

**UNIVERSITY AREA JOINT AUTHORITY
COLLEGE-HARRIS JOINT AUTHORITY
PATTON-FERGUSON JOINT AUTHORITY**

Report on
Wastewater Cost of Service
and
Tariff Rate Design

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March 7, 1996

Mr. David A. Allison, Executive Director
UNIVERSITY AREA JOINT AUTHORITY
1578 Spring Valley Road
State College, PA 16801

Dear Mr. Allison:

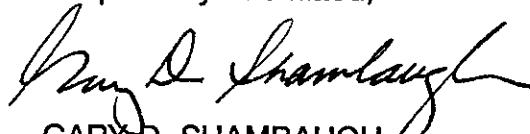
In accordance with the authorization of the Board of Directors of the University Area Joint Authority representing not only University Area Joint Authority, but the Patton Ferguson Joint Authority and College Harris Joint Authority as well, we have prepared the accompanying report on cost of service and tariff rate design. The report contains financial analyses of the 1994 historical costs and the budgeted 1995 costs. The main objective of the report was to determine the cost of providing service to each class of customer in the various service areas and determine if the current billing methods are fair, just, and equitable. Based upon the results of our study, we are recommending a method of billing which would meet the tests of uniformity and equity as required by the Municipality Authorities Act.

The report contains a narrative Section 1 which describes the methods and procedures utilized in our analyses. Section 2 of the report includes summary schedules which present the results of our study and recommended customer rates. As we anticipated at the initiation of the study, the rate design and implementation of the rates will be an ongoing project over the next several fiscal periods.

The conclusions and recommendations contained in the report are supported by accepted cost of service principles and will provide guidelines to the Authorities in establishing customer rates.

We would like to express our appreciation to the Authorities for the opportunity to prepare this study and to the staff for their assistance in the successful completion of the project.

Respectfully submitted,



GARY D. SHAMBAUGH
Executive Vice President



SECTION 1

**UNIVERSITY AREA JOINT AUTHORITY
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**Report on Wastewater Cost of Service
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March 1996**

Introduction

In 1986, the Board of Directors of the University Area Joint Authority (UAJA), College-Harris Joint Authority (CHJA), and Patton-Ferguson Joint Authority (PFJA) authorized AUS Consultants to prepare a study encompassing the annual revenue requirements for each authority and present recommendations as to appropriate customer rates. That study was completed and presented to the Authorities in March 1987 and recommended several alternatives and considerations to the existing Equivalent Dwelling Units (EDU) based customer tariff rate design as follows:

- It was recommended that the CHJA and PFJA continue, for the present time, to bill their residential customers on an EDU basis,
- Customer rates charged to all other customer classes would be based upon a minimum annual fixed charge plus a volumetric based rate schedule, and
- As stated previously, uniform volumetric rates for all flows to the treatment plant would be charged to the CHJA and PFJA by the UAJA.

The Authorities chose to remain on an EDU base for all customers due to the lack of consumptive water billing data at that time and other management considerations. However, the concept of a uniform wastewater treatment rate, which had been in effect for all sewage flows since the treatment plant was placed into service, was continued by UAJA. During the course of that study, it was determined that the cost of treatment was

not a significant portion of the total annual revenue requirement. Since the completion of that study to the present day, the Authorities' board of directors and management have recognized that the cost of treatment has become a much larger share of the total annual revenue requirement of each Authority. The shifting of the revenue requirement responsibility places a higher emphasis on customer rates based upon wastewater flows. As a result, the Authorities have authorized an additional study to explore customer rates based upon cost of service parameters and methodologies.

As with the 1987 study, the results of this study are based upon an independent review of financial and operating data with the objective of developing schedules of rates for wastewater service which can be supported through accepted cost of service principles.

A discussion of the rationale employed for the cost of service studies, including a description of the various analysis schedules, including illustrative schedules, follows. In addition, the tariff design process is described and proposed rate schedules are set forth.

Historical Background

All three (3) Authorities were created under the Municipal Authorities Act of 1945 with various incorporation dates as follows:

| | |
|------|--------------------|
| UAJA | August 25, 1964 |
| PFJA | April 26, 1965 |
| CHJA | September 25, 1967 |

The Authorities were created to operate and maintain a comprehensive

wastewater collection system and a treatment facility currently rated at a hydraulic capacity of six (6) million gallons per day. The UAJA continues to provide sewage treatment services to the PFJA, CHJA, and to the State College Sewer Authority at the Spring Creek Pollution Control Facility.

All wastewater collected in the PFJA and CHJA systems is treated at the Spring Creek facility; however, wastewater originating from the Borough of State College is divided between treatment facilities at the Pennsylvania State University and the Spring Creek Pollution Control Facility. It is difficult to identify the cost responsibility between CHJA and PFJA for their wastewater flows conveyed to UAJA through the Borough of State College sewer system. The problem is compounded by the lack of flow meters, infrastructure design, and installation which does not allow for a clear concise identification of wastewater flow between Authorities and customer classes.

The Spring Creek Pollution Control Facility was placed in service in July 1969 and initially served the PFJA service area. CHJA sewer construction was completed in 1970 and treatment of wastewater flows from the CHJA service territory was initiated. At the same time, connections to the interceptor sewer lines allowed a portion of the wastewater flow from the Borough of State College to be treated at the Spring Creek Pollution Control Facility.

The growth in population and related businesses and service industries in Centre County has continued through 1995. The continued growth required several expansions of the Spring Creek Pollution Control Facility from the original three (3) MGD capacity to the six (6) MGD capacity currently in service.

General

The basic reason for conducting a cost of service allocation study is the fact that a utility system furnishes service to a number of different customer classes, each of which has different needs and conditions of service. A utility incurs costs in relation to its operating requirements and its investment in system facilities necessary to meet the needs of its customers. As these needs vary among the different classes of customers, so also does the utility's cost of providing service to the respective customer classes. **An allocation of the costs of providing service will afford the utility the criteria needed to develop a schedule of rates and charges which will allow it to recover its costs in an equitable manner from the different classes of customers.**

The initial phase of this study encompassed the identification by customer classification of the number of customers for each Authority under their existing rate resolutions. This data is set forth in summary fashion on the accompanying Schedule Nos. 1 and 2 for PFJA and CHJA, respectively. It should be noted that the PFJA and CHJA rate resolutions are based upon Equivalent Dwelling Units (EDU), whereas UAJA bills both PFJA and CHJA and State College Borough based upon the volume of sewage flow entering the treatment works.

As a representative list of customer by classification, this study utilizes the Active Revenue List at December 31, 1995 as follows:

| | <u>PFJA</u> | <u>Pct.</u> | <u>CHJA</u> | <u>Pct.</u> |
|-------------|-------------|-------------|-------------|-------------|
| Residential | 4,547 | 91.9 | 3,385 | 91.9 |
| Commercial | 342 | 6.9 | 253 | 6.9 |
| Industrial | 33 | .7 | 21 | .6 |
| Public | <u>25</u> | <u>.5</u> | <u>25</u> | <u>.6</u> |
| Total | 4,947 | 100.0 | 3,684 | 100.0 |

As illustrated by the above table, the overwhelming percent of customers of both Authorities are considered residential. As set forth on Schedule Nos. 1 and 2, the majority of the revenue is derived from the residential customers. With this information established, an analysis of water usage data was necessary.

Customer Bill Frequency Analysis

The initial step in the development of customer rates based upon volumetric water usage data requires billing determinants by customer for a twelve month test year period. This portion of the project encountered several problems which have been very difficult and time consuming to overcome.

The majority of the wastewater customers of CHJA and PFJA are provided water service by the State College Borough Water Authority (SCBWA) and the Lemont Water Company (LWC). A small percentage of customers are served by another private water company and a few customers are provided water from private wells.

AUS Consultants successfully obtained reliable specific customer billing data from the Lemont Water Company and we are fairly certain that data on an ongoing basis can and will be provided by this company. Water consumption data was provided in total and by class of customer for our test year period by SCBWA; however, specific billing data was unavailable by meter size. With the assistance of David A. Allison, Chairman and Executive Director of UAJA, the additional customer billing determinants were obtained from SCBWA.

For purposes of this report, we are not concerned with the minor number of bills and water consumption data for the customers either on the other private system or on private wells.

Total water consumption for the twelve months ended December 31, 1994 utilized in our study amounts to 1,685,412 thousand gallons (TG) as set forth in Schedule No. 3. Wastewater flows to the Spring Creek Pollution Control Facility for the same period aggregated 1,688,803 TG for a difference of 3,391 TG or .20 percent. We have been unable to identify specific water customers as wastewater customers of either CHJA or PFJA due to the present incompatibility of data bases among the Authorities, SCBWA, and LWC. While this is a major obstacle in the development of volumetric billing, we believe this is a problem that can be remedied through the cooperation of all parties involved.

For the purpose of this study, we can accept the billing determinants. Even though the billing determinants may not be 100 percent accurate, they can provide the basis for the development of volumetric customer rates. As described later in this report, the movement from an EDU based rate to a volumetric customer rate structure will require a constant monitoring and review process. This will insure that accurate billing data is being provided and that the rate structure is producing the required level of annual revenue.

