocation procedures. These audits then became the basis for development of expert testimony and preparation for cross-examination.

SAMPLE OF OTHER RELEVANT EXPERIENCE

» **City and County of Denver (CO)**

This project was the first ever bond issue (\$30.7 million) for the City of Denver’s (City) Wastewater Management Division and, as such, required the development of a number of “bond-related” documents in addition to the financial feasibility plan. The engagement was completed in two phases:

- Reviewed the City’s ordinances and regulatory materials concerning the storm drainage utility, including the Denver revised municipal code, wastewater policies and procedures related to the assessment and collection of storm drainage fees within the City. The storm drainage capital projects 6-year and long-term needs were reviewed and the costs of services for maintaining and operating the storm drainage utility, including assessing the current and projected financial requirements of operating the utility and the planned capital projects was assessed.
- Prepared a plan of finance, including projections of storm drainage fees which supported completion of the planned capital projects.

» **Seattle Water Department (WA)**

Mr. Giardina served as Project Manager on an engagement to assist the Seattle Water Department in conducting a comprehensive water cost of service and rate study and another rate study a couple of years later. The base-extra capacity cost allocation approach was used for this study. The Department provides retail service to in-city residents and wholesale service to 29 purveyor customers. Issues examined in this study included marginal cost pricing; seasonal rate development; rate of return; and inside/outside rate differentials. He provided consulting services and direction to the Department on each of these issues.

» **Metropolitan Water District of Southern California (CA)**

In 2007-2009, Mr. Giardina facilitated a series of workshops with management, member agencies and stakeholders to assess the economic, political and technical feasibility of a growth-related infrastructure charge. He led workshops to inform participants of the prevailing industry standards for adhering to cost of service principles and navigating California’s complex legal environment.

Again, in 2011, he led the Long Range Financial Planning process with a focus on better aligning fixed costs with fixed revenue sources in addition to evaluating a number of financial-related issues. He facilitated and provided technical input as a variety of rate and financial planning alternatives were considered.

Mr. Giardina developed alternatives to the current MWD 100% variable rate methodology for treated water service. He led Raftelis' efforts to frame and develop a number of fixed charge alternatives considering the basis or rationale for historic investments in treatment capacity and the demand characteristics of the MWD Member Agencies, i.e., average, peaking and standby demands.

He has continued (2016- 2017) to work with Metropolitan on a variety of cost of service topics and provided support in regard to the on-going rate litigation with the San Diego County Water Authority.

» **City of Austin Water Utility (TX)**

Mr. Giardina served as Project Director under the Water and Wastewater Cost of Service Rate Study contract for the City of Austin Water Utility (AWU) The project included cost of service and rate studies for the water and wastewater utilities and development of cost of service and rate models. He supervised the preparation several issue papers to educate Public Involvement Committee (PIC) about issues relating to cost of service methodologies and rate design and presented issue paper topics to PIC and the AWU Executive Committee.

Mr. Giardina also served as Project Director for a Revenue Stability Fee Study. He provided expertise relating to revenue stability efforts among water and wastewater utilities throughout the country. In addition, he researched and presented information regarding options for improving utility revenue stability to AWU staff and appointed Joint Subcommittee on AWU's Financial Plan. He assisted in the formulation of the recommendations ultimately adopted by the City including a revenue stability fee structure and associated policies.

» **City of San Diego (CA)**

Mr. Giardina served as Project Director for a Bond Feasibility Study for the City of San Diego Municipal Water and Wastewater Department (MWWD). Mr. Giardina conducted a financial analysis to determine if current rates and proposed future rates could reasonably be expected to provide the revenues necessary to support all costs of the MWWD and City systems, including capital expenditures, O&M expenses, debt payments, debt coverage requirements, and financial reserve requirements.

Additionally, Mr. Giardina served as Project Director for a project for the City's on-going training initiative. Specifically, he led managers and staff of the Utility Department through a comprehensive financial planning and rate study program. He conducted sessions with the groups during which the fundamental concepts and approaches to financial planning, cost of service and rate design were presented.

