Exhibit No.:	
Issue:	*Revenue Requirement*
Witness:	*Paul R. Harrison*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case No.:	*WA-2006-0480*
Date Testimony Prepared:	*January 5, 2007*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

PAUL R. HARRISON

BIG ISLAND WATER AND SEWER COMPANY, INC.

CASE NO. WA-2006-0480

Jefferson City, Missouri
January 2007

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Big Island Water & Sewer Company, Inc. for a Certificate of Convenience and Necessity Authorizing It to Construct, Install, Operate, Control Manage and Maintain a Water and Sewer System for the Public Located in an Unincorporated Area of Camden County, Missouri	)))))))	WA-2006-0480

AFFIDAVIT OF PAUL R. HARRISON

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Paul R. Harrison, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 7 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Paul R. Harrison

Subscribed and sworn to before me this 4th day of January 2006.

Notary Public

NOTARY PUBLIC NOTARY SEAL

ASHLEY M. HARRISON
My Commission Expires
August 31, 2010
Cole County
Commission #06899978

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PAUL R. HARRISON

BIG ISLAND WATER AND SEWER COMPANY, INC.

CASE NO. WA-2006-0480

REBUTTAL TESTIMONY

OF

PAUL R. HARRISON

BIG ISLAND WATER AND SEWER COMPANY, INC.

CASE NO. WA-2006-0480

Q. Please state your name and business address.

A. Paul R. Harrison, P. O. Box 360, Jefferson City, Missouri 65102.

Q. By whom are you employed and in what capacity?

A. I am a Utility Regulatory Auditor with the Missouri Public Service Commission (MoPSC or Commission).

Q. Have you previously filed testimony before this Commission?

A. Yes. Appendix A lists the cases in which I filed testimony, the issues that I have worked and the small informal cases that I have completed.

Q. Have you previously submitted testimony in this proceeding?

A. No. I am submitting this rebuttal testimony in response to the direct testimony that Big Island Water and Sewer Company (Big Island or Company) filed on October 24, 2006.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to sponsor the Staff's recommended requirement for Big Island's revenue requirement in this proceeding. In addition, I will respond to the direct testimony of Big Island's witness David G. Krehbiel regarding the proper level of rate base, revenues and expenses that should be included in this case.

EXECUTIVE SUMMARY

Q. Please briefly summarize your rebuttal testimony.

A. The Staff has developed a cost of service for Big Island's water and sewer operations as agreed to by the parties in this proceeding. The Staff's total recommended revenue requirement for the Company in this case is $25,580 for water and $50,405 for sewer calculated at the Staff's recommend return in this case, developed by Staff witness Matthew Barnes of the Financial Analysis Department. A set of accounting schedules supporting this revenue requirement is attached to this testimony. The Staff's revenue requirement is based upon a review of the Company's books and records through the end of June 30, 2006, as well as certain components contained in the Company's feasibility study and responses to Staff's data information requests.

REVENUE REQUIREMENT WATER AND SEWER

Q. What is the Staff's current recommended revenue requirement for Big Island?

A. The Staff's current recommended revenue requirement for Big Island Water in this proceeding is $25,580 based upon 98 customers and calculated at the Staff's recommended rate of return of 9%. In turn, the Staff's current recommended revenue requirement for Big Island Sewer in this case is $50,405 again based upon 98 customers and calculated at the Staff's recommended rate of return of 9%. Accounting schedules supporting this revenue requirement is attached to this testimony. These schedules were developed using the Company's feasibility study filed with the MoPSC on July 19, 2006, and the Company's responses to Staff's data requests generated in this case. The Staff's revenue requirement is based upon a combination of the Company's feasibility study and known and measurable changes through June 30, 2006.

Q. How does the Staff's recommended revenue requirement compare with the Company's suggested revenue requirement?

A. The Company's current revenue requirement for Big Island Water is $62,573 based upon 210 customers and calculated at the Company's recommended rate of return of 10%. In turn, the Company's current revenue requirement for Big Island Sewer is $92,963 based upon 210 customers and calculated at the Company's recommended rate of return of 10%. For comparison purposes, the Company's revenue requirement is shown in the first two columns of the Staff's Schedule 1 and the Staff's revenue requirement is shown in columns three and four of Staff's Schedule 1.

Q. Please explain primary differences between the Staff and Company's revenue requirements.

A. The Staff and Big Island primarily differ in the levels of rate base, rate of return, projected revenues and expenses. Each of these areas are discussed below.