Wastewater Flows

Since the principal objective of this study is to determine the cost of providing service to each class of customer in the various service areas, it was imperative to review the wastewater flows from all three (3) contributors, namely, CHJA, PFJA, and the Borough of State College (BSC). Based upon our analyses, it appears that all three (3) contributors have experienced steady growth over the last several years. It should be noted that according to the flow records maintained by UAJA, the Borough

contributed approximately 791,359 thousand gallons TG of wastewater flow in 1994 which was 149,530 TG higher than the calendar year 1993 flows from the Borough. Similarly, PFJA contributed 567,516 TG of wastewater flow in 1994. This was 38,330 TG more than the PFJA wastewater flow in 1993. Finally, CHJA contributed 329,928 TG of wastewater flow in 1994. According to the UAJA flow records, this was 17,078 TG more than the CHJA wastewater flow during 1993. Details of the UAJA flow records by calendar months for the years 1991 through 1994 are set forth on Schedule No. 4.

As noted previously in this report, some flow from both CHJA and PFJA passes through Borough sewers and facilities and is included in the monthly Borough flow records maintained by UAJA. Similarly, some Borough flow passes through the CHJA and the PFJA sewers and facilities and is included in the respective Authorities flow totals maintained by UAJA. While UAJA bills the Authorities and the Borough on the basis of the flow records it maintains, a system of cross-invoicing and cross-billing exists among CHJA, PFJA, and the Borough. This system is used as a means of determining and assigning cost responsibility for the extra-territorial flows passing through a given sewerage system.

The data set forth in the cross invoicing and cross-billing system was used to adjust the flow records maintained by UAJA and to assign wastewater flows to the territories in which they originate. This analysis is set forth by calendar quarters for the year 1994 on Schedule No. 5. In addition to assigning wastewater flow to PFJA, CHJA, and the Borough, Schedule No. 5 also assigns flow to Penn State University (PSU). The assigned PSU flows originate at Farm 13 of the campus.

The total system wide customers and associated wastewater flows determined

and assigned on Schedule No. 5 and utilized in this report are summarized as follows:

| | <u>Customers/ Connections</u> | <u>Wastewater Flows (TG)</u> |
|-------|-----------------------------------|--------------------------------------|
| BSC | 1 | 823,930 |
| PSU | 1 | 4,775 |
| CHJA | 3,684 | 324,194 |
| PFJA | <u>4,947</u> | <u>535,904</u> |
| Total | 8,633 | 1,688,803 |

Since the combined wastewater flows are similar to the customer bill frequency analysis data, there will be a level of comfort achieved in the customer rate designs developed herein.

In addition to determining the origin of wastewater flow by territory, Schedule No. 5 also sets forth maximum quarterly usage data by quarter. This maximum usage data will be subsequently used in the allocation of capacity costs.

Infiltration and Inflow

A significant operating cost component of many wastewater systems is the collection, conveyance, and treatment of infiltration and inflow (I/I). At the direction of CHJA management, an I/I study was performed and outlined in a report by Herbert, Rowland & Grubic, Inc. From our analysis of the report, it appears that the I/I flow was significant in the limited study area for the CHJA.

Upon further investigation and discussions with management, it appears that with some corrective measures the I/I problem no longer exists in the CHJA collection system. Management also believes that I/I is not a problem in the PFJA due to routine

maintenance and repair of the collection system. The Authorities have not prepared comprehensive studies related to I/I. As a result, specific cost assignments by class of customer of I/I would be difficult at best. Based upon our extensive reviews of the wastewater flows in comparison to the water consumptive analysis for similar periods, we have concluded that I/I is not a significant factor for either CHJA or the PFJA. As a result, I/I will not be given consideration in the allocation process by function.

In future fiscal periods, I/I can be monitored within certain ranges by a direct comparison of billed water consumption and monitored flows at the treatment plant. Should I/I problems arise, management will be apprised of the problem sooner by the comparative analysis.

Strength of Wastewater

Another significant operating cost component incurred by wastewater systems is the cost of treatment related to the strength of wastewater. Strength of wastewater is dependent upon the level of biochemical oxygen demand (BOD) and suspended solids (SS). In the absence of a study regarding the strength of wastewater by customer class, it is difficult to assign the cost of treatment to specific customers or customer classes.

Cost allocations for the BOD and the SS parameters require additional information such as the fixed capital plant investment attributable to the treatment plant unit processes designed for BOD and SS removal. In addition, more detailed operating expense records would be necessary to complete an in-depth analysis to determine an allocation of BOD and SS costs to each customer classification.

An attempt was made to obtain plant investment by treatment function. However,

the Spring Creek Pollution Control facility was built under contracts which do not specifically detail construction and fixed capital investment by treatment function. Further, the operating costs do not specifically detail the costs incurred for BOD and SS removal and treatment.

While it is possible to reconstruct and retrieve the data the additional small benefit received by obtaining this information would not be time or cost justified.

The customer mix of both the PFJA and the CHJA is predominately residential. As described by the Authorities' management, most of the flows from the commercial and small industrial customers have residential characteristics. In instances where flows are suspected to be detrimental to the treatment process, specific customer flows are monitored and strength of wastewater surcharges are applied as required.

For the purposes of this study, strength of wastewater will not be a component of allocation to function or customer class. All wastewater flows will be treated as normal residential flows with domestic wastewater characteristics.

Revenue Requirements - Initial Comments

A primary factor in the development of rates for wastewater service is the establishment of the annual revenue requirement. Publicly owned utility systems are not generally operated on a profit-making basis. Their annual revenue requirements are usually established on a cash basis, which is the annual cash amounts needed to meet all operating and capital requirements including debt financing, maintenance of all necessary coverages, and deposits to all required reserve funds.

The total revenue requirement for a publicly owned wastewater utility should be sufficient to guarantee the provision of adequate utility service and to assure the

maintenance, development, and perpetuation of the utility system. The principal components of the revenue requirement for a publicly owned utility system generally comprise operation and maintenance expenses; debt service requirements including principal and interest payments for bonded long-term debt and repayment of any short-term loans; and, routine capital expenditures for plant replacements and normal extensions and improvements. Secondary components may include payments in lieu of taxes; surplus or unappropriated earnings funds; and, appropriations for major capital improvements.

For the purposes of this report, the Fiscal Year 1995 Budgets, as prepared by the Authorities, will form the basis for the development of the total revenue requirement for UAJA, PFJA, and CHJA. The Fiscal Year 1995 Budgets may be summarized as follows:

1995 Budgeted Data Reflecting Debt Service Requirements

| | <u>UAJA</u> | <u>PFJA</u> | <u>CHJA</u> |
|--------------------------------------|------------------|----------------|----------------|
| Anticipated Revenue | \$6,211,511 | \$2,418,661 | \$1,785,529 |
| LESS: | | | |
| Operating and Maintenance Expense | 3,216,338 | 2,207,611 | 1,569,823 |
| Capital Projects | 1,686,575 | 177,290 | 267,541 |
| Debt Service | <u>2,872,566</u> | <u>130,250</u> | <u>310,997</u> |
| Subtotal | \$(1,563,968) | \$(96,490) | \$(362,832) |
| ADD: | | | |
| Other Income | <u>1,863,855</u> | <u>214,476</u> | <u>383,623</u> |
| Net Income | \$299,887 | \$117,986 | \$20,791 |

**1995 Budgeted Data Reflecting Debt Service Requirement
and Annual Depreciation Expense**

| | <u>UAJA</u> | <u>PFJA</u> | <u>CHJA</u> |
|--------------------------------------|------------------|----------------|----------------|
| Anticipated Revenue | \$6,211,511 | \$2,418,661 | \$1,785,529 |
| LESS: | | | |
| Operating and Maintenance Expense | 3,216,338 | 2,207,611 | 1,569,823 |
| Annual Depreciation Expense | 668,958 | 188,601 | 210,514 |
| Debt Service | <u>2,872,566</u> | <u>130,250</u> | <u>310,997</u> |
| Subtotal | \$(546,351) | \$(107,801) | \$(305,805) |
| ADD: | | | |
| Other Income | <u>1,863,855</u> | <u>214,476</u> | <u>383,623</u> |
| Net Income | \$1,317,504 | \$106,675 | \$77,818 |

It should be noted that the above budgeting data has been set forth in a format which agrees with the formats of prior years' audited financial statements.

The details of the 1995 adjusted budgets for rate making purposes are set forth on Schedule Nos. 6, 7, and 8 for UAJA, PFJA, and CHJA, respectively. For comparative purposes, the audited financial data for the years 1992 through 1994 have been summarized respectively for UAJA, PFJA, and CHJA on the accompanying Schedule Nos. 9, 10, and 11. Several comments with respect to the restatement of the adjusted budget data are appropriate at this time.