He also served as the Project Director for a multi-phased study to assess the feasibility of implementing an individualized or water budget rate methodology.

» **City Council of Salt Lake City (UT)**

Mr. Giardina led the Council through a process of identifying and ranking water rate or pricing objectives. This effort resulted in the adoption of a seasonal rate approach (the existing method was a uniform rate). On the basis of the most recent rate study, the City has adopted a combination fixed-block rate for its residential accounts and a customer-specific block approach for nonresidential accounts. This approach was the result of a comprehensive evaluation of rate options using a 20-member citizen committee.

He also assisted the City Council in developing financial policies and leading a discussion regarding pay-as-you-go versus debt financing for capital projects, and in providing a detailed analysis of a bonding proposal. The work

included General Fund activities as well as water, sewer, and storm drainage operations. Mr. Giardina analyzed such issues as alternative financing vehicles (including impact fees) and customer/taxpayer impact analyses. He completed a rate alternative workshop with the City Council which led to the implementation of a seasonal (replacing a uniform) water rate structure. Mr. Giardina developed alternative strength-based sewer rate methodology and assisted the Utility in implementation of both user rates and impact fees.

» **City of Phoenix (AZ)**

Mr. Giardina was retained by the City of Phoenix (City) Water Services Department to develop a long-range financial planning model of the City's water and wastewater utilities. The models, to be used by Department Management and the Natural Resources subcommittee of the City Council, had the capability to examine alternative funding sources for the capital improvement program and project results of operations in overall cash flows. The financial parameters of the City were incorporated into the model so that such indicators could be readily reviewed to ensure that debt service coverage requirements were met or that the use of debt to fund capital projects did not exceed target levels.

As part of an on-going contract with the Department, he converted this model for use with the wastewater utility. The wastewater financial planning model was enhanced so that the revenue requirement can be projected by customer class. The primary reason for this enhancement was to provide the Department with the ability to analyze the impact that anticipated upgrades to the City's two wastewater treatment plants would have on various customer classes. These upgrades were necessary in order to comply with anticipated NPDES permit requirements.

» **City of Tucson (AZ)**

Mr. Giardina served as Project Manager in providing rate and financial services for Tucson Water under a multi-year contract for services, including cost allocation and alternative rate design considerations. Specifically, he assisted the City in analyzing the rate blocks for its inclining block water rate structure and customer class designations. He developed new impact fees and provided recommendations on revenue projections and financial modeling.

» **City of Reno (NV)**

Mr. Giardina served as Project Officer on this comprehensive wastewater rate study. He directed the consulting team in developing a financial model that was used to evaluate revenue sufficiency, determine the cost of providing wastewater service including charges for excess-strength discharges, and determine equitable connection fees based on the cost of expansion. Our interactive approach facilitated the development of a rate structure that was legally defensible, and met the City's goals related to rate defensibility and equitably paying for growth. Unanimous consensus was reached in all forums and the project ended with a unanimous vote by the City Council to adopt all recommendations.

» **City of Santa Fe (NM)**

Mr. Giardina served as Technical Advisor on a project to conduct a financial feasibility study. He evaluated the financial implications of City acquisition of the privately-owned water company. Project objectives included: (1) developing operational costs and revenues; (2) analyzing integration and start-up costs; (3) developing a financial plan for acquiring the water company; (4) determining capital improvement funding requirements; (5) computing a probable range of values for the water company; and (6) quantifying the rate impacts of acquisition on existing customers.

» **El Paso Water Utilities Public Service Board (TX)**

Mr. Giardina served as Project Officer to assist the City of El Paso in identifying and assessing potential organizational and institutional arrangements for the management and funding of stormwater-related activities;

and recommend the preferred structure for providing stormwater management and prepare an implementation plan. Subsequently, Mr. Giardina assisted the utility in the creation of the stormwater utility, development of staffing plan and organization structure, preparation of financial plan, rate design and customer billing data base all culminating with the issuance of stormwater bills 18 months after beginning the initial feasibility effort.

