EXHIBIT Y

TESTIMONY OF JEROME C. WEINERT

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

AQUA PENNSYLVANIA WASTEWATER, INC.

DOCKET NO. A-2021-3026132

AQUA STATEMENT NO. 5

DIRECT TESTIMONY OF JEROME C. WEINERT, PE, ASA, CDP UTILITY VALUATION EXPERT SELECTED BY EAST WHITELAND TOWNSHIP, PENNSYLVANIA

Date: July 2021

DIRECT TESTIMONY OF JEROME C. WEINERT

Q. Please state your name, business address, and occupation.

A. My name is Jerome C. Weinert. My business address is 8555 West Forest Home Avenue, Suite 201, Greenfield, WI 53228. I am a Principal and Director of AUS Consultants, Inc. ("AUS Consultants"). This testimony was prepared by me.

Q. Please describe your qualifications and indicate if you are registered as a Utility Valuation Expert with the Pennsylvania Public Utility Commission.

A. My curriculum vitae **("**CV") is attached to my report and this testimony. AUS Consultants is a registered Utility Valuation Expert with the Pennsylvania Public Utility Commission ("PUC"). We obtained that registration in 2016 and were informed of our latest renewal by the PUC's Secretary on January 12, 2021.

Q. What is the purpose of your testimony?

A. This direct testimony provides clarification and explanation of the appraisal I provided to East Whiteland Township, Pennsylvania ("EWT"), the Selling Utility pursuant to 66 Pa. C.S. § 1329(a)(5) and in accordance with the Uniform Standards of Professional Appraisal Practice ("USPAP") (2020-2021 Edition).

Q. Are you advocating for any party or outcome?

A. No. The Ethics Rule of the USPAP, applicable here pursuant to 66 Pa. C.S. § 1329(a)(3), requires that I perform the appraisal with impartiality, objectivity, and independence, and without accommodation of personal interests. In addition, the USPAP Ethics Rule requires that I not perform the assignment with bias, that I must not advocate the cause or interest

of any party or issue and that I must not accept an assignment that includes the reporting of predetermined opinions and conclusions.

Q. Do you have any affiliation with either the Acquiring Utility or the Acquiring Public Utility or Entity?

A. No. Other than the current assignment to provide the subject appraisal, I have no business or personal relationships with any party to the proposed acquisition.

Q. What is your fee arrangement to deliver the appraisal?

A. A copy of the fee arrangement is included with the Application as **Exhibit S2**. In summary, AUS Consultants are to receive $25,000 to $27,000 plus expenses in compensation for our appraisal, which represents approximately 0.47% of the appraised value.

Q. Will you receive that fee regardless of whether the Commission approves the proposed transaction or whether it closes?

A. Yes. 66 Pa. C.S. § 1329(a)(3) mandates that I comply with the USPAP when developing my appraisal. Under the USPAP, I cannot perform the appraisal with bias and acceptance of a fee contingent on a particular outcome like closing or Commission approval would violate that Ethics Rule.

Q. Have you prepared any exhibits, schedules, or appendices to accompany your direct testimony?

A. Yes. The appraisal I submitted to the Seller pursuant to Section 1329(a)(5) is included in the Application as **Exhibit R**. The appraisal includes a narrative and supporting exhibits in sections. All were prepared under my supervision and control. Also, as stated above, attached to this testimony as **Appendix A** is my CV.

Q. Please summarize your results of the application of the cost, market, and income approaches to valuation.

A. The summary results of the cost, income, and market approaches is presented below.

Appraisal Approach	Value Indicator	Weight	Wtd Value Indicator
Cost	59,847,171	50%	29,923,586
Income	55,600,045	40%	22,240,018
Market	56,178,539	10%	5,617,854
Appraisal Conclusion			57,781,458

Q. Please describe any assumptions, extraordinary assumptions, hypothetical conditions, and/or limiting conditions that you applied to the valuation.

A. The major assumptions and limiting conditions used in preparing our appraisal of the East Whiteland's Wastewater Collection System and Purchased Treatment Capacity are described in our appraisal report "Fair Market Appraisal Report of East Whiteland Township, Pennsylvania's (PA) Wastewater Collection System and Purchased Treatment Capacity, as of January 8, 2021." Beyond the above-described assumptions, there are no

extraordinary[1] or hypothetical[2] assumptions (as defined in the 2020-2021 edition of USPAP).

Q. How was each assumption used and what was its result?

A. The assumptions are detailed in my appraisal report and are discussed further in this testimony.

Q. How did you develop the weighting applied to each approach in your appraisal and why are the individual weights you chose appropriate for this proposed transaction?

A. For the cost approach I chose a weighting of 50%. It is my opinion that this weighting is appropriate for the cost approach because the major purpose of this appraisal is to be an input to the Commission's establishment of cost for future ratemaking and the cost approach conclusion is directly reflective of the property cost.

For the market approach, I chose a weighting of 10%. It is my opinion that this weighting is appropriate for the market approach because while the market approach provides some information as to the value of the property, establishing comparability between the individual sales to the subject property is difficult and uncertain therefore requiring less weight of the market approach and the 10% weight accomplishes that objective.

[1] Extraordinary assumption: an assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions. 2020-2021 USPAP page 4.

[2] Hypothetical condition: a condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but used for the purpose of analysis. 2020-2021 USPAP page 4.

For the income approach, I chose a weighting of 40%. It is my opinion that this weighting is appropriate for the income approach because the income approach reflects the value of the property's return to the property's owner. The 40% weight accomplishes that objective.

Q. Did you conduct an on-site inspection of the Selling Utility assets, and if so, what was its result on the appraisal?

A. No. AUS Consultants relied on the aging of the investment provided in the Engineer's Assessment to assess the condition of the system.

Q. What Utility Earnings Report was used to create the capital structure used in your appraisal?

A. I used a market required capital structure (detailed in the Cost of Capital / Required Return portion of our appraisal report). Information used in developing the market capital structure was obtained from financial statistics reported in Value Line Investment Survey for the water / wastewater industry published in their January 1, 2021 issue.

Q. What capital structure was used in your appraisal?

A. The capital structure used in my appraisal is included below.

Water and Wastewater Cost of Capital
First Quarter 2021 (0-01-2021)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	29%	Market	2.79%	Market	28.89%	71.11%	0.58%
Equity	71%	Market	9.85%	Market	0.0%	100.0%	6.99%
Total Capital r	**100.0%**						**7.57%**
Growth (g)							**1.82%**
Rate without Growth: [(1+r)/(1+g)]-1							**5.65%**

Cost Approach

Q. Regarding your application of the cost approach, what method did you use to determine the cost approach result (e.g. original cost, replacement cost, reproduction cost)?

A. I used the replacement cost method.

Q. Please explain why you chose the replacement cost method.

A. I chose the replacement cost method because it is considered the proper starting point for a cost approach. Replacement cost reflects the appraisal date cost of providing the property's functionality and capacity at the appraisal date using recognized materials and labor costs.

Q. What index did you use for that method?

A. I used the Handy Whitman Index of Public Utility Construction Costs for the Water Industry (Northeastern US Region), AUS Telephone Index (General Plant), and various United States Bureau of Labor Statistics cost index series.

Q. Under your application of the cost approach what assets did you value or trend differently from other assets and why was that necessary?

A. I costed each property account with cost trends appropriate for the property contained in the account. As such, the costing of each property account may differ from account to account. It is my opinion that an accurate appraisal requires each property account be costed with cost trends reflective of the property contained in the account. For the assets associated with Land and Land Rights, appraisal date costs were estimated. For the appraisal date cost of obtaining and registering the easement with the Register of Deeds, estimates were developed based on the time and cost associated with developing the easement, contacting the property owner and registering the easement.

East Whiteland Township's property, as detailed in the Pennoni Associates, Inc. "Engineer's Assessment" of $43,447,309.24, including purchase treatment capacity, was determined to have a replacement cost new of $85,964,664 summarized as follows:

East Whiteland Township, Pennsylvania
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Investor-Owned Utility
As of January 8, 2021

Replacement Cost New (RCN)

(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
			OC $s			RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt	AUS Input	East Whiteland Township Wastewater Assets Detail by Pennoni Associates, Inc.	Eng Assmnt	AUS Input			AUS Input	Col (14) * (15)
NARUC Code	NARUC Code	Asset Description	Original Cost	Cost Index Table	Translator	RCN	COR / RCN Factor	COR
353.20	353.20	Land & Land Rights - Original Basin	668.00	USBLS1	2.87	1,920	375.01	720,020
353.30	353.30	Land & Land Rights - Pumping	13.00	USBLS1	2.08	27	498.82	13,468
354.30	354.30	Stuctures & Improvements - Pumping	8,005,275.38	HWW-18	1.52	12,142,235	1.00	12,142,235
360.21	360.21	Collection Sewers - Force - Mains	2,304,354.55	HWW-144	2.59	5,971,267	1.00	5,971,267
361.21	361.21	Collection Sewers - Gravity - Mains	10,767,737.96	HWW-144	2.84	30,582,161	1.00	30,582,161
361.23	361.23	Collection Sewers - Gravity - Manholes	4,350,867.01	HWW-145	2.32	10,108,723	1.00	10,108,723
363.20	363.20	Service Laterals	6,619,976.03	HWW-139	1.85	12,259,833	1.00	12,259,833
365.20	365.20	Flow Measuring Installations Meter Pits	78,670.00	HWW-140	4.95	389,338	1.00	389,338
354.20	354.20	Stuctures & Improvements - Treatment	11,085,241.50	HWW-115	1.22	13,511,701	1.00	13,511,701
390.70	390.70	Office Furniture and Equipment	21,550.00	AUST-115	1.16	25,084	1.00	25,084
391.70	391.70	Transportation Equipment	212,955.81	AUST-14	1.13	240,834	1.00	240,834
		Grand Total	43,447,309.24		1.96	85,233,123	1.01	85,964,664

These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Cost Approach section.