RATE BASE

Q. David G. Krehbiel's Global Analysis of existing plant and charges portion of the feasibility study provided in response to the Staff's data requests concludes that the existing water & sewer plant amount to be included in rate base is $164,742.21. Do you agree with his conclusion?

A. No. Attachment B of Mr. Krehbiel's study filed with the Commission on July 19, 2006, depicts that the existing water & sewer rate base amount is $75,620.41. But, that same document was provided to the Staff in response to Data Request No. 1 in this case and the existing water and sewer rate base amount in that document was $164,742.21. The primary difference in the two documents is the dollar amount assigned to the value of the land

contributed by the developer for the water facilities ($5,000 vs. $30,000), and the sewer facilities ($2,500 vs. $15,000). There is also a difference in the number of water customers (50 vs. 80) used in the two analysis. In addition, the Company included in its water rate base computation proposed water improvements for a standpipe at a cost of $168,000, land valued at $5,000 installation of water meters at $43,500 and professional fees of $16,000. The Company also included $269,757 for an upgrade to its treatment facility, land valued at $10,000 installation of flow meters at $7,600 and professional fees of $16,000. The Company's total water rate base for this case is $265,544. The Company's total sewer rate base for this case is $345,933.

Q. What rate base amount does the Staff recommend for this case?

A. The Staff's total water rate base for this case is $82,996. The Staff's total sewer rate base for this case is $189,924.

Q. What adjustments did the Staff make to the Company's water and sewer rate base?

A. The Staff made four adjustments to the water and sewer rate base that the Company included in its feasibility study. These adjustments are shown in Staff's Schedule 2.

First, the Staff removed the dollar amount associated with the replacement and/or relocation of the water lines to comply with Department of Natural Resources (DNR) requirements. When the waterlines were originally installed, the Company installed them in the same trench as the sewer lines. As a result of Big Island customers filling complaints with DNR, DNR required that the Company separate the water and sewer lines. The old water

lines were abandoned when the Company dug new trenches and installed new waterlines. The Staff eliminated the costs associated with the abandonment and rework of the water lines.

Second, the Staff made a capacity adjustment to remove a portion of water and sewer plant based upon the number of customers that the system can serve as of December 31, 2008, as compared to the number of customers that the system can serve as built.

Third, the Staff removed the developer and customer contribution in aid of construction (CIAC) amount of water and sewer plant. In addition, the Staff removed the amount of land that was included in the feasibility because this is normally contributed by the developer.

Fourth, the Staff removed the water meters from the developer's proposed water improvements because the meter costs are recovered under the Company's connection fee request.

Q. How did the Staff calculate the return on equity and income taxes for this case?

A. The Staff uses a standard calculation as shown on Schedule 4 to develop the total weighted return on equity and income taxes for small informal rate cases. The total weighted return on equity including income taxes for Big Island Water and Sewer is 11.24%.

Q. What depreciation rates did the Staff use to determine the depreciation expense in this case?

A. The Staff used the standard water and depreciation rates that were developed by Staff member Jolie Mathis of the Engineering and Management Services Department.

Q. What other rate base amounts does the Staff recommend be included in this case for water & sewer?

A. The Company has included $1,000 in materials for water and $1,625 for sewer in its pro forma water and sewer expense in determining its monthly rates for water and sewer. Materials and Supplies is a rate base item, not an expense, and should be included in rate base. In addition, in March 2006, two pumps were replaced at the wastewater treatment plant and expensed to Lake of the Ozarks Water and Sewer Inc. (LOWS). These pumps should have been capitalized instead of expensed. LOWS is the current contractor used by Big Island for operation and maintenance of the Big Island Water and Sewer system.

REVENUES

Q. Please explain how the Staff developed the revenues for this case.

A. The starting point for the Staff's revenues is the feasibility study performed by Mr. Krehbiel. Mr. Krehbiel estimates that the Company will provide service to 78 customers in 2007, 98 customers in 2008, and 118 customers in 2009. In a certificate case, the Staff normally attempts to limit projected customer growth to two years and then recommend that the utility file a rate case within that two year period. Therefore, the Staff used the Company's projection of 98 customers as of 2008 to determine the current monthly rate for the water and sewer customers. Based upon the Staff's calculated monthly water and sewer rate of $21.75 and $42.86, and customer level of 98, the Company's annualized revenues for water and sewer is $25,580 and $50,405.