Mr. Giardina also served as Project Director for a water and sewer rate and financial planning study for the City of El Paso Water Utilities Public Service Board. He evaluated a number of pricing alternatives including the board's inverted residential block structure and excess use approach for nonresidential customers. Mr. Giardina projected demand reductions based on price elasticity estimates so that, when considered within the spectrum of a comprehensive water conservation program, per capita usage would decrease from 200 to 160 gallons per day by the year 2000. He also developed excess strength sewer surcharges as well as permit fees for significant industrial users and other permitted accounts.

» **Honolulu Board of Water Supply (HI)**

Mr. Giardina served as Project Director on an engagement to conduct a comprehensive rate and financial planning study for the Honolulu Board of Water Supply. He developed several alternative rate methodologies that addressed the pricing objectives of the community. These included the development of impact fees by functional area (e.g., supply, treatment). A major interest to the client was the consideration of a conservation pricing structure which included an increasing unit charge for increasing amounts of water consumed.

In addition, we completed a study for the Board to examine the relationship between impact fees, user charges and conservation pricing and develop a recommended rate and financial plan. This was completed with the development and use of an automated rate, financial planning, and customer impact model.

» **Puerto Rico Aqueduct & Sewer Authority (PUERTO RICO)**

Mr. Giardina served as Technical Advisor for the review of financial forecasts in support of planned capital financing for the Puerto Rico Aqueduct & Sewer Authority (Authority) multi-year capital needs in support of new money and refunding bond issues, and for completing a comprehensive rate study. Mr. Giardina represented the Authority in meetings and presentations with rating agencies and insurance companies for their first public issue in over a decade. The financial forecast and additional work completed included a comprehensive assessment of efficiency initiatives, resulting increases in revenues and/or decreases in expenditures. This effort proved to be critical in building credibility with the rating agencies as the Authority sought to raise capital through a series of bond issues.

» **City of Winnipeg (Canada)**

Mr. Giardina served as Project Director for an organizational and financial management study for the City of Winnipeg Waterworks, Waste & Disposal Department to evaluate the potential for creating a stormwater utility and establishing a means of financing both capital and operations and maintenance costs.

» **City of San Jose (CA)**

Mr. Giardina also served as Project Director on a study to develop pricing methodologies and rate structures for non-residential water users. He evaluated the range of options available for recovering the cost of providing water service to non-residential customers. The evaluation entailed a conceptual assessment of alternative user charge approaches based on demand characteristics.

Mr. Giardina served as Project Director to conduct a customer class cost of service study using a conservation rate approach, and developed impact fees to recover costs associated with major facilities required to serve new development in the City's service area. He developed a methodology for determining amounts to be transferred annually to the City's General Fund. He also developed a microcomputer rate and financial planning

model in order to project rates over a five-year time frame. Public input on both the user charges and impact fees were considered when developing the final study recommendations.