Anticipated Revenue

The 1995 anticipated revenues were developed from the Authorities' proposed 1995 budget. The 1995 budgeted anticipated revenue contained numerous items which were adjusted to reflect the actual anticipated revenue for 1995. The 1995 UAJA budgeted revenue projections were adjusted as follows:

| | <u>1995 Budget</u> | <u>1995 Anticipated Revenues</u> |
|--|------------------------|--|
| <u>UAJA</u> | | |
| Sewage Treatment | \$4,918,400 | \$4,918,400 |
| Act 339 Reimbursement | 557,983 | 557,983 |
| Maintenance and Clerical Agreements | 710,128 | 710,128 |
| Interest on Investments | 219,648 | 0 |
| Miscellaneous Income | 1,000 | 0 |
| Compost Revenue | <u>25,000</u> | <u>25,000</u> |
| | \$6,432,159 | \$6,211,511 |

As can be noted, interest on investments and miscellaneous income were treated and categorized as other operating income.

The following tables reflect similar adjustments to the budgeted revenue for PFJA and CHJA as follows:

| | <u>1995 Budget</u> | <u>1995 Anticipated Revenues</u> |
|--------------------------------|------------------------|--|
| <u>PFJA</u> | | |
| Sewage Rental and Treatment | \$2,191,120 | \$2,191,120 |
| Pa. State University | 16,640 | 16,640 |
| CHJA Research Park | 34,000 | 34,000 |
| Tap Fees | 32,050 | 0 |
| Assessments | 17,636 | 0 |
| Inspection Fees | 12,500 | 12,500 |
| Borough Treatment | 127,328 | 127,328 |
| Act 339 | 9,673 | 9,673 |
| Borough Maintenance | 4,400 | 4,400 |
| CHJA and UAJA | 54,000 | 0 |
| Interest on Investments | 25,190 | 0 |
| Miscellaneous Income | 23,000 | 23,000 |
| PennDot | <u>5,600</u> | <u>0</u> |
| | \$2,553,137 | \$2,418,661 |

| | <u>1995 Budget</u> | <u>1995 Anticipated Revenues</u> |
|--------------------------------------|------------------------|--|
| <u>CHJA</u> | | |
| Sewage Rental | \$1,664,000 | \$1,664,000 |
| Tap Fees | 69,842 | 0 |
| Inspection Fees | 9,000 | 9,000 |
| Borough Maintenance and Treatment | 87,600 | 87,600 |
| Act 339 | 9,929 | 9,929 |
| Assessments | 145,651 | 0 |
| PennDot | 2,000 | 0 |
| Interest on Investments | 28,727 | 0 |
| Miscellaneous | <u>15,000</u> | <u>15,000</u> |
| | \$2,031,749 | \$1,785,529 |

Non-Operating Revenues

In the preliminary review of the 1993 through 1994 audited financial data for UAJA, PFJA, and CHJA, net income levels for the periods seemed adequate to cover the requirements of the trust indentures. However, after a complete review of the data, it became apparent that all three (3) Authorities are subsidizing operating revenues with other income to meet operating expenses and debt service requirements and to fund capital projects. If all other income (Act 339 Reimbursements, other revenues, interest on invested funds, and gain on bond redemptions) is eliminated from the financial data, all three Authorities would have operated at a deficit. While the utilization of non-operating revenues for purposes of complying with the Authorities' Rate Covenants is permitted under the Trust Indentures, a more conservative approach would be to treat non-operating revenues as a source of unappropriated earnings. As such, they can be used as a surplus fund or as a provision for contingencies. This procedure negates any undue reliance on non-operating revenues for purposes of meeting normal day-to-day

operating expenses. In this regard, **the cost of service should not reflect any miscellaneous non-operating revenues** and should only consider revenues derived from normal utility operations, that is, the sale of utility services for the purpose of meeting the total annual revenue requirements.

Operation and Maintenance Expenses

Operation and maintenance expenses constitute the principal component of the total revenue requirement. The Fiscal Year 1995 Budgets set forth these expenses by individual utility system. In order to permit development of cost of service based rates, revenue requirements, including operation and maintenance expenses, must be identified in sufficient detail. Generally, this identification is made in accordance with specific operating areas or cost centers of the utility. The UAJA, PFJA, and CHJA system of accounts categorizes the operation and maintenance expenses into broad operating areas. The total UAJA operating expenses are segregated into four broad categories: treatment plant expenses; clerical and maintenance expense directly applicable to PFJA; clerical and maintenance expense directly applicable to CHJA; and general Authority expense. However, these breakdowns are somewhat limited since they do not, for example, classify treatment plant operations by functional unit processes (flow, BOD, SS, etc.) nor do they specifically identify customer accounting, billing, or collection costs. The format of the operating expense chart of accounts influenced the method of analysis undertaken in this study. We would recommend that the system of accounts be expanded in more detail for future studies to provide the basis for a more specific cost allocation by function and class.

Debt Service and Depreciation Expense

The debt service requirements set forth in the adjusted budgetary data parallel their presentation in the audited financial statements. The statements of income and expense set forth in each Authority's audited financial statement in essence utilize three broad areas to represent total debt service; revenue bond interest; amortization of bond discount; and, depreciation. It appears that depreciation expense is used as a proxy for repayment of bond principal and to maintain at least a portion of the required debt service coverages. According to the audited financial statements, depreciation is determined by the use of the straight-line method at the annual rate of two (2) percent for UAJA plant and 1-1/2 percent for PFJA and CHJA system components and at rates varying from 10 percent to 20 percent for equipment and vehicles for all three Authorities. Annual depreciation expense does not appear in the Authorities' budgetary procedures. It has been included herein since the budget data has been recast into the audited financial statement format. The 1995 budget has utilized the 1994 depreciation expense as stated in the audited financial statements.

Debt Service Coverage

The Rate Covenants set forth in Section 5.01 of the UAJA and CHJA Authorities's Trust Indentures require that the annual revenue to be received from the sewer rates and other charges, together with other anticipated receipts and revenues from the sewage system, be sufficient to:

- i) pay the reasonable annual administrative expenses;
- ii) pay the reasonable annual operating expenses; and,
- iii) provide an annual amount at least equal to the annual debt

service principal and interest requirements plus an additional amount for coverage thereof.

The UAJA Rate Covenants require a 10 percent debt service coverage level while the CHJA Rate Covenant requires a 10 percent debt service coverage level. Each Rate Covenant contains additional caveats concerning mandatory payments to be made to certain reserve funds but these appear to have been most applicable during the initial years of the lives of the bond issues. It should be noted that PFJA does not currently have any long-term bond indebtedness.

As noted previously, at least a portion of the required debt service coverage has been recast as depreciation expense.

Revenue Requirements - Final Comments

It is appropriate to compare the revenue requirements developed by the rate making process with those based upon the financial statements approach. Such a comparison is set forth on the accompanying Schedule No. 12. As indicated on Schedule No. 12, both scenarios yield comparable results with the rate making format producing a slightly higher revenue requirement for all three (3) Authorities.

Other income, basically in the form of earnings on investment funds, does not enter into this comparison. As indicated on Schedule No. 12, and as previously discussed in this report, all three Authorities operate at a deficit when other income is not considered.

It is appropriate to establish the annual revenue requirements from a rate making approach to ensure that revenue received from general wastewater service provided is sufficient to meet the requirements of the Authorities. The annual revenue requirements

to be utilized herein may be summarized as follows:

| | |
|------|-------------|
| UAJA | \$6,250,781 |
| PFJA | 2,848,715 |
| CHJA | 2,368,653 |

Operating Costs as related to Sewage Flows

The UAJA's rate structure during 1995 was a volumetric rate of \$3,200 per million gallons, which was chargeable to PFJA, CHJA, and State College Borough for the treatment of sewage. This was UAJA's only source of operating income other than the direct reimbursement received from PFJA and CHJA for administrative, clerical, and overhead expenses.

The analysis of sewage flows and operating expense data for the fiscal years 1991 through 1994 revealed that the cost of treating wastewater flows has become a larger portion of the overall cost of operation for all three (3) Authorities. For example, based upon the 1986 annual revenue requirements for each Authority, the cost of wastewater treatment was approximately 44 percent of the total projected operating budget. The 1995 projected annual budget requires a significant annual revenue requirement to meet treatment costs and related expenses.

Cost Allocation Procedures - UAJA Costs

The usual methodology utilized in wastewater cost of service allocation studies is the classification of operating costs and capital costs according to the cost-causative functions performed for the customer by the wastewater system. In general, there are two (2) broad cost-causative functions, namely wastewater collection and wastewater treatment. These broad functions can usually be subdivided into costs which are

capacity-related, costs which are volume-or-flow related, costs which are BOD-related, costs which are suspended solids-related, and costs which are customer-related.

As noted previously in this report, it is difficult at this time to specifically identify BOD- and SS-related costs due in part to the manner in which day-to-day expenses are recorded. Additionally, as noted previously, all wastewater is presumed to be of similar strength, comparable to that of typical residential wastewater. Hence, this report will not utilize the BOD and the SS cost components but will rather consider the treatment function to be volume- and capacity-related.

Volume costs are those related to the actual flows tributary to and treated by the wastewater system. Capacity costs are those related to the physical size and capacity limits of the wastewater system. In usual circumstances, the capacity of a given wastewater system is larger than the actual wastewater volume which flows through and is treated by it.