EXPENSES

Q. Please explain the level of Staff's expenses used in this case.

A. The Staff used the Company's feasibility study and the Company's response to Staff's data requests to determine the Company's level of expenses. These expenses are used

to develop the Staff's cost of service and are included in Schedule 1. The first two columns represent the Company's revenues and expenses. The second two columns represent the Staff's revenues and expense.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

CASE PROCEEDING/PARTICIPATION

PAUL R. HARRISON

COMPANY	CASE NO.	TESTIMONY/ISSUES
Missouri Gas Energy	**GR-2006-0422**	**November 2006** **Rebuttal-** Environmental Response Fund, Manufactured Gas Plant
Missouri Gas Energy	**GR-2006-0422**	**October 2006** **Direct**– Revenues; Purchased Gas Adjustments; Bad Debt Expense; ECWR AAO Bad Debt: Rent; Pensions & OPEBS; Income Taxes; Franchise Taxes; Manufactured Gas Plant, and Case Reconciliation
Empire Electric Company	**ER-2006-0315**	**July 2006** **Rebuttal-** Storm Damage Tracker
Empire Electric Company	**ER-2006-0315**	**June 2006** **Direct-** Tree Trimming Expense and Construction Over-Run Costs
Missouri Pipeline & Missouri Gas Company LLC	**GC-2006-0378**	**Case in Progress** Plant in Service, Depreciation Reserve, Depreciation Expense, Transactions & Acquisition Costs and Income Taxes
New Florence Telephone	**TC-2006-0184**	**October 2006** Plant in Service; Depreciation Reserve; Depreciation Expense; Plant Overage; and Materials & Supplies

COMPANY	CASE NO.	TESTIMONY/ISSUES
Cass County Telephone	**TC-2005-0357**	**July 2006** Plant in Service; Depreciation Reserve; Depreciation Expense; Plant Overage; Plant Held for Future Use and Missouri Universal Service Fund
Cass County Telephone & New Florence Telephone Fraud Investigation Case	**TO-2005-0237**	**May 2006** Fraud Investigation case involving Cass County Telephone and New Florence Telephone
Missouri Gas Energy	**GR-2004-0209**	**June 2004** **Surrebuttal** - Revenues and Bad Debt Expense **True-Up** - Revenues; Bad Debt Expense
Missouri Gas Energy	**GR-2004-0209**	**May 2004** **Rebuttal** - Revenues; Bad Debt Expense; and Manufactured Gas Plant **Litigated- Manufactured Gas Plant**
Missouri Gas Energy	**GR-2004-0209**	**April 2004** **Direct** – Revenues; Purchased Gas Adjustments; Bad Debt Expense; Medical Expense; Rents; and Income Taxes
Union Electric Company d/b/a AmerenUE (Gas)	**GR-2003-0517**	**October 2003** **Direct** – Corporate Allocations; UEC Missouri Gas Allocations; CILCORP Allocations; Rent Expense; Maintenance of General Plant Expense; Lease Agreements; and Employee Relocation Expense

COMPANY	CASE NO.	TESTIMONY/ISSUES
Union Electric Company d/b/a AmerenUE	**EC-2002-1**	**June 2002** **Surrebuttal** - Coal Inventory; Venice Power Plant Fire; Tree Trimming Expense; and Automated Meter Reading Service
Laclede Gas Company	**GR-2002-356**	**June 2002** **Direct** - Payroll; Payroll Taxes; 401k Pension Plan; Health Care Expenses; Pension Plan Trustee Fees; and Clearing Account: **True- Up** – Payroll; Payroll Taxes; and Clearing Accounts
Union Electric Company d/b/a AmerenUE (2nd period, 3rd EARP)	**EC-2002-1025**	**April 2002** **Direct** - Revenue Requirement Run; Plant in Service; Depreciation Reserve; Other Rate Base items; Venice Power Plant Fire expenditures; Tree Trimming Expense; and Coal Inventory
2nd Complaint Case, Union Electric Company d/b/a AmerenUE New Test Year ordered by the Commission.	**EC-2002-1**	**March 2002** **Direct** - Materials and Supplies; Prepayments; Fuel Inventory; Customer Advances for Construction; Customer Deposits; Plant in Service; Depreciation Reserve; Venice Power Plant Fire Expenditures; Tree-Trimming Expense; Automated Meter Reading Expense; Customer Deposit Interest Expense; Year 2000 Computer Modification Expense; Regulatory Advisor's Consulting Fees; and Property Taxes **Deposition – April 11, 2002**