PUBLICATIONS / PRESENTATIONS

- » Giardina, R.D., Cramer, C., “How Much Does It Cost To Build Here,” presented at the Growth and Infrastructure Consortium Annual Conference, Denver, CO, October 13, 2016.
- » Giardina, R.D., Gaur, S., Kiger, M.H., Ziebertz, W., “Committee Report: Ripples From the San Juan Capistrano Decision,” Journal – American Water Works Association, September 2016, Volume 108, Number 9.
- » Giardina, R. D., “What’s In Your Rates?,” presented at the Colorado Water Congress, 2016 Summer Conference, Steamboat Springs, CO, August 24, 2016.
- » Giardina, R.D., Ash, T., “Constructing Successful Rates: The Art and Science of Revenue and Efficiency,” presented at the 5th Annual WaterWise Pre-Conference Workshop, Denver, CO October 24, 2013.
- » Giardina, R.D., Ash, T., Mayer, P., “Constructing Successful Rates,” presented at the WaterSmart Innovations Annual Conference, Las Vegas, NV, October 4, 2013.
- » Giardina, R.D., Burr-Rosenthal, Kyrsten, “Considering Water Budget Rates? One City’s Approach,” presented at the 2013 CA-NV AWWA Spring Conference, Las Vegas, NV, March 27, 2013.
- » Corssmit, C.W., Editor, and contributing editors, reviewers, and technical editors: Hildebrand, M., Giardina, R.D., Malesky, C.F., Matthews, P.L., Mastracchio, J.M., "Water Rates, Fees, and the Legal Environment," American Water Works Association (AWWA), 2nd Edition, 2010. ISBN 978-1-58321-796-2.
- » Giardina, R.D., “Is This the Right Time for You to Form a Stormwater Utility?,” presented at a Seminar on Weathering the Storm: Is This the Right Time for You to Form a Stormwater Utility? sponsored by the Water Environment Federation (WEF), Alexandria VA, May 18, 2010. This seminar was also presented in 2011. See also <http://www.wef.org/blogs/blog.aspx?id=7312&blogid=17296>
- » Giardina, R.D., "Financial Viability - Can Budget or Individualized Water Rates Work for You?," presented at the Utility Management Conference sponsored jointly by the American Water Works Association and Water Environment Federation (AWWA/WEF), San Francisco CA, February 21-24, 2010.
- » Giardina, R.D., "Attaining Sustainable Business Performance Finance - Water Budget Based Rates," presented at a Meeting of the Association of Metropolitan Water Agencies (AMWA), New Orleans LA, October 20, 2008.
- » Jackson, D.E., Giardina, R.D., "Financing Options for Drinking Water CIP Projects," presented at a Seminar sponsored by the Arizona Water and Pollution Control Association (AWPCA) on Treatment Technologies for Compliance with the Stage 2 Disinfection Byproducts Rule, Phoenix AZ, February 16, 2006.
- » Giardina, R.D., “Impact Fee with a Defined Short-Term Build-Out Horizon,” presented at the National Impact Fee Roundtable, Naples FL, October 22, 2004.
- » Giardina, R.D., “Calculating Impact Fees: Methods,” presented at the American Planning Association State Conference, Vail CO, September 24, 2004.

- » Giardina, R.D., "Funding Local Government Services," presented at the 97th Annual Convention of the Utah League of Cities and Towns, Salt Lake City UT, September 15, 2004.
- » Giardina, R.D., "Understanding Water Issues in Arizona," presented at the Government Finance Officers Association Summer Training Program, Tucson AZ, August 20, 2004.
- » Giardina, R.D., "Impact Fees: A Vote of Confidence for Economic Growth?," published in Colorado Government Finance Officers Association (GFOA) Footnotes, December 2003, the Arizona GFOA Newsletter, January 2004, and the Illinois Government Finance Leader, Spring 2004.
- » Giardina, R.D., "Impact Fee Basics / Impact Fees with a Defined Short-Term Build-Out Horizon," presented at the National Impact Fee Roundtable, San Diego CA, October 16, 2003.
- » Giardina, R.D., "Local Government Utilities Establishing Rates for Service," presented at Arizona State University, Phoenix AZ, September 23, 2003.
- » Giardina, R.D., "Selecting a Water Rate Structure through Public Involvement," presented at the Annual Conference of the American Water Works Association, Intermountain Section, Jackson Hole WY, September 17, 2003.
- » Giardina, R.D., "Ratemaking 101," presented at the Government Finance Officers Association of Arizona, Summer Training, Flagstaff AZ, August 22, 2003.
- » Giardina, R.D., "Impact Fees," presented at the Colorado Government Finance Officers Association, Metro Coalition, Golden CO, May 9, 2003.
- » Giardina, R.D., "Impact Fees – A Primer," presented at a Conference of the Colorado River Finance Officers Association, Parker AZ, February 4, 2003.
- » Giardina, R.D., "Impact Fees and Economic Development," presented at the Annual Conference of the Colorado Government Finance Officers Association, Vail CO, November 20, 2002.
- » Giardina, R.D., "Case Study: City of Chandler, Arizona, Utility System Development Charges," presented at the National Impact Fee Roundtable, Phoenix AZ, October 24, 2002.
- » Giardina, R.D., "Using Impact Fees to Fund Streets and Roads," presented at the Utah League of Cities and Towns 2001 City Streets and County Road School Convention, St. George UT, April 25, 2001.
- » Giardina, R.D., "Addressing Capital Needs," presented at the Utah League of Cities and Towns Mid-Year Conference 2001, St. George UT, April 5, 2001.
- » Giardina, R.D., "Fine Tuning Your Rate Structure Using a Citizen Committee," presented at the Annual Conference and Exposition of the American Water Works Association, Denver CO, June 14, 2000.
- » Giardina, R.D., "Impact Fees without Getting in Trouble," presented at the Annual Convention of the Utah League of Cities and Towns, St. George UT, April 13, 2000.