The UAJA revenue requirement results from the costs and expenses incurred in providing sewage treatment services. The Spring Creek Pollution Control Facility is essentially operated on a "first come, first served" basis. That is, there is no specific reservation of treatment facility capacity for any given customer. Recognizing this, UAJA has throughout its history billed for its sewage treatment services on a purely volumetric basis. Hence, based on the \$6,250,781 revenue requirement set forth on Schedule 13 and the 1,688.803 million gallons of sewage flow, a unit volumetric treatment rate of \$3,700 per million gallons is applicable to all customers of the Spring Creek Water Pollution Control Facility.

The use of a unit volumetric treatment rate applied to all tributary flows will allow

UAJA to recover its revenue requirement. It will be necessary for PFJA, CHJA, and the Borough to each obtain revenues from their respective territorial customers in order to be able to make payments to UAJA. Cost allocations and rate design for CHJA and for PFJA are discussed in the following sections of this report.

Cost Allocation Procedures - PFJA and CHJA

For use in cost allocation to PFJA and CHJA, Schedule 13 has also allocated the UAJA revenue requirement to volume costs and to capacity costs. The volume costs include the operation and maintenance expenses and the operation margin since these items are related to the actual volume of flow treated by the Spring Creek Pollution Control Facility. The capacity costs include the debt service and coverage and the capital budget items since these costs are related to the physical size of the system. Schedule No. 13 shows that of the \$6,250,781 adjusted 1995 UAJA revenue requirement, \$2,806,097 is volume-related while \$3,444,684 is capacity-related.

Schedule No. 13 further allocates the UAJA volume and capacity costs to PFJA, CHJA, the Borough, and PSU based upon the flow data developed on Schedule No. 5. The total 1994 flow data was used to allocate the volume costs to the above-listed users while the maximum quarterly flows were used to allocate the capacity costs.

With respect to the capacity cost allocations, the percentages obtained from the 1994 maximum quarterly wastewater flows were compared with the percentages of estimated flow projections as developed by Gannett Fleming, Inc. for the years 1996 (Engineering Report on Financing Construction, June 1990) and 1998 (Engineering Report on Refunding Revenue Bonds, October 1993). This comparison may be summarized as follows:

| | <u>1994</u> <u>Maximum</u> | <u>1996</u> <u>Projection</u> | <u>1998</u> <u>Projection</u> |
|---------|-------------------------------|----------------------------------|----------------------------------|
| PFJA | 29.46% | 29.09% | 29.05% |
| CHJA | 21.55% | 20.61% | 22.30% |
| Borough | 48.70% | 50.30% | 48.65% |
| PSU | <u>0.29%</u> | <u>--</u> | <u>--</u> |
| | 100.00% | 100.00% | 100.00% |

As the above tabulation shows, the individual percentages in each column are notably similar to those in the other columns.

The 1995 revenue requirement for PFJA is allocated to volume, capacity, and customer cost components on Schedule No. 14. Similarly, the 1995 revenue requirement for CHJA is allocated to volume, capacity, and customer cost components on Schedule No. 15. Revenue requirement components on Schedule Nos. 14 and 15 are detailed by UAJA operation and maintenance expenses, individual PFJA or CHJA operation and maintenance expenses, operating margin, debt service requirement, and capital budget requirements. An allocation code is set forth on each of these schedules to indicate the basis of the allocations. The allocation codes are explained at the end of each of these schedules.

Basically, revenue requirement items which relate to the use of the system were allocated entirely to the volume cost component while items which relate to the physical size of the system were allocated entirely to the capacity cost component. Similarly, items which related directly to the preparation and processing of customer bills were allocated entirely to the customer cost component. Judgement was used to allocate several items such as office operation and office supplies equally to the volume and the

customer cost components. Supervisory labor costs and employee benefits and payroll taxes were allocated to the volume, capacity, and customer cost components on the basis of the composite allocation of all other operation and maintenance labor. Items such as trustee and board fees and miscellaneous expenses were allocated to the volume, capacity, and customer cost components on the basis of the composite allocation of all UAJA operation and maintenance expenses. The sewage treatment expenses were allocated to the volume and capacity cost components in accordance with the results of the allocation presented on Schedule No. 13. Finally, the operating margin was allocated to the volume, capacity, and customer cost components based on the composite allocation of the total operation and maintenance expenses.

The cost allocation developed on Schedule Nos. 14 and 15 may be summarized as follows:

| <u>Component</u> | <u>PFJA</u> | <u>CHJA</u> |
|------------------|---------------|---------------|
| Volume | \$1,383,066 | \$ 959,134 |
| Capacity | 1,371,469 | 1,349,694 |
| Customer | <u>94,180</u> | <u>59,825</u> |
| Total | \$2,848,715 | \$2,368,653 |

The above allocation by cost components allows for the development of preliminary customer rate schedules for both PFJA and CHJA. The development of these preliminary rate schedules will be discussed in the following section of this report.

Customer Rate Design - PFJA and CHJA

As noted earlier in this report, the principal objective of this study is the

determination of the cost of providing service to each class of customer and the determination of a system of rates which is fair, just, and equitable. Currently, both PFJA and CHJA bill their respective customers on an EDU basis. Essentially, an EDU basis recognizes the capacity of the sewerage system. That is, it charges customers based on the theoretical amount of sewage they could contribute to the system. However, it does not explicitly recognize the actual amount of sewage flow. As our studies progressed, it became apparent that a rate structure recognizing both capacity and volume would better address uniformity and equitability concerns than would the capacity based EDU rate structure. Accordingly, we have included both volume and capacity considerations in our preliminary rate design for PFJA and CHJA.

Our preliminary rates include both a customer charge and a volume charge. The customer charge includes the capacity cost and the customer cost components of the revenue requirement, while the volume charge includes the volume cost component of the revenue requirement. The use of both a customer charge and a volume charge will ease the movement from a EDU based rate to a volume/ capacity based rate structure and will also aid in assuring revenue stability for the Authorities.

In order to develop the customer charges by meter size, it was necessary for us to assign typical, or representative, water meter sizes to the system connections in both the PFJA and CHJA territories. This typical meter size assignment was based on information summarized from the water billing analyses obtained from the Lemont Water Company and the State College Borough Water Authority.

This assignment of typical water meter sizes to the reported number of PFJA connections is set forth on the first page of Schedule No. 16. Similarly, the assignment

of typical water meter sizes to the reported number of CHJA connections is set forth on the first page of Schedule No. 17. An equivalence factor was applied to the number of wastewater connections on both Schedule Nos. 16 and 17. This equivalence factor is based on water meter size and is related to the recommended maximum capacity of water meters as developed by the American Water Works Association. The use of an equivalence factor allows for the development of the number of equivalent meters. The number of equivalent meters, in turn, aids in the development of customer charges for each meter size.

The equivalent meter cost per month is developed on Page 1 of Schedule No. 16 for PFJA and on Page 1 of Schedule No. 17 for CHJA. The equivalent monthly meter cost is \$15.33 in PFJA and \$16.20 in CHJA; the difference in the equivalent monthly meter costs between the two (2) Authorities is only about 5.7 percent.

The development of the customer charges is set forth on the second page of Schedule No. 16 for PFJA and on the second page of Schedule No. 17 for CHJA. The previously discussed equivalence factor is applied to the monthly meter cost to obtain the customer charges by meter size. The customer charges are stated on monthly, quarterly, and annual bases. The customer charges in CHJA are generally about 5.7 percent greater than those in PFJA.

Page 2 of Schedule Nos. 16 and 17 respectively set forth the development of the volume charges applied in PFJA and CHJA. The volume component of the revenue requirement is divided by the applicable annual wastewater flow to obtain the volume charge. The CHJA volume charge of \$2.96 per thousand gallons is about 14.7 percent greater than the \$2.58 volume charge developed for PFJA.

Impact of Change to Volume Based Rate Schedule

In order to assess the impact of a change to a customer charge/volume charge rate schedule from an EDU based rate schedule, a comparison was made of typical annual bills which would occur under each methodology. This comparison is set forth on Schedule No. 18 for PFJA and on Schedule No. 19 for CHJA. As shown on these schedules, the typical residential customer in both PFJA and CHJA would face annual increases greater than 50 percent while for the most part large users would face decreases. Such a differential in the amount of increases and/or decreases is a common occurrence when the basics of a utility rate structure are changed. With any type of change other than an across-the-board increase, different customers can and will be impacted differently. The Authorities should consider the information set forth within this report and decide if they wish to continue existing practices or move to the volume based rate schedules. It should be noted that some of the increases are attributable to the utilization of rate making revenue requirements which are higher than would be experienced through the financial statement preparation approach (Schedule No. 12).

It is noted that based on the \$2,848,715 PFJA revenue requirement developed in this study, and the 535,904 thousand gallons of wastewater flow, the average cost is \$5.32 per thousand gallons. For a typical PFJA residential customer with 59,500 gallons of usage per year, a strictly volume based rate schedule would result in charges of \$316.54 per year (i.e., $59.5 \times \$5.32$). This is about 30 percent greater than the existing \$244 annual EDU based bill.