Q. Under your application of the cost approach, what date did you use for calculating the depreciation or condition of the property?

A. I used the date of January 8, 2021.

Q. How did you determine the depreciation parameters of survival/retirement characteristics and service lives for the utility property under the cost approach?

A. I determined those parameters based on our review of the depreciation studies filed by Pennsylvania-American Water Company ("PAWC") and Aqua Pennsylvania Wastewater, Inc. ("Aqua") in support of their depreciation parameters (Iowa-type Survival Characteristics and Service Lives) and the resultant depreciation expense and rate base (net book) in their recent General Rate Cases (R-2017-2595853, R-2020-3019371 and R-2018-3003561) and AUS Consultants' experience in preparing depreciation studies for the water and wastewater industry and our experience appraising water and wastewater properties. The following table summarizes those studies and AUS Consultants' review of the depreciation parameters:

Summary of PAWC & Aqua Depreciation Studies Prepared for Rate Case

Account	Account Description	Iowa Curves			Service Life		
		PAWC 12/31/2016	PAWC 12/31/2019	Aqua 3/31/2018	PAWC 12/31/2016	PAWC 12/31/2019	Aqua 3/31/2018
					years	years	
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	R3	R3	S0.5	45	45	55
354.30	STRUCTURES AND IMPROVEMENTS - SPP	R2.5	S0	S1.0	50	55	60
354.40	STRUCTURES AND IMPROVEMENTS - TDP	R2	S0	R2.0	65	55	50
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	S1	S1	R3.0	35	35	50
355.00	POWER GENERATION EQUIPMENT	R2.5	S0.5		35	35	
360.10	COLLECTION SEWERS - FORCE MAINS	S2	R3	R2.5	70	75	75
361.10	COLLECTION SEWERS - GRAVITY MAINS	R2.5	R2.5	R2.5	70	80	75
361.20	MANHOLES	S1.5	S2.5		50	50	
363.00	SERVICES	R3	R3	R4.0	38	47	70
364.00	FLOW MEASURING DEVICES	L3	L2.5		20	15	
365.00	FLOW MEASURING INSTALLATIONS	S1.5	S2		30	25	
370.00	RECEIVING WELLS	R3	R3		50	50	
371.00	PUMPING EQUIPMENT	SO	S0.5	L0.5	40	30	25
380.00	TREATMENT EQUIPMENT	5-R2	S1.5	S0.0	45	35	40
381.00	PLANT SEWERS	R3	R3	R1.5	50	50	40
382.00	OUTFALL SEWER LINES	R3	R3	R2.5	50	50	40
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	52.5	S2.5		20	20	
389.60	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	SQ	SQ	L3.0	20	5	20
390.00	OFFICE FURNITURE AND EQUIPMENT	L4	SQ	SQ	15	20	20
391.00	TRANSPORTATION EQUIPMENT	SQ	L4		25	14	
392.00	STORES EQUIPMENT	SQ	SQ		20	25	
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	SQ	SQ	SQ	15	20	20
394.00	LABORATORY EQUIPMENT	L2.5	SQ	SQ	16	15	25
395.00	POWER OPERATED EQUIPMENT	SQ	R2		15	22	
396.00	COMMUNICATION EQUIPMENT	SQ	SQ		15	15	
397.00	MISCELLANEOUS EQUIPMENT		SQ			15	
398.00	OTHER TANGIBLE PLANT		SQ			25	

Q. Why are those parameters appropriate?

A. Those parameters are appropriate because the parameters reflect the actual service life experienced by Aqua in serving wastewater customers in the Commonwealth of Pennsylvania and which were adjudicated by the PUC in PAWC's 2017 General Rate Case, PAWC's 2020 General Rate Case (Docket Nos. R-2020-3019369 and R-2020-30193371, respectively), and Aqua's 2018 General Rate Case (Docket No. R-2018-3003561). The parameters in the following table also reflect AUS Consultants' experience of the survival / retirement characteristics of normal and functional service lives of wastewater properties:

9 10 11 12 13

East Whiteland Township, Pennsylvania
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Investor-Owned Utility
January 8, 2021

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)		(5)	(6)	
		(4a)	(4b)		(6a)	(6b)
Account Number	Description	Iowa Survivor / Retirement Curve	Normal Service Life	Economic Obsolescence	Tax Depreciation	
			years	% of CORLD	Table	Life
353.20	Land & Land Rights - Original Basin	ZNonDep	0.00	0.00%	Non-Depr	0.00
353.30	Land & Land Rights - Pumping	ZNonDep	0.00	0.00%	Non-Depr	0.00
354.20	Stuctures & Improvements - Treatment	R4.0	55.00	0.00%	MACRS	25.00
354.30	Stuctures & Improvements - Pumping	R4.0	45.00	0.00%	MACRS	25.00
360.21	Collection Sewers - Force - Mains	R3.0	75.00	0.00%	MACRS	25.00
361.21	Collection Sewers - Gravity - Mains	R2.5	80.00	0.00%	MACRS	25.00
361.23	Collection Sewers - Gravity - Manholes	R2.5	80.00	0.00%	MACRS	25.00
363.20	Service Laterals	R3.0	70.00	0.00%	MACRS	25.00
365.20	Flow Measuring Installations Meter Pits	S2.0	30.00	0.00%	MACRS	25.00
390.70	Office Furniture and Equipment	R3.0	12.00	0.00%	MACRS	12.00
391.70	Transportation Equipment	R3.0	10.00	0.00%	MACRS	10.00

10 11 12

Also, due the age of East Whiteland Township's early property installations, the maximum depreciation was limited to 85% of the cost new.

Q. What was the result of the application of the depreciation parameters to the previously described replacement cost new of $85,964,664?

A. With the application of the above-described depreciation parameters, the replacement cost new of $85,964,664 results in a replacement cost new less depreciation of $58,078,339 determined as follows:

East Whiteland Township, Pennsylvania
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Investor-Owned Utility
As of January 8, 2021

Replacement Cost New less Depreciation (RCNLD)

(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at January 8, 2021 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR $s		years	years	years	% of COR	CORLD $s
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Assmnt	East Whiteland Township Wastewater Assets Detail by Pennoni Associates, Inc.		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	Iowa	NL	Rem Life	Total Life	Condition	CORLD
353.20	Land & Land Rights - Original Basin	31.62	720,020	ZNonDep	-	-	-	-	720,020
353.30	Land & Land Rights - Pumping	20.27	13,468	ZNonDep	-	-	-	-	13,468
354.30	Stuctures & Improvements - Pumping	14.58	12,142,235	R4.0	45.00	31.23	45.82	45.00	8,379,553
360.21	Collection Sewers - Force - Mains	29.95	5,971,267	R3.0	75.00	47.21	77.16	75.00	3,669,861
361.21	Collection Sewers - Gravity - Mains	33.23	30,582,161	R2.5	80.00	50.80	84.03	80.00	18,623,208
361.23	Collection Sewers - Gravity - Manholes	32.21	10,108,723	R2.5	80.00	51.66	83.87	80.00	6,272,518
363.20	Service Laterals	22.75	12,259,833	R3.0	70.00	48.95	71.70	70.00	8,428,787
365.20	Flow Measuring Installations Meter Pits	44.50	389,338	S2.0	30.00	4.50	49.00	30.00	58,401
354.20	Stuctures & Improvements - Treatment	6.78	13,511,701	R4.0	55.00	48.11	54.89	55.00	11,842,733
390.70	Office Furniture and Equipment	12.50	25,084	R3.0	12.00	2.20	14.70	12.00	3,763
391.70	Transportation Equipment	11.45	240,834	R3.0	10.00	2.91	14.35	10.00	66,027
Grand Total		24.57	85,964,664		68.23	46.41	70.71	0.68	58,078,339

The above replacement cost new less depreciation represents the cost approach of the tangible assets of East Whiteland Township's wastewater system. In addition to the above-described tangible assets, are intangible assets; in East Whiteland Township's case, which

consist of the contracts associated with its wastewater treatment contracts held with the following communities:

Municipality	2020 YTD Projected
Charlestown Township	
Treatment Charge	80,068
Subtotal Charlestown Twp	80,068
Malvern Borough	
Treatment Charge	150,300
Subtotal Malvern Borough	150,300
East Whiteland Service Revenues	
Total Revenues	3,761,787

These contracts represent value assets which are included in the overall income and market approaches which are not specifically addressed in the cost approach of the tangible assets; therefore, in order to make the cost approach comparable to the income and market approaches these intangible assets were separately appraised and included in the cost approach totals. AUS Consultants developed an income approach estimate to the value which was relied upon for the contract values.