- » Giardina, R.D., "Impact Fees for Small Communities," presented at the Annual Convention of the Utah League of Cities and Towns, Salt Lake City UT, September 16, 1999.
- » Giardina, R.D., "Trends in Privatization," presented at a Conference of the Water Environment Association of Utah, St. George UT, April 24, 1998.
- » Giardina, R.D., "Isn't Competition Wonderful?," presented at the Joint Technical Advisory Committee (JTAC) of the American Water Works Association, Rocky Mountain Section and the Rocky Mountain Water Environment Association, Denver CO, February 26, 1998.
- » Giardina, R.D., "Strategies and Approaches for the Development of Utility Impact Fees," presented at the Annual Conference of the Rural Water Association of Utah, Park City UT, August 25, 1998; and the Joint Annual Winter Conference of the Water Environment Association of Utah/American Water Works Association, Intermountain Section, Salt Lake City UT, January 21, 1998.
- » Giardina, R.D., "Private Sector Competition - What Is It? Who Does It? and Can It Help You?," Workshop presented at the 1997 Joint Annual Conference of the American Water Works Association, Rocky Mountain Section and the Rocky Mountain Water Environment Association, Ruidoso NM, September 14, 1997.
- » Giardina, R.D., "Impact Fees as a Capital Financing Approach," presented at a Conference of the Rocky Mountain Water Environment Association, Denver CO, January 30, 1997.
- » Giardina, R.D., "Conservation Pricing: Meeting Your Conservation Objectives," presented at the Joint Annual Conference of the American Water Works Association, Rocky Mountain Section and the Rocky Mountain Water Pollution Control Association, Sheridan WY, September 10, 1995; and the Annual Conference of the American Water Works Association, Kansas Section, Wichita KS, September 25, 1996.
- » Giardina, R.D., "Turnkey vs. Conventional Approach to Biosolids Facility Construction," presented at the 10th Annual Residuals and Biosolids Management Conference: 10 Years of Progress and a Look Toward the Future, Denver CO, August 20, 1996.
- » Giardina, R.D., Ambrose, R.D., Olstein, M., "Private-Sector Financing," Chapter 15, *Manual of Water Supply Practices, M47 - Construction Contract Administration*, 1996. American Water Works Association.
- » Giardina, R.D., "Contract Operations," Chapter 15, *Operation of Municipal Wastewater Treatment Plants, Manual of Practice-MOP 11*, Fifth Edition, 1996. Water Environment Federation.
- » Giardina, R.D., "Selecting an Appropriate Contract Operator," presented at the 1995 WEF/AWWA Joint Management Conference of the Water Environment Federation/American Water Works Association, Tulsa OK, February 13, 1995.
- » Giardina, R.D., "Wastewater Reuse Capital Funding and Cost Recovery Approaches," presented at the Rocky Mountain Sections of the American Water Works Association and Water Pollution Control Association, Crested Butte CO, September 14, 1994; and the Annual Conference and Exposition of the Water Environment Association of Utah, St. George UT, April 20, 1995.
- » Giardina, R.D., "Private Sector Financing of Public Facilities – When and Why It May Be Appropriate," presented at the Annual Conference of the American Water Works Association, New York NY, June 21, 1994; and Joint

Annual Conference of the American Water Works Association, Rocky Mountain Section/Rocky Mountain Water Environment Federation, Steamboat Springs CO, September 10, 1996.