Similarly, based on the \$2,368,653 CHJA revenue requirement developed in this

study, and the 324,194 thousand gallons of wastewater flow, the average cost is \$7.31 per thousand gallons. For a typical CHJA residential customer with 60,900 gallons of usage per year, a strictly volume based rate schedule would result in charges of \$445.18 per year (i.e., 60.9 x \$7.31). This is about 71 percent greater than the existing \$260 annual EDU based bill.

* The above comparisons indicate in part that the larger users have been subsidizing the smaller residential users. However, it is further noted that the very small users (those using less than 5,800 gallons per quarter in PFJA and those using less than 5,600 gallons per quarter in CHJA) will actually pay a smaller charge under the volume/capacity based rate schedule than under the EDU based rate schedule. For example, a customer using 5,000 gallons per quarter in PFJA would be charged \$235.56 per year or \$8.44 less than the \$244 annual EDU based bill. Similarly, a customer using 5,000 gallons per quarter in CHJA would be charged \$253.60 per year or \$6.40 less than the \$260 annual EDU based bill. This simple comparison indicates that a combined volume/capacity based rate would be more fair, just, and equitable to the very small users than would the EDU based rate.

Closure

The studies discussed in this report have shown that the customer group revenue levels generated by the presently effective rate resolutions are not in agreement with the cost of service requirements determined herein. In general residential customers continue to receive a "break" in that PFJA and CHJA are generating more revenues from the commercial, industrial, and public customers than the cost of service study would indicate.

The studies and tariff design set forth herein are intended to provide reasonable alternatives for the Authorities' consideration. While such studies can provide useful guides, they are not necessarily meant to be the final words on the matter. Actual tariff design, in addition to relying on the results of cost of service analyses, should also include consideration of policy matters, impact of rate changes, stability of rate levels and structures, and judicial, regulatory, and contract requirements.

During the course of our study, it became apparent that the University Area Joint Authority physically operates as the predominate wastewater treatment provider for the Townships of College, Harris, Patton, and Ferguson and the Borough of State College. The UAJA wastewater treatment facilities, in all probability, will be continually expanded as development continues in the State College area.

Separate Authorities exist to oversee the collection and transmission of wastewater for treatment at the UAJA facilities. As a result, a redundancy of efforts exist in the operating and financial reporting requirements of UAJA, CHJA, and PFJA.

A consolidation of those efforts would allow all three (3) Authorities to realize the true effects of the economies of scale, eliminate needless paperwork, and establish a basis for a true regionalized wastewater system to provide service for the State College area.

Recommendations for Action

It is AUS Consultants's recommendation that the following actions be taken by the Boards to initiate volumetric based rates for PFJA and CHJA as follows:

1. Implement the recommended volume, capacity, and customer charge based rates for all customers as set forth on Schedules 13 (UAJA), 16

- (PFJA), and 17 (CHJA) once reliable billing data is established.
2. Direct that customer tariffs be produced setting forth the customer rate schedules for inclusion into a rate resolution and action by the Boards.
 3. Direct that additional work be undertaken to coordinate customer data bases between and among UAJA, PFJA, CHJA, Lemont Water Company, State College Borough Water Authority (SCBWA), and any other water purveyors. Development and coordination of the data bases will facilitate the obtaining of future water consumption data by billing period for each customer of PFJA and CHJA.
 4. Direct that specific customer billing data by meter size for all pertinent customers be obtained from SCBWA. This may require SCBWA to update or reconfigure its customer records/billing software.
 5. Direct that the cost of service parameters developed and set forth herein be utilized to establish customer rates based upon the projected 1996 Budgets for UAJA, PFJA, and CHJA.
 6. Direct that upon completion of Items 3, 4, and 5 outlined above, UAJA, PFJA, and CHJA will produce dual billings (EDU basis and volumetric basis) for a sufficient period of time to determine the long term reliability of the consumptive date.

Acknowledgement

The rather extensive data required for the various analyses contained herein was provided through the effort of Mr. David A. Allison, Executive Director, and the staff of the University Area Joint Authority. We would also like to acknowledge the efforts of the

Lemont Water Company and the State College Borough Water Authority for the assistance in retrieving the customer consumptive water data utilized in this study.

Without the concerted effort of all the parties, the successful completion of this report would have been accomplished through a greater degree of difficulty.

SECTION 2

Patton-Ferguson Joint Authority

Number of Connections

| | |
|--|--------------|
| <u>Residential:</u> | |
| Single Family Detached Homes | 3,311 |
| Apartment Buildings | 202 |
| Duplex | 186 |
| Mobile Home Parks & Single Mobile Homes | 37 |
| Townhomes | 809 |
| Rooming Units | 2 |
| | ----- |
| Total Residential | 4,547 |
| <u>Commercial:</u> | |
| Garages | 38 |
| Motels | 4 |
| Retail Stores | 69 |
| Restaurants | 36 |
| All Other Commercial | 195 |
| | ----- |
| Total Commercial | 342 |
| Industrial | 33 |
| Public Buildings Including Private Schools | 25 |
| | ----- |
| Total Connections | <u>4,947</u> |

College-Harris Joint Authority

Number of Connections

Residential:

| | |
|---|-------|
| Single Family Detached Homes | 3,143 |
| Apartment Buildings | 145 |
| Duplex | 21 |
| Mobile Home Parks & Single Mobile Homes | 9 |
| Townhomes | 63 |
| Rooming Units | 4 |
| | ----- |
| Total Residential | 3,385 |

Commercial:

| | |
|----------------------|-------|
| Garages | 27 |
| Motels | 7 |
| Retail Stores | 75 |
| Restaurants | 21 |
| All Other Commercial | 123 |
| | ----- |
| Total Commercial | 253 |

| | |
|------------|----|
| Industrial | 21 |
|------------|----|

| | |
|--|----|
| Public Buildings Including Private Schools | 25 |
|--|----|

| | |
|-------------------|--------------|
| Total Connections | ----- |
| | <u>3,684</u> |

University Area Joint AuthoritySummary of Customers and Consumption
For the Year Ended December 31, 1994

| Customer Classification | State College Water Authority | | Lemont Water Company | | Total Customer Base for University Area Joint Authority | |
|-------------------------|-------------------------------|-------------------|----------------------|-------------------|---|-------------------|
| | No. of Customers | Water Consumption | No. of Customers | Water Consumption | No. of Customers | Water Consumption |
| Residential | 9,554 | 1,175,422,000 | 1,928 | 128,075,000 | 11,482 | 1,303,497,000 |
| Residential - Unmetered | | | 20 | 0 | 20 | 0 |
| Total Residential | 9,554 | 1,175,422,000 | 1,948 | 128,075,000 | 11,502 | 1,303,497,000 |
| Commercial | 663 | 217,624,000 | 219 | 35,621,000 | 882 | 253,245,000 |
| Commercial - Unmetered | | | 1 | 0 | 1 | 0 |
| Total Commercial | 663 | 217,624,000 | 220 | 35,621,000 | 883 | 253,245,000 |
| Industrial | 38 | 35,600,000 | 12 | 35,219,000 | 50 | 70,819,000 |
| Public | 87 | 45,308,000 | 7 | 851,000 | 94 | 46,159,000 |
| Public - Unmetered | | | 1 | 0 | 1 | 0 |
| Total Public | 87 | 45,308,000 | 8 | 851,000 | 95 | 46,159,000 |
| Miscellaneous | 56 | 11,692,000 | | | 56 | 11,692,000 |
| Totals | 10,398 | 1,485,646,000 | 2,188 | 199,766,000 | 12,586 | 1,685,412,000 |