COMPANY	CASE NO.	TESTIMONY/ISSUES
1st Complaint Case, Union Electric Company d/b/a AmerenUE	**EC-2002-1**	**July 2001** **Direct** - Materials and Supplies; Prepayments; Fuel Inventory; Customer Advances for Construction; Customer Deposits; Plant in Service; Depreciation Reserve; Power Plant Maintenance Expense; Tree-Trimming Expense; Automated Meter Reading Expense; Customer Deposit Interest Expense; Year 2000 Computer Modification Expense; Computer Software Expense; Regulatory Advisor's Consulting Fees; Board of Directors Advisor's Fees and Property Taxes. **Deposition – November 27 2001**
Union Electric Company d/b/a AmerenUE (2nd period, 2nd EARP)	**EC-2001-431**	**February 2001** Coal Inventory
Union Electric Company d/b/a AmerenUE (Gas)	**GR-2000-512**	**August 2000** **Direct** - Cash Working Capital; Advertising Expense; Missouri PSC Assessment; Dues and Donations; Automated Meter Reading Expenses; Computer System Software Expenses (CSS); Computer System Software Expenses (Y2K); Computer System Software Expenses (EMPRV); Generation Strategy Project Expenses; Regulatory Advisor's Consulting fees; Board of Directors Advisor's fees
SUMMARY OF SMALL RATE CASES WORKED		
Big Island Water & Sewer	**WA-2006-0480** **SA-2006-0482**	**In Progress** Certificate of Necessitate Application Case Lead Auditor
Aqua Missouri Water and Sewer	**QS-2005-0008** **QW-2005-009** **QS-2005-0010** **QW-2005-0011**	**October 2006** Plant In Service; Depreciation Reserve, Depreciation Expense, Rate Base; Revenues and Expenses Lead Auditor

COMPANY	CASE NO.	TESTIMONY/ISSUES
Lake Region Water and Sewer Certificate Case	**WA-2005-0463**	**October 2006** Certificate of Necessitate Application Case Lead Auditor
Tri-State Utility Inc.	**WA-2006-0241**	**May 2006** Certificate of Necessitate Application Case Lead Auditor
Osage Water Company Environmental Utilities Missouri American Water	**WO-2005-0086**	**February 2005** Rate Base; Cost of Service; Income Statement Items; Pre-Post Sale of OWC, Sale of EU Assets to MAWC
North Suburban Water & Sewer	**WF-2005-0164**	**December 2004** Sale of All Stocks of Lake Region Water & Sewer to North Suburban Water & Sewer, Value of Rate Base Assets, Acquisition Premium Lead Auditor
Mill Creek Sewer	**SR-2005-0116**	**December 2004** Plant In Service: Rate Base: Revenues: and Expenses. 2nd update December 2004 1st update September 2003 Filled October 2002 Lead Auditor
Roark Water and Sewer	**WR-2005-0153** **SR-2005-0154**	**September 2004** Plant In Service: Rate Base: Revenues: and Expenses. 2nd Update September 2004 1st Update October 2003 Filed February 2003 Lead Auditor

COMPANY	CASE NO.	TESTIMONY/ISSUES
Osage Water Company	**WT-2003-0583** **SR-2003-0584**	**December 2003** Cost of Service; All Expenses related to Osage Water; Plant in Service; Depreciation Reserve & other Rate Base Items
SUMMARY OF NON-CASE RELATED AUDITS		
January 2006 – Environmental Utilities and Osage Water Company Audit Concerning Provision of Service to Eagle Woods Subdivision and Disconnect Notice		
November 2004 - Internal Audit of Public Service Commission (PSC) Fixed Assets, Physical Inventory Control Process and Location of Assets		