The 2020 budget estimate the revenues and expenses of the wastewater treatment contracts were used in order to develop the estimated operating income as a surrogate for the cash flows associated the wastewater treatment contracts. The estimated cash flows were next discounted to appraisal date values using the cost of capital of 5.65% i.e., the cost of capital of 6.99% with the embedded growth rate of 1.82% removed; the development of

which is described in the Cost of Capital section of the workpapers. The income approach to the wastewater treatment contracts was developed as follows:

East Whiteland Township, Pennsylvania
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Investor-Owned Utility
As of January 8, 2021

Income Approach to Trearment Agreements Valuation

Municipality	2020 YTD Actual	2021 Projected		Expenses	Operating Income	Value Capitalized @ 5.65%
						5.65%
Charlestown Township						
Treatment Charge	80,068					
Subtotal Charlestown Twp	80,068	80,068	1.39%	45,324	34,744	614,938
Malvern Borough						
Treatment Charge	150,300					
Subtotal Malvern Borough	150,300	150,300	2.61%	85,105	65,195	1,153,894
Total East Whiteland Revenues						
Total Revenues	5,428,667	5,759,816		3,260,709		1,768,832

Based on the Income Approach analysis, the wastewater treatment contracts were determined to have a value of $1,768,832 which was included in the final cost approach to value as follows:

East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Investor-Owned Utility
As of January 8, 2021

	Column Reference in OCLD & RCNLD	Amount in $s
Depreciated Replacement Cost (RCNLD)		
Original Cost (OC)	(9)	43,447,309
Replacement Cost New (RCN)	(16)	85,964,664
Replacement Cost New less Depreciation (RCNLD)	(31)	58,078,339
Intangible Assets - Treatment Contracts		1,768,832
Fair Market Vaue (FMV)	(41)	59,847,171

This conclusion which was tested for economic obsolescence based on the results of the income and market approaches which will be described in the remainder of this testimony. Based on our review of the preliminary cost approach and the results of the income and market approaches, no economic obsolescence exists at the preliminary cost approach conclusion of $59,847,171; therefore, the final cost approach conclusion was determined to be $59,847,171. These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Cost Approach section.

Market Approach

Q. Regarding your application of the market approach, what methods did you use to determine the market approach result?

A. I used the comparable sales of water and wastewater properties in the Commonwealth of Pennsylvania subsequent to the passage of Section 1329 and financial market value ratios of publicly traded water and wastewater companies as reported in the January 1, 2021, issue of Value Line Investment Survey.

Q. What assumptions, analyses, and/or adjustments did you make under each method?

A. Under the comparable sales method, it is my opinion that sales amount to depreciated replacement cost is the best indicator in arriving at the appraised value of physical assets operating as a wastewater collection system. Under the financial ratios method, I believe that an accurate result depends on using the weighted mean of the ratio of the market debt and equity to book debt and equity.

Q. What were the results of each analysis you performed?

A. The comparable sales analysis produced a result of $56,178,539 detailed as follows:

East Whiteland Township, Pennsylvania
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Investor-Owned Utility
As of January 8, 2021

Comparable Sales Approach

Market Sales Data

Central Tendancy and Reliability Analysis

Market Sales Analysis - PP/OCLD

	Simple	Weighted	
Mean	1.7594	1.8494	
Standard Deviation	0.5882	0.4204	
Median	1.49	1.4355	
Mode	1.4418	1.4418	
Conclusion		1.8494	AUS Input
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity OCLD		35,172,804	Cost Approach - OCLD
Market Value Indication		**65,048,584**	

Market Sales Analysis - PP/CORLD

	Simple	Weighted	
Mean	0.8087	0.9337	
Standard Deviation	0.1746	0.1695	
Median	0.8229	0.7558	
Mode	0.6918	0.6918	
Conclusion		0.9387	AUS Input
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity CORLD		59,847,171	Cost Approach - CORLD
Market Value Indication		**56,178,539**	

Market Sales Analysis - PP/Customer

	Simple	Weighted	
Water Tretment & Distribution			
Mean	6,123	10,962	
Standard Deviation		4,613	
Median	5,021	4,963	
Wastewater Collection & Treatment		16,785	
Mean	9,579		
Standard Deviation		-	AUS Input
Median	8,754		
Wastewater Collection			
Mean	6,507		
Standard Deviation			
Median	6,636		
Watewater Treatment Only			
Mean	3,072		
Standard Deviation			
Median	2,118		
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity Customers		3,918	AUS Input
Wastewater Collection & Treatment PP/Customer		8,754	AUS Input
Collection and Treatement Customers Market Value I		**34,298,172**	

Treatement Only Market Value Indication

Treatment Only PP/customer		2,118	AUS Input
Treatment Only Customers		-	AUS Input
Market Value Indication Treatment Only		-	

Total Market Value Indication **34,298,172**

Financial Basis[1]

Financial Markets	Market Value per Share to Book Value per Share	
Market to Book (equity)	3.40	
Market to Book (equity and debt)	2.11	
Use (equity and debt)	2.11	AUS Input
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity OCLD	33,403,972	Cost Approach - OCLD
Market Value Indication	**70,482,381**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-5)

	Simple	Weighted	
Mean	17.48	15.32	
Standard Deviation	5.71	5.10	
Median	17.41	18.13	
Mode	Not Applicable	Not Applicable	
Forecast			
Conclusion		18.00	AUS Input
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity Cash		2,396,686	Income Approach
Market Value Indication		**43,140,348**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-13)

	Simple	Weighted	
Mean	11.62	11.45	
Standard Deviation	2.67	2.14	
Median	11.65	12.07	
Mode	Not Applicable	Not Applicable	
Forecast			
Conclusion		12.00	AUS Input
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity		3,264,195	Income Approach
Market Value Indication		**39,170,336**	

Summary of Market Analyses

Indicators	
OCLD	65,048,584
CORLD	56,178,539
Customers	34,298,172
Cash Flows	
EBITDA Periods 1-5	43,140,348
EBITDA Periods 1-13	39,170,336
Value Line	70,482,381
Mean	51,386,393
Median	49,659,444
Conclusion	**56,178,539**

1

Q. What was your market approach result?

A. I used the results of $56,178,539 because I believe those results represent an accurate assessment and it was based on the relationship of market comparable sales to the replacement cost new less depreciation of those properties. These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Market Approach section.

Q. What was the calculation you used to determine your overall market approach results?

A. I used the weighted mean of the purchase price to replacement cost less depreciation.

Q. What comparable transactions or comparable sales did you evaluate to develop your market approach?

A. I examined the following transactions to develop the result of my market approach:

East Whiteland Township, Pennsylvania
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Investor-Owned Utility
As of January 8, 2021

Comparable Sales Approach

Market Sales Data

RowID	Approximate Date	Buyer	Seller	County	Type of Facility	Initial Purchase Price	Final Purchase Price[1]	Number of Total Customers	Relationship to the passage of Section 1329
1	9/1/2016	PA American Water	City of McKeesport	Allegheny	Wastewater Collection and Treatment	156,000,000	159,000,000	21,953	Post
2	8/1/2016	Aqua PA	New Garden Twp. SA	Chester	Wastewater Collection and Paid for and Owned Treatment	29,500,000	29,500,000	2,106	Post
3	11/16/2016	Aqua PA	Limerick Township	Montgomery	Wastewater Collection and Treatment System	75,100,000	64,373,378	5,434	Post
4	12/10/2017	Aqua PA	East Bradford Township	Chester	Wastewater Collection and paid for treatment	5,000,000	5,000,000	1,248	Post
5	4/20/2018	SUEZ	Mahoning	Carbon	Water Distribution System	4,734,800	4,734,800	1,186	Post
6	4/20/2018	SUEZ	Mahoning	Carbon	Wastewater Collection	4,765,200	4,765,200	1,451	Post
7	6/1/2018	Aqua PA	Cheltenham	Montgomery	Wastewater Collection	50,250,000	50,250,000	10,500	Post
8	11/14/2018	PA American Water	Steelton	Dauphin	Water Distribution and Treatment	22,500,000	21,750,000	2,325	Post
9	1/1/2017	PA American Water	Sadsbury	Chester	Wastewater Collection	9,250,000	8,600,000	998	Post
10	5/28/2018	PA American Water	Exeter	Berks	Wastewater Collection and Treatment	96,000,000	93,500,000	9,000	Post
11	10/29/2018	Aqua PA	East Norriton	Montgomery	Wastewater Collection	21,000,000	21,000,000	4,950	Post
12	9/30/2018	PA American	Kane	McKean	Wastewater Collection and Treatment	17,560,000	17,560,000	2,006	Post
13	12/10/2019	PA American	Royersford	Montgomery	Wastewater Collection and Treatment	13,000,000	13,000,000	1,596	Post
14	12/17/2019	PA American	Valley	Chester	Water Treatment and Distribution System	7,325,000	7,325,000	1,459	Post
15	12/17/2019	PA American	Valley	Chester	Wastewater Collection System	13,950,000	13,950,000	1,644	Post
16	12/31/2019	Aqua PA	Delaware County Regional \	Delaware	Wastewater Collection and Treatment	276,500,000	276,500,000	16,473	Post
17	4/28/2020	PA American Water	Upper Pottsgrove	Montgomery	Wastewater Collection	13,750,000	13,750,000	1,428	Post
18	9/17/2020	Aqua PA	Lower Makefield	Bucks	Wastewater Collection and Purchased Treatment Capacity	53,000,000	53,000,000	11,151	Post

Income Approach

Q. Regarding your application of the income approach, what method did you use to determine the income approach result?

A. I used the discounted cash flow method.

Q. What assumptions did you employ to develop your income approach result?

A. Under the income approach, it is my opinion that the results of the future operations of the East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity must be considered. I believe that an accurate result depends on adjusting recent results of the systems operation to better reflect how those results will migrate over future periods under the operation as a rate regulated wastewater system regulated by the PUC.