University Area Joint Authority

| | PFJA | CHJA | Boro | PSU | Total |
|-------------------------------------|----------|---------|---------|-------|---------|
| <u>1st Quarter:</u> | | | | | |
| As Reported by UAJA | 138,889 | 99,709 | 202,066 | 0 | 440,664 |
| Boro Invoiced by CHJA | | (2,151) | 2,151 | | 0 |
| CHJA Invoiced by Boro | | 1,004 | (1,004) | | 0 |
| Boro Discharge to Big Hollow | | | | | |
| 662.5 x 170 x 90 | (10,136) | | 10,136 | | 0 |
| Shamrock Estates | 210 | | (210) | | 0 |
| North Corl Street | | | | | |
| 5.5 x 170 x 90 | 84 | | (84) | | 0 |
| North Metering Chamber | | | | | |
| 177.5 x 170 x 90 | 2,716 | | (2,716) | | 0 |
| West Beaver Avenue | | | | | |
| 25.0 x 170 x 90 | 383 | | (383) | | 0 |
| Farm 13 | (1,250) | | | 1,250 | 0 |
| <u>Total 1st Quarter (Adjusted)</u> | | | | | |
| Total Flows | 130,896 | 98,562 | 209,956 | 1,250 | 440,664 |
| Percent | 29.70% | 22.37% | 47.65% | 0.28% | 100.00% |
| MGD | 1.454 | 1.095 | 2.333 | 0.014 | 4.896 |
| <u>2nd Quarter:</u> | | | | | |
| As Reported by UAJA | 137,254 | 71,611 | 217,624 | 0 | 426,489 |
| Boro Invoiced by CHJA | | (2,133) | 2,133 | | 0 |
| CHJA Invoiced by Boro | | 912 | (912) | | 0 |
| Boro Discharge to Big Hollow | | | | | |
| 662.5 x 162 x 91 | (9,767) | | 9,767 | | 0 |
| Shamrock Estates | 244 | | (244) | | 0 |
| North Corl Street | | | | | |
| 5.5 x 162 x 91 | 81 | | (81) | | 0 |
| North Metering Chamber | | | | | |
| 181.5 x 162 x 91 | 2,676 | | (2,676) | | 0 |
| West Beaver Avenue | | | | | |
| 25.0 x 162 x 91 | 369 | | (369) | | 0 |
| Farm 13 | (1,329) | | | 1,329 | 0 |
| <u>Total 2nd Quarter (Adjusted)</u> | | | | | |
| Total Flows | 129,528 | 70,390 | 225,242 | 1,329 | 426,489 |
| Percent | 30.37% | 16.51% | 52.81% | 0.31% | 100.00% |
| MGD | 1.423 | 0.774 | 2.475 | 0.015 | 4.687 |
| <u>3rd Quarter:</u> | | | | | |
| As Reported by UAJA | 145,928 | 82,247 | 182,214 | 0 | 410,389 |
| Boro Invoiced by CHJA | | (2,940) | 2,940 | | 0 |
| CHJA Invoiced by Boro | | 1,073 | (1,073) | | 0 |
| Boro Discharge to Big Hollow | | | | | |
| 662.5 x 170 x 92 | (10,362) | | 10,362 | | 0 |
| Shamrock Estates | 288 | | (288) | | 0 |
| North Corl Street | | | | | |
| 5.5 x 170 x 92 | 86 | | (86) | | 0 |
| North Metering Chamber | | | | | |
| 177.5 x 170 x 92 | 2,776 | | (2,776) | | 0 |
| West Beaver Avenue | | | | | |
| 25.0 x 170 x 92 | 391 | | (391) | | 0 |
| Farm 13 | (1,365) | | | 1,365 | 0 |
| <u>Total 3rd Quarter (Adjusted)</u> | | | | | |
| Total Flows | 137,742 | 80,380 | 190,902 | 1,365 | 410,389 |
| Percent | 33.56% | 19.59% | 46.52% | 0.33% | 100.00% |
| MGD | 1.497 | 0.874 | 2.075 | 0.015 | 4.461 |

University Area Joint Authority

| | PFJA | CHJA | Boro | PSU | Total |
|------------------------------|----------|---------|---------|-------|-----------|
| | ----- | ----- | ----- | ----- | ----- |
| <u>4th Quarter:</u> | | | | | |
| As Reported by UAJA | 145,445 | 76,361 | 189,455 | 0 | 411,261 |
| Boro Invoiced by CHJA | | (2,554) | 2,554 | | 0 |
| CHJA Invoiced by Boro | | 1,055 | (1,055) | | 0 |
| Boro Discharge to Big Hollow | | | | | |
| 664.5 x 171 x 92 | (10,454) | | 10,454 | | 0 |
| Shamrock Estates | 243 | | (243) | | 0 |
| North Corl Street | | | | | |
| 5.5 x 171 x 92 | 87 | | (87) | | 0 |
| North Metering Chamber | | | | | |
| 181.5 x 171 x 92 | 2,855 | | (2,855) | | 0 |
| West Beaver Avenue | | | | | |
| 25.0 x 171 x 92 | 393 | | (393) | | 0 |
| Farm 13 | (831) | | | 831 | 0 |
| | ----- | ----- | ----- | ----- | ----- |
| Total 4th Quarter (Adjusted) | | | | | |
| Total Flows | 137,738 | 74,862 | 197,830 | 831 | 411,261 |
| Percent | 33.49% | 18.20% | 48.11% | 0.20% | 100.00% |
| MGD | 1.497 | 0.814 | 2.150 | 0.009 | 4.470 |
| Grand Total (Adjusted) | | | | | |
| Total Flows | 535,904 | 324,194 | 823,930 | 4,775 | 1,688,803 |
| Percent | 31.73% | 19.20% | 48.79% | 0.28% | 100.00% |
| MGD | 1.468 | 0.888 | 2.257 | 0.013 | 4.626 |
| Max. Quarterly Use: | | | | | |
| MGD | 1.497 | 1.095 | 2.475 | 0.015 | 5.082 |
| Percent | 29.46% | 21.55% | 48.70% | 0.29% | 100.00% |

University Area Joint Authority

Revenue Requirement Based on the 1995 Budget

| | |
|------------------------------------|---------------------------|
| Operating and Maintenance Expenses | \$2,506,210 |
| Debt Service & Coverage | 2,872,566 |
| Capital Budget (Adjusted) | 572,118 |
| Operation Margin | 299,887 |
| Total 1995 Revenue Requirement | <u><u>\$6,250,781</u></u> |

University Area Joint Authority

1995 Budgeted Operating & Maintenance Expenses

| Expense Description | 1995 O & M Expenses (Budget) |
|---|---|
| <hr style="border-top: 1px dashed black;"/> | |
| <u>Plant Operating & Maintenance:</u> | |
| Maintenance of Buildings & Grounds | |
| Labor | \$43,000 |
| Supplies & Parts | 20,000 |
| Operation of Laboratory | |
| Labor | 24,500 |
| Laboratory Supplies | 3,140 |
| Parts | 1,000 |
| Consulting Fees | 150,000 |
| Maint. of Plant Equip. & Operating Systems | |
| Labor | 70,000 |
| Parts | 65,000 |
| Small Tools | 500 |
| Membership Fees | 100 |
| Bagged UAJA Compost - Purchase | 1,750 |
| Plant Operation | |
| Labor | 284,500 |
| Supplies | 9,760 |
| Uniforms | 2,000 |
| Solids Handling | |
| Labor | 135,000 |
| Maintenance | 10,000 |
| Amendment | 115,000 |
| Disposal of Grit | 20,000 |
| Supervision | |
| Labor | 107,794 |
| Management Fees | 7,900 |
| Training & Safety | |
| Labor | 5,000 |
| Seminars | 6,500 |
| Travel | 1,500 |
| Treatment Supplies | |
| Aluminum Sulfate-Phosphorous Removal | 114,000 |
| Chlorine-Disinfection | 8,000 |
| Polymer for concentrator | 40,000 |
| Sulphur Dioxide for Dechlorination | 3,000 |
| Defoaming & Odor Control Chemicals | 60,000 |
| Vehicle Expense | |
| Labor | 9,830 |
| Parts | 1,000 |
| Utilities | |
| Power for Plant Operation | 300,000 |
| Telephone | 2,500 |
| Insurance | 20,000 |
| Industrial Pretreatment Program | 61,000 |
| Overhead | 399,327 |
| | <hr style="border-top: 1px dashed black;"/> |
| Total Plant Operating & Maintenance | \$2,102,601 |

University Area Joint Authority

1995 Budgeted Operating & Maintenance Expenses

| Expense Description | 1995 O & M Expenses (Budget) |
|--------------------------------------|---------------------------------------|
| ----- | |
| <u>General & Administrative:</u> | |
| General Office Work | |
| Labor | \$47,000 |
| Other Expenses | 6,000 |
| Vacation/Sick Leave/Holiday | 171,710 |
| Employee Benefits | 230,000 |
| Retirement Program | 71,880 |
| Advertising | 500 |
| Audit, Legal & Trustee | 161,400 |
| Office & Garage Operation | |
| Labor | 15,000 |
| Electric Power | 4,800 |
| Equipment Maintenance | 2,367 |
| Supplies | 1,333 |
| Data Processing | 3,200 |
| Maintenance of Office Equipment | 3,600 |
| Payroll Taxes | 102,383 |
| Membership Fees | 2,800 |
| Office Supplies | 1,500 |
| Office Furniture & Equipment | 500 |
| Postage | 6,000 |
| Publication Expense | 500 |
| Supervision (Labor) | 21,400 |
| Training | |
| Labor | 2,000 |
| Seminar Fees | 600 |
| Utilities | |
| Telephone | 2,000 |
| Maintenance of Telephone System | 1,000 |
| Insurance | 130,391 |
| Travel | 700 |
| Employer/Employee Relations | 1,000 |
| Recruiting Expense | 500 |
| Bad Debts | 3,000 |
| Miscellaneous | 2,500 |
| | ----- |
| Total General & Administrative | \$997,564 |
| Deduct: | |
| PFJA and CHJA Direct Overhead | (593,955) |
| | ----- |
| Total UAJA Operating & Maint. Costs | <u>\$2,506,210</u> |

University Area Joint Authority

1995 Capital Budget

| Capital Description | 1995 Capital Budget | Adjustment | 1995 Capital Budget (Adjusted) |
|--|---------------------------|----------------------|---|
| Engineering Costs - 1990 Plant Expansion | \$50,000 | | \$50,000 |
| NPDES Permit - 316a Study | 78,750 | | 78,750 |
| Design of Septage Treatment Facility | 75,000 | (\$75,000) | 0 |
| Revisions to Compost Facility | 100,000 | | 100,000 |
| 1990 Construction of Expanded Facility | 300,000 | | 300,000 |
| Trees to Screen Compost Facility | 2,000 | | 2,000 |
| PFJA Capital Equipment & Construction | 126,916 | (126,916) | 0 |
| CHJA Capital Equipment & Construction | 122,541 | (122,541) | 0 |
| UAJA Capital Equipment | 41,368 | | 41,368 |
| Construct Septage Treatment Facility | 790,000 | (790,000) | 0 |
| Total | <u>\$1,686,575</u> | <u>(\$1,114,457)</u> | <u>\$572,118</u> |

Note: Capital budget costs related to the Septage Treatment Facility should be recovered from the users of that facility and not through the general wastewater treatment rate.