Big Island Water & Sewer Company - - Ratemaking Income Statement

		COMPANY		STAFF		
		Water	**Sewer**	**Water**	**Sewer**	
	Customers	210	210	98	98	
	Rates	24.83	36.89	21.75	42.86	
	Operating Revenues	**62,572**	**92,963**	**25,580**	**50,405**	
	Operations & Maintenance Expenses	**Water**	**Sewer**	**Water**	**Sewer**	Notes re: Staff Entries
1	Labor	5,520	5,520	4,392	4,392	McDuffy Contract ($732 per month, split 50/50)
2	Billing	7,560	7,560	1,764	1,764	$1.50 per customer per month for each service
3	Postage	0	0	135	135	$0.23 per bill split 50/50
4	Meter Reading	0	0	882	0	$0.75 per meter per month
5	Materials	1,000	1,625	0	0	Included in Rate Base
6	Chemicals	0	350	0	350	Per the Feasibility Study
7	Replacement & Repairs	3,000	6,500	0	0	Capitalized or Included in Maintenance & Repairs
8	Sludge removal & Disposal	0	3,750	0	0	Customers each have septic tank at premises
9	Legal Fees	1,500	1,500	1,500	1,500	Per the Feasibility Study
10	Professional Fees	600	600	600	600	Per the Feasibility Study
11	Insurance	1,500	1,500	1,500	1,500	Per the Feasibility Study
12	Testing & Laboratory Services	1,200	1,500	1,200	1,500	Per the Feasibility Study
13	Electric Expense	2,400	2,473	2,400	2,473	Per the Feasibility Study
14	PSC Assessment	620	7,058	140	4,179	Based on most recent assessment percentages
15	DNR Fees	0	3,000	0	3,000	Per the Feasibility Study
16	Maintenance/Repairs	0	0	363	363	Per Company Response to Staff DR
17	**Total O & M Expenses**	**24,900**	**42,936**	**14,876**	**21,755**	
18	Property Taxes	300	300	150	150	Per Company Response to Staff DR
19	Depreciation Expense	5,980	8,817	1,112	6,967	From Rate Base Worksheet
20	Interest on Debt	12,945	16,864	0	0	Company Has No Debt (per company response to DR)
21	Return on Rate Base & Income Taxes	18,455	24,043	9,442	21,532	From Return on Investment worksheet
22	**Total Cost of Service**	**62,580**	**92,960**	**25,580**	**50,405**	

Note 1: Company numbers based upon feasibility study

Note 2: Staff numbers based upon feasibility study, Company responses to DRs and independent calculations

Cost of Water Distribution and Sewer Collection Systems

Item No.	Description of Item	Sewer	Water	Common	Total	Rework of Water Lines
1	Sewer & water mains	30,200	32,300		62,500	
2	Sewer & water mains	28,280	29,410		57,690	
3	Sewer & water mains	12,560	13,345	1,447	27,352	
4	Hauling			197	197	
5	4" Main lines	22,864	24,293		47,157	
6	4" Main lines	9,896	10,905		20,801	
7	Machine hours & gas			3,240	3,240	
8	Engineering design water & sewer			2,685	2,685	
9	Water & sewer installation			3,200	3,200	
10	Machine hours & gas			4,220	4,220	
11	Jackhammer rental, bedding & parts			5,776	5,776	
12	Machine hours & Gas			3,600	3,600	
13	Breaker hours & parts			5,241	5,241	
14	Parts			2,251	2,251	
15	Fixed water leak & machine time		3,621		3,621	
16	Loader Hours			1,200	1,200	
17	Misc pipe fitting		25		25	
18	Loader hours road to plant			1,430	1,430	
19	Fixed water line			917	917	
20	Fixed water leak & broken pipe		300		300	
21	Engineering services-water		1,165		1,165	
22	Engineering services-sewer	1,008			1,008	
23	Engeneering services	800			800	
24	Trencher rental & parts			585	585	
25	Water & sewer taps & labor			700	700	
26	Labor			900	900	
27	Pipe & fittings			733	733	
28	Pipe & fittings			129	129	
29	Labor check sewer	800			800	
30	Pipe & fittings			22	22	
31	Fix road crossing			400	400	
32	Replace water Lines			980	980	(980)
33	Replace Waterlines		12,915		12,915	(12,915)
34	Replace Waterlines		16,736		16,736	(16,736)
35	Bedding		2,722		2,722	(2,722)
36	Relocate water		13,604		13,604	(13,604)
37	Waterline replacement		8,100		8,100	(8,100)
38	Waterline		790		790	
39	Waterline		15,299		15,299	
40	Waterline		2,383		2,383	
41	Waterline		2,000		2,000	
42	Waterline relocation		5,864		5,864	(5,864)
43	Waterline relocation-rental equipment		4,098		4,098	(4,098)
44	Waterline replacement		2,120		2,120	(2,120)
45	Waterline replacement		1,932		1,932	(1,932)
46	Waterline replacement		400		400	(400)
47	Waterline relocation		1,625		1,625	(1,625)
48	Waterline relocation		6,749		6,749	(6,749)
49	Waterline connection		3,986		3,986	(3,986)
50	Old waterline replacement		3,804		3,804	(3,804)
51	Old waterline connections (crossing)		5,233		5,233	(5,233)
52	Old waterline connection work		2,593		2,593	(2,593)
53	Water connection		3,707		3,707	(3,707)
54	Clean up crossing			720	720	
55	Crossing			3,359	3,359	
56	Waterline replacement		2,240		2,240	(2,240)
57	Main 4" line		755		755	
58	Crossing		3,000		3,000	
59	Waterline replacement		6,555		6,555	(6,555)
60	Hauling/waterline		1,210		1,210	
61	Waterline	1,318	7,289		8,607	
62	Waterline	3,783	2,920		6,703	
63	Widen road for waterline		12,225		12,225	(12,225)
64	Waterline replacement		2,002		2,002	(2,002)
65	Widen road for waterline		4,190		4,190	(4,190)
66	Waterline replacement		3,145		3,145	(3,145)
67	Waterline replacement		1,200		1,200	(1,200)
68	Waterline replacement			9,459	9,459	(9,459)
69	Hauling			1,400	1,400	(1,400)
70	Waterline replacement		1,080		1,080	(1,080)