Q. What discount rate did you use to calculate your income approach?

A. I used a discount rate of 7.57% and 5.65% capitalization rate.

Q. Please explain how you developed the discount rate.

A. In each case, the discount rate was a market discount rate at the appraisal date and was determined using the weighted average cost of capital ("WACC") of both debt and equity. The inputs to the WACC determination, capital structure, cost of debt, cost of equity, and income tax rate (state and federal) were determined based on an analysis of Value Line Investment Surveys and the Ibbotson Stock, Bonds, Bills, and Inflation ("Ibbotson SBBI") 2021 Edition (SBBI activity over the period 1926 through 2020). The cost of debt was determined at January 1, 2021, based on the Value Line Selected Yields publication. The

cost of equity was based on the capital asset pricing model ("CAPM") and the Dividend Growth Model ("DGM"), two recognized cost of equity estimating models and the PUC's Bureau of Technical Utility Services' Report on Quarterly Earnings of Jurisdictional Utilities for Year-ending December 31, 2020. The above-described data for the East Whiteland Township appraisal can be found in the exhibits to my appraisal report in the section entitled Cost of Capital / Required Return.

Q. What capital structure inputs differ from those identified in capital structure set forth earlier in your testimony?

A. None. As described in the previous discussion of the capital structure, we utilized a market required capital structure based on analysis of the water / wastewater industry's market capital structure as defined by analysis of market financials as published in Value Line Investment Survey (January 1, 2021). The theory in appraisal is to estimate the value of a property in an arm's length transaction wherein the purchaser finances the purchase with capital (debt and equity) available in the financial markets at the appraisal date. Those are the current (appraisal date) financial markets.

Q. What is the source and basis of the alternative input you propose in the income approach?

A. As discussed above, we had used Value Line Investment Survey to develop a market required capital structure. Please see Application **Exhibit R** (AUS Appraisal) Income Approach section for the cost of capital of the Income Approach and Cost of Capital / Required Return section for the basis of the Cost of Capital / Required Return.

Q. If you used a terminal value in your discounted cash flow analysis what is the number of years over which the cash flows are considered?

A. I considered those cash flows over 19 periods with period 20 representing all future periods.

Q. What is the basis for using this number of years?

A. It is my opinion that the use of 19 periods is a reasonable number of periods for the forecast revenues and expenses to stabilize.

Q. What is your Income Approach conclusion?

A. AUS Consultants' income approach conclusion was determined to be $55,600,045 detailed as follows:

East Whiteland Township, Pennsylvania
East Whiteland Township's Wastewater Collection System and Purchased Treatment Capacity
Wastewater Collection System and Purchased Treatment Capacity
Potential Purchaser: Investor-Owned Utility
As of January 8, 2021
Discounted Cash Flow Analysis

Discount Rate: 7.57%
Capitalization Rate: 5.65%

(1) Period	(2) Age	(3) Revenues	(4) O&M Expenses	(5) Tax Depreciation	(6) Cash Flow from Operations (3)-(4)	(7) Taxable Income before State & Federal Taxes (6)-(5)	(8) State and Federal Taxes @ 28.89% (7) *28.89%	(9) Capital Expenditures	(10) Change in Working Capital	(11) Net Cash Flows (3)-(4)-(8)-(9)-(10)	(12) Period Present Worth Factor (PW)	(13) PW of Cashflow (11)*(12)	(14) Accumulated PW of Cashflows Sum (13)
1	0.5	5,759,816	3,305,486	2,193,634	2,454,330	260,696	75,315	806,090	(78,093)	1,651,018	0.964	1,591,581	1,591,581
2	1.5	5,759,816	3,371,594	2,218,239	2,388,222	169,983	49,108	812,135	-	1,526,979	0.896	1,368,173	2,959,754
3	2.5	5,759,816	3,439,026	2,243,274	2,320,790	77,516	22,394	818,227	-	1,480,169	0.833	1,232,981	4,192,735
4	3.5	7,775,752	3,507,806	2,268,741	4,267,946	1,999,205	577,570	824,363	(27,334)	2,893,347	0.775	2,242,344	6,435,079
5	4.5	7,775,752	3,577,962	2,294,647	4,197,790	1,903,143	549,818	830,547	-	2,817,425	0.720	2,028,546	8,463,625
6	5.5	9,719,690	3,649,522	2,320,996	6,070,168	3,749,172	1,083,136	836,776	(26,356)	4,176,612	0.669	2,794,153	11,257,778
7	6.5	9,719,690	3,722,512	2,315,050	5,997,178	3,682,128	1,063,767	721,779	-	4,211,632	0.622	2,619,635	13,877,413
8	7.5	9,719,690	3,796,962	2,338,381	5,922,728	3,584,347	1,035,518	727,193	-	4,160,017	0.579	2,408,650	16,286,063
9	8.5	10,691,659	3,872,902	2,362,106	6,818,757	4,456,651	1,287,526	732,647	(13,178)	4,811,762	0.538	2,588,728	18,874,791
10	9.5	10,691,659	3,950,359	2,386,228	6,741,300	4,355,072	1,258,180	738,141	-	4,744,979	0.500	2,372,490	21,247,281
11	10.5	10,691,659	4,029,366	2,410,754	6,662,293	4,251,539	1,228,270	743,679	-	4,690,344	0.465	2,181,010	23,428,291
12	11.5	11,333,159	4,109,952	2,435,686	7,223,207	4,787,521	1,383,115	749,257	(8,698)	5,099,533	0.432	2,202,998	25,631,289
13	12.5	11,333,159	4,192,151	2,461,029	7,141,008	4,679,979	1,352,046	754,875	-	5,034,087	0.402	2,023,703	27,654,992
14	13.5	11,333,159	4,275,994	2,486,788	7,057,165	4,570,377	1,320,382	760,535	-	4,976,248	0.373	1,856,141	29,511,133
15	14.5	12,013,149	4,361,513	2,512,970	7,651,636	5,138,666	1,484,561	766,240	(9,219)	5,410,054	0.347	1,877,289	31,388,422
16	15.5	12,013,149	4,448,744	2,539,579	7,564,405	5,024,826	1,451,672	771,988	-	5,340,745	0.323	1,725,061	33,113,483
17	16.5	12,013,149	4,537,720	2,566,617	7,475,429	4,908,812	1,418,156	777,777	-	5,279,496	0.300	1,583,849	34,697,332
18	17.5	12,733,938	4,628,474	2,594,092	8,105,464	5,511,372	1,592,235	783,611	(9,773)	5,739,391	0.279	1,601,290	36,298,622
19	18.5	12,733,938	4,721,044	2,622,008	8,012,894	5,390,886	1,557,427	789,487	-	5,665,980	0.259	1,467,489	37,766,111
20 and beyond	19.5	12,733,938	4,815,465	2,650,370	7,918,473	5,268,103	1,521,955	795,408	-	5,601,110	3.184	17,833,934	55,600,045
								15,540,755					
Age				19.5									
PW(Age) = 1/(1+Discount Rate)$^{(Age)}$				0.241				Net Plant		44,551,804			
PW to Perpetuity = 1/Capitalization Rate				13.210				ADIT		(6,443,119)			
PW$_{(20and Beyond)}$ = PW to Perpetuity * PW Factor$_{(19.5)}$				3.184				Rate Base		38,108,685	0.241	9,184,193	46,950,304
								Annual Plant Construction Inflation Rate		0.0422 Input			
								Plant Inflation over 19.5 years		87,105,453	0.241	20,992,414	58,758,525
								PP	54,930,000				
								OCLD	33,403,972				
								PP/OCLD	1.644				
								RCNLD	58,078,339				
								RCNLD/PP		1.057315474			
										40,292,902.78	0.241	9,710,590	47,476,701
								Average					52,196,394

These results are detailed in Application **Exhibit R** (AUS Appraisal) under the Income Approach section.

Q. What number of Selling Utility customers or equivalent dwelling units did you use to value the Seller's system and how did you develop that number?

A. I used 3,918 customers based on a customer listing provided by East Whiteland Township in developing the forecasted revenues and expenses. I also used past and budgeted results from operations to establish forecasted operating results.

Q. Did you make any updates to your appraisal after it was submitted to the Seller, and if so, what was the update, when was it made, and why was it necessary?

A. No.

Q. Does this conclude your direct testimony?

A. It does. However, by filing this direct testimony I understand that I may have the opportunity to submit additional testimony responsive to challenges to my appraisal.

Curriculum Vitae (CV) of Jerome C. Weinert, P.E., CDP, ASA

Mr. Weinert is currently Principal and Director of AUS Consultants, Depreciation and Valuation. He has forty-nine (2021-1972) years' experience in valuation and depreciation consulting and management. AUS, with offices across the country, has provided consulting services to the regulated utility industry nationally for over thirty-nine years. A partial list of services provided includes valuations depreciation studies, rate of return studies, cost of service studies, and rate design.

Prior to joining AUS in 1987, Mr. Weinert was employed by American Appraisal Associates, Inc. (American) for sixteen years in their Regulated Industries Group. He held various positions at American, the last being supervising appraiser. Among his other valuation responsibilities, he directed the firm's utility industry capital recovery studies and AUS Consultant's valuation of communication company assets and businesses.

Mr. Weinert graduated from the Milwaukee School of Engineering with a Bachelor of Science degree in Mechanical Engineering and received a master's in business administration from Marquette University. He is a registered professional engineer (1976) (by examination) in the state of Wisconsin as well as a senior member (1982) of the American Society of Appraisers in the public utility valuation field. This latter designation is obtained by written examination primarily in the areas of utility valuation, depreciation, and the economics of regulated firms. He is also a Certified Depreciation Professional (1997) (CDP) and founding member of the Society of Depreciation Professionals and the Society's 1995 President and sponsor of the Society's Certification and re-certification program as such Mr. Weinert developed these programs and oversaw their initial introduction into the Society. He also worked in conjunction with Society members in the development of the Society's training programs which as of 2003 has become the only such formalized depreciation training program in the North America and is an instructor in several of its courses.