Capital equipment and construction items for PFJA and CHJA are recovered from the individual authorities' customers and not through the general UAJA wastewater treatment rate.

Patton-Ferguson Joint Authority

Revenue Requirement Based on the 1995 Budget

| | |
|------------------------------------|-------------------------------|
| Operating and Maintenance Expenses | \$2,207,611 |
| <u>Debt Service Requirement:</u> | |
| Loan | \$80,000 |
| 10% Coverage on Bonds | 8,000 |
| Total Debt Service Requirement | ----- \$88,000 |
| Capital Budget | \$177,290 |
| Operation Margin | \$160,236 |
| Total 1995 Revenue Requirement | ----- \$2,633,137 ----- |

Patton-Ferguson Joint Authority

1995 Budgeted Operating & Maintenance Expenses

| Expense Description | 1995 O & M Expenses (Budget) |
|---|---------------------------------------|
| <hr style="border-top: 1px dashed black;"/> | |
| <u>University Area Joint Authority Costs:</u> | |
| Operation of Authority's Office | |
| Labor | \$24,700 |
| Other | 4,500 |
| Assessment Program (Labor) | 500 |
| Billing | |
| Labor | 18,600 |
| Billing Cards | 350 |
| Engineering/Special Consultant | 2,000 |
| Advertising | 500 |
| Office & Garage Operation | |
| Labor | 15,000 |
| Other Costs | 8,500 |
| Data Processing (Supplies & Maint.) | 3,200 |
| Equipment Maintenance | |
| Labor | 300 |
| Parts | 6,800 |
| Small Tools | 500 |
| Main Line Inspection (Labor) | 24,600 |
| Inspection & Testing by Developers | |
| Labor | 7,300 |
| Other Costs | 1,000 |
| Office Supplies | 1,000 |
| Office Furniture & Equipment | 100 |
| Postage | 2,500 |
| Pump Station Maintenance | |
| Labor | 27,500 |
| Parts | 10,000 |
| Sewer Line Maintenance | |
| Labor | 40,000 |
| Other Costs | 9,000 |
| Supervision (Labor) | 20,500 |
| Training | |
| Labor | 4,000 |
| Seminar Fees | 2,500 |
| Travel | 1,000 |
| Vehicle Expense | |
| Labor | 5,000 |
| Parts | 4,000 |
| Utilities | |
| Telephone | 2,000 |
| Power (Pump Stations) | 5,500 |
| Insurance | 3,700 |
| Overhead Transfer (Employee Benefits) | 102,605 |
| | ----- |
| Total U.A.J.A. Costs | \$359,255 |

Patton-Ferguson Joint Authority

1995 Budgeted Operating & Maintenance Expenses

| Expense Description | 1995 O & M Expenses (Budget) |
|------------------------------|---------------------------------------|
| ----- | |
| Sewage Treatment | 1,689,600 |
| Insurance | 9,025 |
| Auditing | 3,800 |
| Engineering | 15,000 |
| Legal | 6,500 |
| Trustee | 675 |
| Salaries | 62,890 |
| Travel | 1,500 |
| Membership - P.M.A.A. | 1,350 |
| Sewer Use - W. Beaver Ave. | 3,455 |
| Sewer Use - N. Meter Station | 33,358 |
| Employee Benefits | 13,676 |
| Payroll Taxes | 4,665 |
| Board Fees | 840 |
| Miscellaneous | 2,022 |
| | ----- |
| Total | <u>\$2,207,611</u> |

Patton-Ferguson Joint Authority

1995 Capital Budget

| Capital Description | Total |
|---------------------------------|------------------|
| ----- | |
| <u>Capital Equipment:</u> | |
| Telemetry System w/PC | \$21,000 |
| Inspection Equipment | 275 |
| T-Tag Truck w/Crane Lift | 15,500 |
| 3" Electric Pump | 1,500 |
| Metal Detector | 425 |
| Traffic Safety Cones (50) | 275 |
| Wet Well Level Controller | 4,675 |
| Snow Thrower | 500 |
| Lawn Mower | 400 |
| Handheld Radios (2) | 1,000 |
| AS400 & Conversion Software | 20,666 |
| Copier | 3,300 |
| GIS Mapping System - Phase I | 50,000 |
| | ----- |
| Total Capital Equipment | \$119,516 |
| Cost of Service Study | 12,000 |
| Codefication of Policies, etc. | 30,000 |
| W. College/Murata Erie Crossing | 8,374 |
| New Construction | 7,400 |
| | ----- |
| Total | <u>\$177,290</u> |

College-Harris Joint Authority

Revenue Requirement Based on the 1995 Budget

| | |
|------------------------------------|-------------------------------|
| Operating and Maintenance Expenses | \$1,569,823 |
| <u>Debt Service Requirement:</u> | |
| Revenue Bonds | \$282,725 |
| 10% Coverage on Bonds | 28,273 |
| Total Debt Service Requirement | ----- \$310,998 |
| Capital Budget | \$267,541 |
| Operation Margin | \$20,791 |
| Total 1995 Revenue Requirement | ----- \$2,169,153 ----- |

College-Harris Joint Authority

1995 Budgeted Operating & Maintenance Expenses

| Expense Description | 1995 O & M Expenses (Budget) |
|---|---------------------------------------|
| ----- | |
| <u>University Area Joint Authority Costs:</u> | |
| Operation of Authority's Office | |
| Labor | \$24,000 |
| Other | 3,000 |
| Assessment Program (Labor) | 900 |
| Billing | |
| Labor | 10,000 |
| Billing Cards | 500 |
| Engineering/Special Consultant | 1,500 |
| Advertising | 500 |
| Office & Garage Operation | |
| Labor | 15,000 |
| Other Costs | 8,500 |
| Data Processing (Supplies & Maint.) | 3,600 |
| Equipment Maintenance | |
| Labor | 350 |
| Parts | 7,500 |
| Small Tools | 500 |
| Main Line Inspection (Labor) | 17,600 |
| Inspection & Testing by Developers | |
| Labor | 8,000 |
| Other Costs | 200 |
| Office Supplies | 1,000 |
| Office Furniture & Equipment | 100 |
| Postage | 2,100 |
| Pump Station Maintenance | |
| Labor | 45,000 |
| Parts | 25,000 |
| Sewer Line Maintenance | |
| Labor | 21,500 |
| Other Costs | 16,000 |
| Supervision (Labor) | 20,000 |
| Training | |
| Labor | 4,000 |
| Seminar Fees | 2,500 |
| Travel | 1,000 |
| Vehicle Expense | |
| Labor | 5,000 |
| Parts | 4,500 |
| Utilities | |
| Telephone | 2,000 |
| Power (Pump Stations) | 3,400 |
| Insurance | 3,600 |
| Miscellaneous | 500 |
| Overhead Transfer (Employee Benefits) | 92,023 |
| | ----- |
| Total U.A.J.A. Costs | \$350,873 |

College-Harris Joint Authority

1995 Budgeted Operating & Maintenance Expenses

| Expense Description | 1995 O & M Expenses (Budget) |
|---------------------------------|---------------------------------------|
| ----- | |
| Sewage Treatment | 1,081,600 |
| Purchased Power | 23,950 |
| Water | 50 |
| Insurance | 8,700 |
| Auditing | 3,800 |
| Engineering | 45,000 |
| Legal | 6,000 |
| Management Fees (P.F.J.A.) | 27,000 |
| Trustee | 2,200 |
| Travel | 1,000 |
| Membership - P.M.A.A. | 1,350 |
| Sewer Use - Borough | |
| Everhart Village & Vallamont II | 17,300 |
| Miscellaneous | 1,000 |
| | ----- |
| Total | <u>\$1,569,823</u> |

College-Harris Joint Authority

1995 Capital Budget

| Capital Description | Total |
|--------------------------------|------------------|
| ----- | |
| <u>Capital Equipment:</u> | |
| Telemetry System w/PC | \$21,000 |
| Inspection Equipment | 275 |
| T-Tag Truck w/Crane Lift | 15,500 |
| Pump Station Lid Replacement | 2,000 |
| 3" Electric Pump | 1,500 |
| Metal Detector | 425 |
| Traffic Safety Cones (50) | 275 |
| Snow Thrower | 500 |
| Lawn Mower | 400 |
| Handheld Radios (2) | 1,000 |
| AS400 & Conversion Software | 20,666 |
| Copier | 3,300 |
| GIS Mapping System - Phase I | 50,000 |
| | ----- |
| Total Capital Equipment | \$116,841 |
| Codefication of Policies, etc. | 30,000 |
| Revisions to Main Station | 115,000 |
| New Construction | 5,700 |
| | ----- |
| Total | <u>\$267,541</u> |