71	Widen road for waterline (replacment)		540		540	(540)
72	Waterline trucking		600		600	(600)
73	160 new waterline		1,862		1,862	
74	Waterline replacement		5,612		5,612	(5,612)
75	4 loads gravel			560	560	
76	Waterline crossing		4,387		4,387	(4,387)
77	Waterline		989		989	
78	Waterline		34		34	
79	Waterline replacement		440		440	(440)
80	Waterline replacement & connections		3,893		3,893	(3,893)
81	Waterline		147		147	
82	Waterline replacment & connections		300		300	(300)
83	Road crossing for waterline replacment		4,138		4,138	(4,138)
84	Old waterline replacment		177		177	(177)
85	Replace Old waterline		3,714		3,714	(3,714)
86	Old waterline connections		2,200		2,200	(2,200)
87	Gravel			145	145	
88	Labor, bobcat hours			886	886	
89	Labor, bobcat hours			1,542	1,542	
90	Work on waterline		560		560	
91	Sewer extension	1,184			1,184	
92	Waterline replacment		100		100	(100)
93	Water relocate		1,015		1,015	(1,015)
94	Administration & supervision (10% of cost)			40,191	40,191	
95	Administration & supervision (Relocate lines)			8,100	8,100	(8,100)
	Totals	**112,693**	**310,543**	**106,215**	**529,450**	**(175,880)**

50% of Common Costs	53,107
Less amount for waterline replacement/relocation	(175,880)
Waterline Actual + 50% of Common	187,770
Sewerline Actual + 50% of Common	165,800
Grand Total = Waterline + Sewerline - Relocation + Common	**353,570**

Cost of Existing Sewage Treatment Plant per Invoices

Item No.	Description of Item	Amount	
1	Road for plant	3,758	
2	33% completion of treatment plant	33,990	
3	4" valves	9,680	
4	50% completion of treatment	17,510	
5	60% completion of treatment	10,000	
6	90% completion of treatment	21,930	
7	Sewer & water plant	752	
8	Wire fence	1,506	
9	Install wiring for treatment plant	1,485	
10	Install pump & float for treatment plant	323	
11	Dozer hours	728	
12	Dozer hours	910	
13	Drill & Comp	12,457	
14	Dig trench for powerline	231	
15	Lift station alarm	23	
16	Pump in septic	1,485	
17	Final pump psnel & parts	1,698	
18	Land	0	developer contribution
19	Installation of Replacement Pumps (March 2006)	2,667	
20	Administration & Supervision (10% of cost)	13,846	
21	**Total Treatment Plant**	**134,979**	

Cost of Existing Water Supply & Storage Plant per Invoices

Item No.	Description of Item	Amount	
1	Metal Fabrication	3,585	
2	Water Tanks	8,580	
3	Revision to water plant	1,475	
4	Well drilling	12,135	
5	Lumber-Wellhouse	83	
6	Lumber-Wellhouse	1,880	
7	Lumber-Wellhouse	268	
8	Lumber-Wellhouse	98	
9	Lumber-Wellhouse	810	
10	Lumber-Wellhouse	150	
11	Lumber-Wellhouse	8	
12	Wired 200 amp service & wired wellhouse	780	
13	Lumber-Wellhouse	2,346	
14	Booster pump, pipe & labor	23,948	
15	Water tanks	89	
16	Lumber-Wellhouse	3,180	
17	Dozer hours	364	
18	Water plant (originally in sewer plant costs)	20,000	
19	Land	0	developer contribution
20	Administration & Supervision (10% of cost)	6,228	
21	**Total Water Plant**	86,007	