During his professional career related to valuations and depreciation matters Mr. Weinert has testified before various courts and public service commissions on these subjects. He has also assisted numerous utilities in preparing capital recovery plans which specifically address the issues of plant replacement. Mr. Weinert has also presented expert testimony on valuation matters. Mr. Weinert has testified before the Pennsylvania Public Utility Commission on regulatory matters associated with Pennsylvania Section 1329 matters. On matters related to eminent domain issues, Mr. Weinert has presented expert testimony in the Massachusetts Superior Court, the Court of Common Pleas, Fayette County, Ohio, the New Hampshire Public Utilities Commission, the Twentieth Judicial Court (deposition only) in Charlotte County, Florida, the Nineteenth Judicial Circuit Court in St. Lucie County, Florida (deposition only). In regard to ad valorem taxation, Mr. Weinert has presented study results to the New York State Board of Equalization and Assessment (now the New York Office of Real Property Services (NY ORPS)), pertaining to useful life and net salvage values for all types of utility property subject to the Board's mass appraisal model. Mr. Weinert has appeared before the Valuation Adjustment Board in Florida for Duval, Hillsborough, Okeechobee, and Palm Beach counties, the Twelfth Judicial Circuit Sarasota County, Florida, the California Board of Equalization and Assessment, the Arizona Board of Assessment, the Missouri Board of Taxation, the Colorado and Texas Departments of Review, the Massachusetts Tax Appeal Court, the Superior Court of the State of Arizona in the County of Maricopa, the State Tax Appeal Board of the State of Montana, the New York City Tax Commission and the Public Utility Commission of Pennsylvania Section 1329 hearings (8).

Mr. Weinert has appeared before regulatory bodies in Alaska, Arkansas, Illinois, Indiana, Iowa, Missouri, Nevada, Nebraska, North Carolina, Ohio, Oregon, Pennsylvania, and South Carolina in support of rate-base valuation determination and capital recovery. He has presented testimony on depreciation matters before the Canadian Radio-Television and Telecommunications Commission (CRTC) and the United

States Federal Energy Regulatory Commission (FERC). In terms of water and wastewater acquisitions and applications for regulatory approval of rate base Mr. Weinert has testified for two investor-owned acquisitions of municipal wastewater authorities one representing the municipality and secondly for the acquiring investor-owned utility. He has submitted study results to the State Commissions of Alabama, Alaska, Arkansas, Idaho, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, North Carolina, Oregon, Pennsylvania, South Carolina, Washington, and Wisconsin, and the Federal Communications Commission.

Mr. Weinert has presented papers on valuation and depreciation topics to professional and utility industry trade organizations. He also directed AUS Consultants' semi-annual week-long depreciation training programs (1988-1997). These specialized training courses, offered at basic and advanced levels, teach depreciation study techniques to public utility and public service commission staff specialists. The training includes depreciation theory and concepts and hands-on experience with personal computer-based analytical depreciation programs.

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
2021				
AT&T Communications	North America	2020	2021	Ad Valorem Tax Appraisal
AT&T Communications	California	2020	2021	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2020	2021	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2020	2021	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2020	2021	Ad Valorem Tax Appraisal
Verizon New York, Inc.	New York	2020	2021	Ad Valorem Tax Appraisal
Lower Makefield	Lower Makefield Wastewater	2020	2021	Fair Market Value 1329
Pennsylvania American Water Company	Brentwood Borough Wastewater	2020	2021	Fair Market Value 1329
2020				
AT&T Communications	North America	2019	2020	Ad Valorem Tax Appraisal
AT&T Communications	California	2019	2020	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2019	2020	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2019	2020	Ad Valorem Tax Appraisal
Verizon New York, Inc.	New York	2019	2020	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2019	2020	Ad Valorem Tax Appraisal
East Norriton Township, PA	East Norriton Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Kane Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Royersford Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Valley Wastewater	2019	2020	Fair Market Value 1329
Pennsylvania American Water Company	Valley Water	2019	2020	Fair Market Value 1329
Lehigh County Authority	Allentown Water & Sewer	2020	2020	Financing
Pennsylvania American Water Company	Upper Pottsgrove wastewater	2020	2020	Fair Market Value 1329
2019				
AT&T Communications	North America	2018	2019	Ad Valorem Tax Appraisal
AT&T Communications	California	2018	2019	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2018	2019	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2018	2019	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2018	2019	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2018	2019	Ad Valorem Tax Appraisal
Cheltenham Township, PA	Cheltenham Wastewater	2018	2019	Fair Market Value 1329
Pennsylvania American Water Company	Steelton Water	2018	2019	Fair Market Value 1329
Pennsylvania American Water Company	Exeter Wastewater	2018	2019	Fair Market Value 1329
2018				
AT&T Communications	North America	2017	2018	Ad Valorem Tax Appraisal
AT&T Communications	California	2017	2018	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2017	2018	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2017	2018	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2017	2018	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2017	2018	Ad Valorem Tax Appraisal
Level 3 Communications, LLC	North America	2017	2018	Ad Valorem Tax Appraisal
Level 3 Communications, LLC	California	2017	2018	Ad Valorem Tax Appraisal
CenturyLink Communications, LLC	North America	2017	2018	Ad Valorem Tax Appraisal
CenturyLink Communications, LLC	California	2017	2018	Ad Valorem Tax Appraisal
East Bradford Township, PA	East Bradford Wastewater	2018	2018	Fair Market Value 1329