- » Giardina, R.D., "Use of Innovative Pricing Strategies in a Conservation or Demand Management Program," presented at the 67th Annual Conference of the Arizona Water and Pollution Control Association, Prescott AZ, May 6, 1994.
- » Giardina, R.D., "Funding Environmental Compliance – One City’s Approach," presented at the Annual Conference of the Rocky Mountain Water Pollution Control Association, Denver CO, January 28, 1994.
- » Giardina, R.D., "Conservation Pricing – Trends and Examples," presented at the CONSERV 93 Conference and Exposition on The New Water Agenda, Las Vegas NV, December 14, 1993.
- » Giardina, R.D., Simpson, S.L., "A Case Study of the Impact of Conservation Measures on Water Use in Boulder, Colorado," presented at the Joint Annual Conference of the Rocky Mountain Sections of the American Water Works Association and Water Environment Federation, Conservation Workshop, Albuquerque NM, September 19, 1993.
- » Giardina, R.D., "Creating Water Resources through Conservation Pricing," presented at the Western Water Conference of the National Water Resources Association, Durango CO, August 6, 1993.
- » Giardina, R.D., Archuleta, E.G., "A Case Study of the Impact of Conservation Measures on Water Use in El Paso, Texas," presented at the Annual Conference and Exposition of the American Water Works Association, San Antonio TX, June 9, 1993.
- » Giardina, R.D., "Trends in Water Rates," presented at the Annual Conference of the American Water Works Association, Pacific Northwest Section, Seattle WA, May 7, 1993.
- » Giardina, R.D., Blundon, E.G., "Environmental Impact Fees," presented at the Annual Customer Service Workshop sponsored by the American Water Works Association, Seattle WA, March 29, 1993.
- » Giardina, R.D., "Privatization and Other Innovative Approaches to Financing Wastewater Facilities," presented at the Annual Conference of the Nevada Water Pollution Control Association, Las Vegas NV, March 12, 1993.
- » Giardina, R.D., "Guidelines to the Pricing of Municipal Water Service," presented at the First National Water Conference, sponsored by the Canadian Water and Wastewater Association, Winnipeg MB, February 5-6, 1993.
- » Giardina, R.D., "Rates and the Public – Alternative Rate Approaches," presented at a Workshop sponsored by the American Water Works Association, Rocky Mountain Section, Denver CO, November 4, 1992.
- » Giardina, R.D., "Results of the 1992 National Water and Wastewater Rate Survey," presented at the 44th Annual Conference of the Western Canada Water and Wastewater Association, Calgary AB, October 15, 1992; and the 13th Annual Western Utility Seminar, sponsored by the Water Committee of the National Association of Regulatory Utility Commissioners, Redondo Beach CA, April 28, 1993.
- » Giardina, R.D., "Economic Feasibility of Waste Minimization: Assessing All Costs, Including ‘Hidden Costs’ and Indirect Benefits," presented at the Annual Meeting of the Colorado GEM Network, Denver CO, March 17, 1992.

- » Giardina, R.D., "State of the Art in Rate Setting: Results of the 1990 Water and Wastewater Rate Survey," presented at the Annual Conference of the Canadian Water and Wastewater Association, Montréal QC, November 4, 1991.
- » Giardina, R.D., "Impact of Rates on Water Conservation," presented at Waterscapes'91, an international conference on water management for a sustainable environment, Saskatoon SK, June 2-8, 1991.
- » Giardina, R.D., Birch, D., "Stormwater Management – A Technical and Financial Case Study," presented at the Symposium on Urban Hydrology of the American Water Resources Association, Denver CO, November 8, 1990.
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