Total Existing Water & Sewer Plant per Invoices

Item No.	Description of Item	Amount
1	Cost of Pipeline - Water	187,770
1	Cost of Water Plant	86,007
	Total Water Plant	**273,777**
2	Cost of Pipeline - Sewer	165,800
2	Cost of Treatment Plant	134,979
	Total Sewer Plant	**300,779**
	Total Combined Project	**574,556**

Projected Costs of New Water & Sewer Plant

Item No.	Description of Item	Amount	
	Water Plant		
1	Supply & Storage	168,000	
1	Land	0	developer contribution
1	Meters	0	covered by connection charges
1	Professional Services (Projection)	16,000	
	Total Projected Water Plant	**184,000**	
	Sewer Plant		
2	Treatment Plant Expansion	285,537	
2	Land	0	developer contribution
2	Flow Meters	7,600	
2	Professional Services (Projection)	16,000	
	Total Projected Sewer Plant	**309,137**	
	Total Water Plant Existing & Projected	**457,777**	
	Total Sewer Plant Existing & Projected	**609,916**	

Plant Held for Future Use

Item No.	Description of Item	Amount	
1	Excess Capacity - Water (98 customers / 320 customers)	(188,011)	This adjustment is subject to change
2	Excess Capacity - Sewer (98 customers / 230 customers)	(255,817)	This adjustment is subject to change

Net Rate Base

Item No.	Description of Item	Amount	Depreciation Items Rates	Depreciation Items Expense
1	Cost of Pipeline - Water	187,770		
1	Cost of Water Plant	86,007	2.00%	1,720
1	Supply & Storage (Projection)	168,000	2.50%	4,200
1	Meters (Projection)	0	10.00%	0
1	Land (Projection)	0		5,920
1	Professional Services (Projection)	16,000		
	Total	**457,777**		
1	Add: Materials & Supplies	1,000		
1	Less: Developer & Customer Contributions	(187,770)		
	Total Water Plant Less Deductions	**271,007**		
1	Less: Plant Held for Future Use	(188,011)		
	Total Rate Base for Water	**82,996**		**1,112**
2	Cost of Pipeline - Sewer	165,800		
2	Cost of Treatment Plant	134,979	5.00%	6,749
2	Treatment Plant Expansion	285,537	5.00%	14,277
2	Flow Meters (Projection)	7,600	10.00%	760
2	Land (Projection)	0		21,786
2	Professional Services (Projection)	16,000		
	Total	**609,916**		
2	Add: Materials & Supplies	1,625		
2	Less: Developer & Customer Contributions	(165,800)		
	Total Sewer Plant Less Deductions	**445,741**		
2	Less: Plant Held for Future Use	(255,817)		
	Total Rate Base for Sewer	**189,924**		**6,967**

Big Island Water & Sewer Company - - Weighted Cost of Capital

Capital Component	Capital Dollars	Percentage of Capital	Embedded Cost	Weighted Cost
Common Equity	$11,984.00	100.00%	9.00%	9.00%
Preferred Stock	$ -	0.00%	0.00%	0.00%
Long-Term Debt		0.00%	0.00%	0.00%
Short-Term Debt	$ -	0.00%	0.00%	0.00%
Total	**$11,984.00**	**100.00%**		**9.00%**

Big Island Water & Sewer Company
Rate of Return Including Income Tax

		A		B	Formulas
1	State Income Tax Rate Statutory / Effective	6.25%	1	5.81%	(1 - (B2 x .5)) x A1
2	Federal Income Tax Rate Statutory / Effective	15.00%	2	14.13%	(1 - B1) x A2
3	Composite Effective Income Tax Rate		3	19.94%	B1 + B2
4	Equity Tax Factor		4	1.2490	1 / (1-B3)
5	Recommended Weighted Rate of Return on Equity - Common and Preferred		5	9.00%	From Capital Structure
6	Weighted Rate of Return on Equity Including Income Tax		6	11.24%	B4 x B5
7	Recommended Weighted Rate of Return on Debt - Long-Term and Short-Term		7	0.00%	From Capital Structure
8	Total Weighted Rate of Return Including Income Tax			11.24%	B6+B7