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
Pennsylvania American Water Company	Sadsbury Wastewater	2017	2018	Fair Market Value Appraisal
Pennsylvania American Water Company	Kane Wastewater	2017	2018	Fair Market Value Appraisal
2017				
AT&T Communications	North America	2016	2017	Ad Valorem Tax Appraisal
AT&T Communications	California	2016	2017	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2016	2017	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2016	2017	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2016	2017	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2016	2017	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2016	2017	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2016	2017	Ad Valorem Tax Appraisal
Level 3 Communications	California	2016	2017	Ad Valorem Tax Appraisal
Whitpain Township, PA	Whitpain Wastewater	2016	2017	Appraisal for Planning
Plymouth Township, PA	Plymouth Wastewater	2016	2017	Appraisal for Planning
East Norriton Township, PA	East Norriton Wastewater	2016	2017	Appraisal for Planning
Pennsylvania American Water Company	Sadsbury Wastewater	2016	2017	Fair Market Value Appraisal
Pennsylvania American Water Company	McKeesport Wastewater	2016	2017	Fair Market Value Appraisal
Intermountain Gas Company	Idaho	2016	2017	Depreciation Study
2016				
AT&T Communications	North America	2015	2016	Ad Valorem Tax Appraisal
AT&T Communications	California	2015	2016	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2015	2016	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2015	2016	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2015	2016	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2015	2016	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2015	2016	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2015	2016	Ad Valorem Tax Appraisal
Level 3 Communications	California	2015	2016	Ad Valorem Tax Appraisal
New Garden Township, PA	New Garden Wastewater	2016	2016	Fair Market Value Appraisal
2015				
AT&T Communications	North America	2014	2015	Ad Valorem Tax Appraisal
AT&T Communications	California	2014	2015	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2014	2015	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2014	2015	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2014	2015	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2014	2015	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2014	2015	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2014	2015	Ad Valorem Tax Appraisal
Level 3 Communications	California	2014	2015	Ad Valorem Tax Appraisal
Verizon Wireless	Nationwide	2014	2015	Ad Valorem Tax Appraisal
2014				
AT&T Communications	North America	2013	2014	Ad Valorem Tax Appraisal
AT&T Communications	California	2013	2014	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2013	2014	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
AT&T - Indiana Bell Telephone Company	Indiana	2013	2014	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2013	2014	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2013	2014	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2013	2014	Ad Valorem Tax Appraisal
Level 3 Communications	North America,	2013	2014	Ad Valorem Tax Appraisal
Level 3 Communications	California	2013	2014	Ad Valorem Tax Appraisal
Cascade Natural Gas Corporation	Oregon & Washington	2013	2014	Depreciation Study
Intermountain Gas Company	Idaho	2013	2014	Depreciation Study
Virgin Islands Telephone Corporation	US Virgin Islands	2013	2014	Depreciation Study
Verizon Wireless	Nationwide	2013	2014	Ad Valorem Tax Appraisal
2013				
AT&T Communications	North America	2012	2013	Ad Valorem Tax Appraisal
AT&T Communications	California	2012	2013	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2012	2013	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2012	2013	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2012	2013	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2012	2013	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2012	2013	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2012	2013	Ad Valorem Tax Appraisal
Sprint Nextel Corporation	North America	2012	2013	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2012	2013	Ad Valorem Tax Appraisal
Verizon Communications	New England Mass	2002-2007	2013	Ad Valorem Tax Appraisal
2012				
AT&T Communications	North America	2011	2012	Ad Valorem Tax Appraisal
AT&T Communications	California	2011	2012	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2011	2012	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2011	2012	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2011	2012	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2011	2012	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2011	2012	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2011	2012	Ad Valorem Tax Appraisal
Sprint Nextel Corporation	North America	2011	2012	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2011	2012	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2011	2012	Ad Valorem Tax Appraisal
Verizon Communications	Florida - revised	2008	2012	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2012	2012	Ad Valorem Tax Appraisal
2011				
AT&T Communications	North America	2010	2011	Ad Valorem Tax Appraisal
AT&T Communications	California	2010	2011	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2010	2011	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2010	2011	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
AT&T - Michigan Bell Telephone Company	Michigan	2010	2011	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2010	2011	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2010	2011	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2010	2011	Ad Valorem Tax Appraisal
Global Crossing	North America	2010	2011	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2010	2011	Depreciation Study
Sprint Nextel Corporation	North America	2010	2011	Ad Valorem Tax Appraisal
Verizon Wireless	Palm Beach, Florida	2010	2011	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2010	2011	Ad Valorem Tax Appraisal
Verizon Communications	Florida - revised	2008	2011	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2010	2011	Depreciation Study
Virgin Islands Telephone Corporation	US Virgin Islands	2010	2011	Technical Update of Depreciation Study
2010				
AT&T Communications	North America	2009	2010	Ad Valorem Tax Appraisal
AT&T Communications	California	2009	2010	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2009	2010	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2009	2010	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2009	2010	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company	Arkansas, Kansas, Missouri, Oklahoma, Texas	2009	2010	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2009	2010	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2009	2010	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2009	2010	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2009	2010	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California	2009	2010	Ad Valorem Tax Appraisal
Global Crossing	North America	2009	2010	Ad Valorem Tax Appraisal
MetroPCS	Palm Beach, Florida	2009	2010	Ad Valorem Tax Appraisal
2009				
AT&T Communications	North America	2008	2009	Ad Valorem Tax Appraisal
AT&T Communications	California	2008	2009	Ad Valorem Tax Appraisal
AT&T Communications	Florida	2008	2009	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2008	2009	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2008	2009	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2008	2009	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company	Arkansas, Kansas, Missouri, Oklahoma, Texas	2008	2009	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2008	2009	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas	2008	2009	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2008	2009	Ad Valorem Tax Appraisal
Embarq Northwest	Washington	2008	2009	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
Embarq Virginia	Virginia	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2008	2009	Ad Valorem Tax Appraisal
Verizon Communications	New England - Mass	2008	2009	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2008	2009	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan & Arizona	2008	2009	Ad Valorem Tax Appraisal
Global Crossing	North America	2008	2009	Ad Valorem Tax Appraisal
AboveNet, Inc	North America/California	2003	2009	Ad Valorem Tax Appraisal
Verizon Wireless	Ohio Properties	2004-2005	2009	Ad Valorem Tax Appraisal
Virgin Islands Telephone Corporation	US Virgin Islands	2008	2009	Depreciation Study
Sprint Nextel Corporation	North America	2008	2009	Ad Valorem Tax Appraisal
2008				
AT&T Communications	North America	2007	2008	Ad Valorem Tax Appraisal
AT&T Communications	California	2007	2008	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2007	2008	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2007	2008	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2007	2008	Ad Valorem Tax Appraisal
AT&T - Southwestern Bell Telephone Company	Arkansas, Kansas, Missouri, Oklahoma, Texas	2007	2008	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2007	2008	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas	2007	2008	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2007	2008	Ad Valorem Tax Appraisal
Embarq Northwest	Washington	2007	2008	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	California	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2007	2008	Ad Valorem Tax Appraisal
Verizon Communications	New England Mass	2002-2007	2008	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2007	2008	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan & Arizona	2007	2008	Ad Valorem Tax Appraisal
Global Crossing	North America	2007	2007	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2007	2008	Depreciation Study
2007				
AT&T Communications	North America	2006	2007	Ad Valorem Tax Appraisal
AT&T Communications	California	2006	2007	Ad Valorem Tax Appraisal
AT&T - Indiana Bell Telephone Company	Indiana	2006	2007	Ad Valorem Tax Appraisal
AT&T - Michigan Bell Telephone Company	Michigan	2006	2007	Ad Valorem Tax Appraisal
AT&T - Wisconsin Bell Telephone Company	Wisconsin	2006	2007	Ad Valorem Tax Appraisal
Embarq Florida, Inc.	Florida	2006	2007	Ad Valorem Tax Appraisal
Embarq Texas, Inc.	Texas,	2006	2007	Ad Valorem Tax Appraisal
Embarq Missouri, Inc.	Missouri	2006	2007	Ad Valorem Tax Appraisal
Embarq North Carolina	North Carolina	2006	2007	Ad Valorem Tax Appraisal
Embarq Virginia	Virginia	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	California	2006	2007	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2006	2007	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	North America	2006	2007	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
Qwest Communications Corporation	North America California	2006	2007	Ad Valorem Tax Appraisal
Level 3 Communications	North America, California, Michigan, & Arizona	2006	2007	Ad Valorem Tax Appraisal
Level 3 Communications	Arizona	2002 - 2006	2007	Ad Valorem Tax Appraisal
Global Crossing	North America	2006	2007	Ad Valorem Tax Appraisal
Alaska Communications System, Inc. (ACS)	ACS of Alaska ACS of Anchorage ACS of Fairbanks ACS of the Northland ACS Holdings	2006	2007	Depreciation Studies
Intermountain Gas Company	Idaho	2006	2007	Depreciation Study
2006				
AT&T Communications	Palm Beach Florida	2000 - 2003	2006	Ad Valorem Tax Appraisal
AT&T Communications	North America	2005	2006	Ad Valorem Tax Appraisal
AT&T Communications	California	2005	2006	Ad Valorem Tax Appraisal
Sprint Florida, Inc.	Florida	2005	2006	Ad Valorem Tax Appraisal
Sprint Texas, Inc.	Texas,	2005	2006	Ad Valorem Tax Appraisal
Sprint Missouri, Inc.	Missouri	2005	2006	Ad Valorem Tax Appraisal
Sprint North Carolina	North Carolina	2005	2006	Ad Valorem Tax Appraisal
Sprint Virginia	Virginia	2005	2006	Ad Valorem Tax Appraisal
Embarq Nevada	Nevada	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	California	2005	2006	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2005	2006	Ad Valorem Tax Appraisal
Verizon Business (formerly MCI)	Massachusetts	2002-2--5	2006	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2005	2006	Ad Valorem Tax Appraisal
Level 3 Communications	Arizona	2002-2006	2006	Ad Valorem Tax Appraisal
Global Crossing	North America	2005	2006	Ad Valorem Tax Appraisal
Indianapolis Power & Light	IPL	2005	2006	Depreciation Study
2005				
AT&T Communications	North America	2004	2005	Ad Valorem Tax Appraisal
AT&T Communications	California	2004	2005	Ad Valorem Tax Appraisal
Sprint Florida, Inc.	Florida	2004	2005	Ad Valorem Tax Appraisal
Sprint PCS	North America	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	Florida	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	California	2004	2005	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2004	2005	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2004	2005	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2004	2005	Ad Valorem Tax Appraisal
Global Crossing	North America	2004	2005	Ad Valorem Tax Appraisal
Global Crossing	New York Special Franchise Property	2003 & 2004	2005	Ad Valorem Tax Appraisal
Indianapolis Power & Light	IPL	2004	2005	Depreciation Study
2004				
Sprint Florida, Inc.	Florida	2003	2004	Ad Valorem Tax Appraisal
Verizon Communications	California	2003	2004	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
Verizon Communications	Northwest	2003	2004	Ad Valorem Tax Appraisal
Verizon Communications	New England	2003	2004	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2003	2004	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2003	2004	Ad Valorem Tax Appraisal
Global Crossing	North America	2003	2004	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2003	2004	Ad Valorem Tax Appraisal
AT&T Communications	North America	2003	2004	Ad Valorem Tax Appraisal
AT&T Communications	California	2003	2004	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2003	2004	Depreciation Study
2003				
Sprint Florida, Inc.	Florida	2002	2003	Ad Valorem Tax Appraisal
Verizon Communications	California	2002	2003	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2002	2003	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2002	2003	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2002	2003	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2002	2003	Ad Valorem Tax Appraisal
AT&T Communications	North America	2002	2003	Ad Valorem Tax Appraisal
AT&T Communications	California	2002	2003	Ad Valorem Tax Appraisal
Global Crossing	North America	2002	2003	Ad Valorem Tax Appraisal
Verizon Wireless	Broward County, FL	1998 through 2002	2003	Ad Valorem Tax Appraisal
2002				
Sprint Florida, Inc.	Florida	2001	2002	Ad Valorem Tax Appraisal
Verizon Communications	California	2001	2002	Ad Valorem Tax Appraisal
Verizon Communications	Northwest	2001	2002	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2001	2002	Ad Valorem Tax Appraisal
Level 3 Communications	North America	2001	2002	Ad Valorem Tax Appraisal
Global Crossing	North America	2001	2002	Ad Valorem Tax Appraisal
AT&T Wireless	Plymouth, MI	2001	2002	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2001	2002	Ad Valorem Tax Appraisal
AT&T Communications	North America	2001	2002	Ad Valorem Tax Appraisal
Intermountain Gas Company	Idaho	2001	2002	Depreciation Study
AT&T Communications	California	2001	2002	Ad Valorem Tax Appraisal
2001				
Verizon	Verizon - New York	2001	2001-2	Functional Obsolescence & Useful Life studies for valuation
Sprint Florida, Inc.	Sprint Florida, Inc.	2000	2001	Ad Valorem Tax Appraisal
Verizon Communications	California	2000	2001	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	2000	2001	Ad Valorem Tax Appraisal
Global Crossing	North America	2000	2001	Ad Valorem Tax Appraisal
Sprint PCS	Cost Indexes	2000	2001	Ad Valorem Tax Appraisal
Sprint Corporation	Centel - Nevada	2000	2001-2	Depreciation Study
Alaska Communications System, Inc. (ACS)	ACS of Alaska ACS of Anchorage ACS of Fairbanks ACS of the Northland ACS Holdings	2000	2001	Depreciation Study

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
2000				
Sprint PCS	BTS Equipment	2000	2000	Economic Life Study
Telus Communications	Telus - Alberta & British Columbia	2000	2000	Depreciation study Phase III Price Caps
Sprint Florida, Inc.	Florida	1999	2000	Ad Valorem Tax Appraisal
Verizon Communications	California	1999	2000	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1999	2000	Ad Valorem Tax Appraisal
1999				
Sprint Corporation	Centel - Nevada	1998	1999	Depreciation Study
Intermountain Gas Company	Intermountain Gas Company	1998	1999	Depreciation Study
Sprint Florida, Inc.	Florida	1998	1999	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1998	1999	Ad Valorem Tax Appraisal
1998				
Frontier Corporation	Frontier Telephone of Rochester	1998	1997	Valuation depreciation Lives and Net Salvage Parameters
Pacific Telecom, Inc.	Telephone Utilities of Washington	1997	1998	Depreciation Study
Sprint Florida, Inc.	Florida	1997	1998	Ad Valorem Tax Appraisal
Verizon Communications	Florida	1997	1998	Ad Valorem Tax Appraisal
Sprint Communications, LP	North America	1997	1998	Ad Valorem Tax Appraisal
Sprint Corporation	United Telephone Company of South Carolina	1998	1998	Depreciation Expense Universal Service Fund
Sprint Corporation	Carolina Telephone and Telegraph and Central Telephone of North Carolina	1998	1998	Depreciation Expense Universal Service Fund
Telus Communications	Telus - Edmonton (TCE)	1997	1998	Depreciation Study Phase II Price Caps
1997				
Sprint Corporation	Centel - Nevada	1997	1997	Unbundling/ Inter-connection Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of Oregon	1996	1997	Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of Alaska And the Northland	1996	1997	Depreciation Study
Telus Communications	Telus - TCI formerly AGT	1996	1997	Depreciation Study Phase II Price Caps
Indianapolis Power & Light	IPL	1996	1997	Depreciation Study
Sprint Florida, Inc.	Florida	1996	1997	Ad Valorem Tax Appraisal

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
Verizon Communications	Florida	1996	1997	Ad Valorem Tax Appraisal
Pacific Telecom, Inc.	Eagle Telephone (Colorado)	1996	1997	Depreciation Study
1996				
Intermountain Gas Company	Intermountain Gas Company	1995	1996	Depreciation Study
Sprint Florida, Inc.	Florida	1995	1996	Ad Valorem Tax Appraisal
Century Telephone	Century Telephone of Ohio, Inc.	1995	1996	Depreciation Study
Telus Communications	AGT Limited (Alberta Government Telephones)	1995	1996	Depreciation Study
Johnson County Kansas Office of the Assessor	Useful Life of Computer Equipment	1995	1995	Useful/Market Life Analysis
Milwaukee Metropolitan Sewerage District	Milwaukee Metropolitan Sewerage District	1995	1996	Depreciation Study
Sprint Corporation	Long Distance Division	1995	1995	Depreciation/Recovery Status Study
Sprint Corporation	Cellular Division	1995	1995	Depreciation/Recovery Status Study
Pacific Telecom, Inc.	Alascom, Inc.	1994	1995	Depreciation Study
Pacific Telecom, Inc.	Telephone Utilities of the Northland	1993	1994	Depreciation Study
	Telephone Utilities of Alaska	1993	1994	Depreciation Study
Indiana Energy	Indiana Gas Company	1993	1994	Depreciation Study
Columbia Gas Transmission	Gas Pipeline Property in Sullivan County, NY	1993	1993	Useful Life Study
United Telephone - Midwest Group	United Telephone Company of Missouri	1993	1993	Modernization/ Depreciation Study
Intermountain Gas Co.	Intermountain Gas Co.	1992	1993	Depreciation Study
Pacific Telecom, Inc.	Alascom, Inc.	1992	1993	Depreciation Study
	Telephone Utilities of Oregon, Inc.	1991	1992	Depreciation Study
	Telephone Utilities of Washington, Inc.	1991	1992	Depreciation Study
Small Telephone Company Coalition	Oregon Small Telephone Companies	1991	1992	Depreciation Support

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
United Telephone Systems	United Telephone Co. of Pennsylvania	1991	1992	Instructional Depreciation Study
New York State Division of Equalization and Assessment	Electric, Gas, Water, Telephone, Pipeline, Steam, CATV	1991	1992	Useful Lives and Net Salvage Values
Rochester Telephone Company	Enterprise Telephone	1991	1992	Study Review
Indiana Energy	Indiana Gas/Richmond Gas/ Terre Haute Gas	1990	1991	Depreciation Study
American Electric Power	Indiana/Michigan Power Co.	1990	1991	Depreciation Study
Rochester Telephone Company	Rochester Telephone Co.	1990	1991	Study Review
United Telephone Systems	United Telephone Co. of Florida	1990	1991	Instructional Depreciation Study
United Telephone Systems	United Telephone Co. of Oregon	1989	1990	Study Review
Telephone and Data Systems, Inc.	Quincy Telephone Company	1990	1991	Depreciation Study
Telephone and Data Systems, Inc.	Wolverine Telephone Company	1989	1990	Depreciation Study
Indiana Energy	Indiana Gas Company, Inc.	1989	1990	Depreciation Study
Intermountain Gas Co.	Intermountain Gas Co.	1989	1990	Remaining Life/Net Salvage Support
North-West Telephone Company	North-West Telephone Company	1989	1990	Study Review
United Telephone System	United of Texas	1989	1990	Instructional Depreciation Study
	United of Missouri	1989	1990	Instructional Depreciation Study
Milwaukee Water	Milwaukee Water	1989	1990	Depreciation Study
Indiana Natural Gas Corp.	Indiana Natural Gas Corp.	1989	1990	Depreciation Study
Pacific Telecom	Telephone Utilities of the Northland	1989	1990	Depreciation Study

Appraisal & Capital Recovery Activities Client List

Company	Property	Year	Study Year Performed	Activity
	Telephone Utilities of Alaska	1989	1990	Depreciation Study
	Alascom	1989	1990	Depreciation Study
	Telephone Utilities of Washington, Inc.	1988	1989	Depreciation Study
WICOR	Wisconsin Gas Company	1988	1989	Depreciation Study
ALLTEL	ALLTEL - Kentucky, Inc.	1987	1989	Depreciation Study
	ALLTEL - Ohio, Inc.	1988	1989	Depreciation Study
	Western Reserve Telephone Company	1988	1989	Depreciation Study
Milwaukee Metropolitan Sewer District	Milwaukee Metropolitan Sewer District	1988	1989	Depreciation Study
United Telephone	United of Ohio	1988	1989	ELG Support
Telephone Company	Telephone Company	1988	1989	ELG Support
United Telecom	U.S. Sprint	1988	1988	Useful Life Study
Pacific Telecom	Telephone Utilities of Oregon	1987	1988	Depreciation Study
	Telephone Utilities of Eastern Oregon	1987	1988	Depreciation Study
	Rose Valley Telephone Company	1987	1988	Depreciation Study
United Telephone	United of Minnesota	1987	1988	Capital Planning Support
Wisconsin Southern Gas	Wisconsin Southern Gas	1987	1988	Depreciation Study
Pacific Telecom	Glacier State Telephone Company	1986	1987	Depreciation Study
	Sitka Telephone Co.	1986	1987	Depreciation Study
	Juneau-Douglas Tel Company	1986	1987	Depreciation Study
Pacific Telecom	Telephone Utilities of Alaska	1986	1987	Depreciation Study
	Alascom	1986	1987	Depreciation Study

Appraisal & Capital Recovery Activities Client List

Company	Property	Year	Study Year Performed	Activity
Lincoln Telecommunications	Lincoln Telephone and Telegraph Company	1986	1987	Digital Switching Service Life
Northwest Natural Gas Corporation	Northwest Natural Gas Corporation	1985	1986	Depreciation Study
ALLTEL	Western Reserve Telephone Company	1984	1985	Depreciation Study
	ALLTEL - Ohio	1984	1985	Depreciation Study
	ALLTEL - Alabama	1984	1985	Depreciation Study
Gulf Telephone Co.	Gulf Telephone Company	1984	1985	Depreciation Study
United Telephone Systems, Inc.	United of Iowa	1984	1985	Depreciation Study
	United of Arkansas	1984	1985	Depreciation Study
Pacific Telecom	Telephone Utilities of Washington	1983	1984	Depreciation Study
	Telephone Utilities of Eastern Oregon	1983	1984	Depreciation Study
Pacific Telecom	Telephone Utilities of Oregon	1983	1984	Depreciation Study
	Northwestern Telephone Systems, Inc., Oregon	1983	1984	Depreciation Study
	Rose Valley Telephone Company	1983	1984	Depreciation Study
United Telecommunications	All United Telephone Companies	1983	1984	Capital Recovery Strategy
Lincoln Telecommunications	Lincoln Telephone & Telegraph Company	1983	1984	Depreciation Study
ALLTEL	ALLTEL - Mississippi	1982	1983	Depreciation Study
	ALLTEL - Michigan	1982	1983	Depreciation Study
North Carolina Natural Gas Corp.	North Carolina Natural Gas Corporation	1982	1983	Depreciation Study
Mid Continent Telephone (Currently ALLTEL)	Western Reserve Telephone	1982	1983	Depreciation Study
	Mid Ohio Telephone	1982	1982	Depreciation Study