To Rate Base Worksheet

(1) Tax Rate Table

Net Income	Tax Rate
$0 - 50,000	15%
$50,001 - 75,000	25%
$75,001 - 100,000	34%
$100,001 - 335,000	39%
$335,001 - and over	34%

(2) Insert 0's for Tax Rates if Sub-Chapter S Corporation

Big Island Water
Return on Investment & Income Tax

	Rate Base Description	Amount
1	Plant In Service	$82,996
2	Less Accumulated Depreciation Reserve	$0
3	Net Plant In Service	$82,996
4	Other Rate Base Items: (Materials)	$1,000
5	Total Rate Base	$83,996
6	Total Weighted Rate of Return Including Income Tax	11.24%
7	Required Return & Income Tax	$9,442

Big Island Sewer
Return on Investment & Income Tax

	Rate Base Description	Amount
1	Plant In Service	$189,924
2	Less Accumulated Depreciation Reserve	$0
3	Net Plant In Service	$189,924
4	Other Rate Base Items: (Materials)	$1,625
5	Total Rate Base	$191,549
6	Total Weighted Rate of Return Including Income Tax	11.24%
7	Required Return & Income Tax	$21,532

BIG ISLAND WATER & SEWER COMPANY
SEWER PLANT DEPRECIATION RATES

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	DEPRECIATION RATE	AVERAGE SERVICE LIFE (YEARS)	NET SALVAGE
COLLECTION PLANT				
311	Structures & Improvements	2.5%	40	
352.1	Collection Sewers (Force)	2.0%	50	
352.2	Collection Sewers (Gravity)	2.0%	50	
354	Services	2.0%	50	
355	Flow Measurement Devices	3.3%	30	
PUMPING PLANT				
362	Receiving Wells	4.0%	25	
363	Electric Pumping Equipment	10.0%	10	
TREATMENT AND DISPOSAL PLANT				
373	Treatment & Disposal Facilities	5.0%	20	
374	Plant Sewers	2.5%	40	
375	Outfall Sewer Lines	2.0%	50	
GENERAL PLANT				
391	Office Furniture & Equipment	5.0%	20	
391.1	Office Computer Equipment	20.0%	5	
392	Transportation Equipment	13.0%	7	9%
393	Other General Equipment	4.0%	25	

BIG ISLAND WATER & SEWER COMPANY
WATER PLANT DEPRECIATION RATES

ACCOUNT NUMBER	ACCOUNT DESCRIPTION	DEPRECIATION RATE	AVERAGE SERVICE LIFE (YEARS)	NET SALVAGE
SOURCE OF SUPPLY				
311	Structures & Improvements	2.5%	40	
314	Wells & Springs	2.0%	50	
316	Supply Mains	2.0%	50	
PUMPING PLANT				
321	Structures & Improvements	2.5%	40	
325	Electric Pumping Equipment	10.0%	10	
325.1	Submersible Pumping Equipment	10.0%	10	
325.2	High Service or Booster Pumping Equipment	6.7%	15	
325.3	Shaft-Driven Pumping Equipment	5.0%	20	
326	Diesel Pumping Equipment	2.7%	35	5%
328	Other Pumping Equipment	4.0%	25	
328.1	Gas Pumping Equipmnet	3.3%	30	
WATER TREATMENT PLANT				
331	Structures & Improvements	2.5%	40	
332	Water Treatment Equipment	2.9%	35	
TRANSMISSION & DISTRIBUTION				
341	Structures & Improvements	2.5%	40	
342	Distribution Reservoirs & Standpipes	2.5%	40	
343	Transmission & Distribution Mains	2.0%	50	
345	Services	2.5%	40	
346	Meters	10.0%	10	
347	Meter Installations	2.5%	40	
348	Hydrants	2.0%	50	
GENERAL PLANT				
390	Structures & Improvements	2.5%	40	
391	Office Furniture & Equipment	5.0%	20	
391.1	Office Computer Equipment	20.0%	5	
392	Transportation Equipment	13.0%	7	9%
393	Stores Equipment	4.0%	25	
394	Tools, Shop, Garage Equipment	5.0%	20	
395	Laboratory Equipment	5.0%	20	
396	Power Operated Equipment	6.7%	15	
397	Communication Equipment	6.7%	15	
398	Miscellaneous Equipment	5.0%	20	