Appraisal & Capital Recovery Activities Client List

Company	Property	Study Year	Year Performed	Activity
	Florence Telephone Company	1980	1981	Depreciation Study
	Leeds Telephone Co.	1980	1981	Depreciation Study
	Elmore Coosa Tel Company	1980	1981	Depreciation Study
	Brookville Telephone Company	1980	1981	Depreciation Study
	Mid-Pennsylvania Telegraph	1980	1981	Depreciation Study
Telephone Utilities (Currently Pacific Telecom)	Telephone Utilities of Oregon	1979	1980	Depreciation Study
	Telephone Utilities of Eastern Oregon	1979	1980	Depreciation Study
	Northwestern Telephone Systems, Inc.-Oregon	1979	1980	Depreciation Study
	Rose Valley Telephone Company	1979	1980	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1979	1980	Depreciation Study
Telephone Utilities	Telephone Utilities of Washington	1978	1979	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1978	1979	Depreciation Study
Rochester Telephone	Rochester Telephone (Indiana)	1977	1978	Depreciation Study
United Telephone Systems, Inc.	United of Ohio	1977	1978	Depreciation Study
Princeton Telephone	Princeton Telephone (Indiana)	1976	1977	Depreciation Study
Northwestern Telephone	Northwestern Telephone (Illinois)	1975	1976	Depreciation Study

Papers and Seminars

2011 Training Instructor Depreciation Basics Sessions A & B and Life and Salvage Analysis
Society of Depreciation Professionals 25th Annual Meeting
Atlanta, GA September 20-22, 2011

2010 Will the Real Cost Approach Please Stand Up?
National Association of Property Tax Representatives Transportation, Energy, & Communications (NAPTR·TEC)
Scottsdale, Arizona October 25-27, 2010

Issues Affecting Assessment of Regulated Industries
Institute for Professionals in Taxation (IPT) Property Tax Symposium
Austin, Texas October 31 – November 3, 2010

2009 (Valuing) Intangibles
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas July 28, 2009

Fair Value Accounting (Appraisal Panelist)
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas July 29, 2009

2008 Valuation Issues Valuation of Assets and the Impact of Depreciation
Society of Depreciation Professionals Annual Meeting
Greenville, SC September 21-26, 2008

Obsolescence in the Long-Distance and Local Transport Networks
Technology Futures Inc. Asset Valuation Conference
Austin Texas February 8, 2008

2007 Communications Industry Issues
National Association of Property Tax Representative – Transportation, Energy, & Communications
New Orleans, LA October 30, 2007

2006 Appraisal Procedures & Issues in a Changing communications Industry
Florida Chapter International Association of Assessing Officers' Tangible Personal Property Conference
Ocala, Florida January 12, 2006

Valuation of Intangibles
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas July 25, 2006

SDP 20 years of History and Beyond
Society of Depreciation Professionals 20th Annual Meeting
Long Beach, CA September 18, 2006

2005 Valuation in a World with Asset Impairments
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas August 1, 2005

Papers and Seminars

2004 Depreciation in the Valuation of Assets
Society of Depreciation Professionals' Eighteenth Annual Meeting
Washington, D.C., September 13, 2004

2003 Cost Approach and the Use of Appraisal Guidelines
Institute for Professionals in Taxation – Property Tax Symposium
Fort Lauderdale, FL, September 17, 2003

Cost Approach – Obsolescence and Depreciation
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas, July 28, 2003

2000 Appraisal Issues Associated with Technological Change in the Wireline Telecommunications Industry
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas, July 31, 2000

The Impact of Advancing Technology and the Changing Regulatory Environment on Obsolescence Calculations for Ad Valorem Valuation Purposes
Journal of Property Tax Management, Spring 2000

1996 How to Develop a Reproduction/Replacement Cost New Less Depreciation Approach to Value
Appraisal for Ad Valorem Taxation, Wichita State University
Wichita, Kansas, August 4, 1996

1995 Valuation Method, Techniques and Strategies (How to Quantify Stranded Investment) (Market, Income, & Cost Approach
AGA Depreciation Committee Meeting
Denver, Colorado, August 6-9, 1995, jointly presented with Earl Robinson of AUS Consultants

1994 Integrating Future Expectations for the Telephone Industry into Historical Depreciation Analysis
United States Telephone Association (USTA's 1994 Capital Recovery Seminar)
Scottsdale, Arizona, September 12-13, 1994

1994 Capital Recovery: United States versus Canada
Canadian Telephone Industry's Annual Capital Recovery Seminar
Edmonton, Alberta, Canada June 14-15, 1994

1990 Capital Recovery: Methods, Terminology, Procedures, and Record Keeping
United States Telephone Association (USTA)'s
1990 Non-FCC Subject and Small Company Capital Recovery Seminar
Minneapolis, Minnesota April 10_11, 1990

Integration of Technology Forecasting Into Historical Life Studies
29th Iowa State Regulatory Conference
Ames, Iowa May 15-17, 1990

The 1990's and the Second Wave of Major Plant Retirements in the Communications Industry
NARUC's Seventh Biennial Information Conference
Columbus, Ohio September 12-14, 1990

Papers and Seminars

How Do We Incorporate Change into the Study Filing Procedures?
USTA's 1990 Capital Recovery Seminar
Chicago, Illinois October 16_17, 1990

1989 Plant Modernization: Capital Planning and Capital Recovery
Midwest Utilities Conference
Chicago, Illinois September 11_14, 1989

Price Indexes Today: Procedures, Uses, and Misuses
Society of Depreciation Professionals' Third Annual Meeting
New Orleans, Louisiana December 6_7, 1989

1988 Plant Modernization: Capital Planning and Capital Recovery
National Association of Regulatory Utility Commissioners (NARUC)'s
Sixth Biennial Regulatory Information Conference
Columbus, Ohio September 14_16, 1988

Papers and Seminars

1997	Sprint Corporation - West Finance Center Overland Park, Kansas, August 1997
1997	Rochester Telephone Corporation Rochester, New York, April 1997
1996	Sprint-Florida-Vista United Telecommunications Altamonte Springs, Florida August 27-29, 1996
1994	Saskatchewan Telecommunications Regina, Saskatchewan, Canada, June 1994
1994	AUS Consultants/Leroy J. Murphy and Associates 1994 Capital Recovery Seminar May 1994
1993	Manitoba Telephone System, Winnipeg, Manitoba, December 1993
1993	Society of Depreciation Professionals Annual Meeting Charleston, South Carolina September 30, 1993
1993	SPRINT - Local Telephone Division Atlanta, Georgia August 11-12, 1993
1993	AUS Consultants/Leroy J. Murphy and Associates 1993 Capital Recovery Seminar Chicago, Illinois May 11 - 13, 1993
1993	Canadian Telephone Capital Recovery Seminar Halifax, Nova Scotia April 20 - 22, 1993
1993	United Telephone, Midwest Group Overland Park, Kansas January 20, 1993
1992	BellSouth Corporation Birmingham, Alabama November 23, 1992
1992	Sprint - Local Telephone Division Kansas City, Kansas November 18 - 20, 1992
1992	Society of Depreciation Professionals Annual Meeting San Antonio, Texas September 9 - 10, 1992
1992	AUS Consultants/Leroy J. Murphy and Associates 1992 Capital Recovery Seminar Chicago, Illinois October 6 - 8, 1992
1991	Society of Depreciation Professionals Annual Meeting Nashville, Tennessee November 20-22, 1991
1991	ALLTEL Corporation Microcomputer Depreciation Studies System Training Hudson, Ohio October 14-16, 1991

Capital Recovery Training

2016 Society of Depreciation Professionals
Annual Training
Charleston, South Carolina, September 18-23, 2016

2015 Society of Depreciation Professionals
Annual Training
Austin Texas September 2015

2014 Society of Depreciation Professionals
Annual Training
New Orleans, Louisiana September 2014

2013 Society of Depreciation Professionals
Annual Training
Salt Lake City, Utah September 2013

2012 Society of Depreciation Professionals
Annual Training
Minneapolis, Minnesota, September 16-18, 2012

1991 United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies System Training
Kansas City, Kansas September 23-25, 1991

1991 AUS Consultants/Leroy J. Murphy and Associates 1991 Capital Recovery Seminar
Lake Geneva, Wisconsin September 17-19, 1991

1991 Rochester Telephone Corporation, Capital Recovery/Microcomputer Depreciation Studies System Training, Rochester, New York September 3-7, 1991

1991 Ameritech Services, Microcomputer Depreciation Studies System Training
Chicago, Illinois May 16-17, 1991

1991 AUS Consultants/Leroy J. Murphy and Associates 1991 Capital Recovery Seminar
Washington, D.C. April 9_11, 1991

1990 United Telecommunications, Inc., Capital Recovery Seminar
Overland Park, Kansas December 1990

1990 AUS Consultants/Leroy J. Murphy and Associates 1990 Capital Recovery Seminar
Chicago, Illinois September 24_27, 1990

1990 AUS Consultants/Leroy J. Murphy and Associates 1990 Capital Recovery Seminar
Chicago, Illinois January 29-February 1, 1990

1990 United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies System Training, Chicago, Illinois July 1990

1989 United Telecommunications, Inc., Capital Recovery/Microcomputer Depreciation Studies System Training, Chicago, Illinois July 1989

Capital Recovery Training

1989	AUS Consultants/Leroy J. Murphy and Associates 1989 Capital Recovery Seminar Chicago, Illinois March 6_9, 1989
1988	AUS Consultants/Leroy J. Murphy and Associates 1988 Capital Recovery Seminar Chicago, Illinois July 25_28, 1988
1988	United Telecommunications, Inc., Microcomputer Depreciation Studies System Training Kansas City, Kansas January 1988