UNIVERSITY AREA JOINT AUTHORITY
COMPARITIVE BALANCE SHEET
DECEMBER 31,

| | <u>1994</u> | <u>1993</u> | <u>1992</u> |
|---|-------------------|-------------------|-------------------|
| ASSETS | | | |
| CURRENT ASSETS | | | |
| Cash and equivalents | 464,821 | 67,758 | 112,467 |
| Accounts receivable | 2,130,791 | 1,831,942 | 1,283,114 |
| Inventory | 8,643 | 6,159 | 3,670 |
| Trustee funds available for current needs | 2,193,919 | 962,841 | 283,954 |
| Total current assets | <u>4,798,174</u> | <u>2,868,700</u> | <u>1,683,205</u> |
| PROPERTY, PLANT AND EQUIPMENT | | | |
| Spring Creek Pollution Control Facility | 37,038,689 | 36,775,105 | 13,876,754 |
| Office-service building and equipment | 296,419 | 294,424 | 292,159 |
| Plant equipment and vehicles | 433,778 | 429,338 | 395,404 |
| Construction in progress | | | 22,473,258 |
| Total | <u>37,768,886</u> | <u>37,498,867</u> | <u>37,037,575</u> |
| Accumulated depreciation | (3,288,996) | (2,593,173) | (1,900,711) |
| Net property, plant and equipment | <u>34,479,890</u> | <u>34,905,694</u> | <u>35,136,964</u> |
| OTHER ASSETS | | | |
| Cash and investments held in Trustee restricted funds | 3,220,741 | 3,409,382 | 4,080,033 |
| Unamortized bond discount and expense | 5,716,626 | 5,938,534 | 1,430,293 |
| Deferred compensation fund | 166,898 | 140,971 | 116,243 |
| Spring Creek 316(a) Demonstration | 29,683 | | |
| Total other assets | <u>9,133,948</u> | <u>9,488,887</u> | <u>5,626,569</u> |
| Total assets | <u>48,412,012</u> | <u>47,263,281</u> | <u>42,446,638</u> |
| LIABILITIES AND EQUITY | | | |
| CURRENT LIABILITIES | | | |
| Accounts payable | 70,827 | 82,080 | 78,786 |
| Promissory note payable | | | 171,000 |
| Accrued interest payable | 329,615 | 330,425 | 805,744 |
| Construction costs payable | | 156,863 | 813,507 |
| Current portion of bonds payable | 485,000 | 180,000 | |
| Total current liabilities | <u>885,442</u> | <u>749,368</u> | <u>1,869,037</u> |
| LONG-TERM LIABILITIES | | | |
| Employees' deferred compensation payable | 166,898 | 140,971 | 116,243 |
| Sewer revenue bonds payable - Series of 1990 | | | 34,325,000 |
| Sewer revenue bonds payable - Series of 1993 | 40,460,000 | 40,945,000 | |
| 1993 original issue discount | (1,509,866) | (1,579,394) | |
| Net long-term liabilities | <u>39,117,032</u> | <u>39,506,577</u> | <u>34,441,243</u> |
| Total liabilities | <u>40,002,474</u> | <u>40,255,945</u> | <u>36,310,280</u> |
| EQUITY | | | |
| Capital contributed by participating municipalities | 500 | 500 | 500 |
| Contributions in aid of construction | 683,111 | 709,976 | 736,841 |
| Accumulated operating margin | 7,725,927 | 6,296,860 | 5,399,017 |
| Total equity | <u>8,409,538</u> | <u>7,007,336</u> | <u>6,136,358</u> |
| Total liabilities and equity | <u>48,412,012</u> | <u>47,263,281</u> | <u>42,446,638</u> |

**UNIVERSITY AREA JOINT AUTHORITY
COMPARATIVE STATEMENT OF REVENUE AND EXPENSES AND ACCUMULATED MARGIN
FOR THE YEARS ENDED DECEMBER 31,**

| | <u>1994</u> | <u>1993</u> | <u>1992</u> |
|---|------------------|------------------|------------------|
| OPERATING REVENUE | | | |
| Sewage treatment | 5,247,952 | 5,341,922 | 4,033,989 |
| Operation and maintenance agreements | 694,775 | 582,625 | 529,146 |
| Other services | 26,939 | 48,993 | 810 |
| Act 339 reimbursement | 772,339 | 343,630 | 48,172 |
| Total operating revenue | <u>6,742,005</u> | <u>6,317,170</u> | <u>4,612,117</u> |
| OPERATING EXPENSES | | | |
| Treatment plant (Schedule B-1) | 1,720,194 | 1,781,244 | 1,857,977 |
| Operation and maintenance (Schedule B-2) | | | |
| Patton-Ferguson Joint Authority | 350,133 | 291,607 | 286,582 |
| College-Harris Joint Authority | 345,369 | 291,442 | 243,526 |
| Total operating expenses | <u>2,415,696</u> | <u>2,364,293</u> | <u>2,388,085</u> |
| GROSS OPERATING MARGIN | <u>4,326,309</u> | <u>3,952,877</u> | <u>2,224,032</u> |
| GENERAL AUTHORITY EXPENSES (SCHEDULE B-3) | 244,470 | 131,579 | 224,797 |
| NET OPERATING MARGIN BEFORE DEPRECIATION AND DEBT SERVICE | <u>4,081,839</u> | <u>3,821,298</u> | <u>1,999,235</u> |
| DEPRECIATION | 695,823 | 692,463 | 303,103 |
| BOND INTEREST | 2,051,265 | 2,395,075 | 76,448 |
| AMORTIZATION OF BOND DISCOUNT/EXPENSE | 221,909 | 88,838 | |
| Total | <u>2,968,997</u> | <u>3,176,376</u> | <u>379,551</u> |
| NET OPERATING MARGIN | 1,112,842 | 644,922 | 1,619,684 |
| INTEREST EARNED | 278,026 | 226,056 | 158,636 |
| GAIN REALIZED ON MATURITY OF TRUSTEE INVESTMENTS | 11,334 | | |
| NET MARGIN | <u>1,402,202</u> | <u>870,978</u> | <u>1,778,320</u> |
| ADD DEPRECIATION ON FIXED ASSETS ACQUIRED BY GRANTS EXTERNALLY RESTRICTED FOR CAPITAL ACQUISITIONS | 26,865 | 26,865 | 26,865 |
| INCREASE IN ACCUMULATED OPERATING MARGIN | <u>1,429,067</u> | <u>897,843</u> | <u>1,805,185</u> |
| ACCUMULATED OPERATING MARGIN - JANUARY 1 | 6,296,860 | 5,399,017 | 3,593,832 |
| ACCUMULATED OPERATING MARGIN - DECEMBER 31 | <u>7,725,927</u> | <u>6,296,860</u> | <u>5,399,017</u> |

**PATTON-FERGUSON JOINT AUTHORITY
COMPARATIVE BALANCE SHEET
DECEMBER 31,**

| | <u>1994</u> | <u>1993</u> | <u>1992</u> |
|--|-------------------|-------------------|-------------------|
| ASSETS | | | |
| CURRENT ASSETS | | | |
| Cash and equivalents | 582,316 | 173,343 | 579,090 |
| Investments | 229,108 | | |
| Accounts Receivable | 601,009 | 579,055 | 514,380 |
| Trustee Funds available for current needs | | 434,739 | 76,870 |
| 1994 defeasance escrow | 1,916,157 | | |
| Total current assets | <u>3,328,590</u> | <u>1,187,137</u> | <u>1,170,340</u> |
| FIXED ASSETS | | | |
| Sanitary sewer system | 13,897,464 | 13,410,244 | 12,684,020 |
| Maintenance equipment | 188,830 | 172,971 | 171,548 |
| Office equipment and building | 197,545 | 197,531 | 197,281 |
| Total | <u>14,283,839</u> | <u>13,780,746</u> | <u>13,052,849</u> |
| Accumulated depreciation | 3,412,745 | 3,195,594 | 2,986,392 |
| Net fixed assets | <u>10,871,094</u> | <u>10,585,152</u> | <u>10,066,457</u> |
| OTHER ASSETS | | | |
| Cash and investment held in Trustee restricted funds | | 1,367,157 | 1,607,334 |
| Unamortized bond discount and expense | 51,852 | 55,841 | 59,828 |
| Organization expenses | 25 | 25 | 25 |
| Deferred compensation fund | 23,228 | 16,554 | 10,919 |
| Total other assets | <u>75,105</u> | <u>1,439,577</u> | <u>1,678,106</u> |
| Total assets | <u>14,274,789</u> | <u>13,211,866</u> | <u>12,914,903</u> |
| LIABILITIES AND EQUITY | | | |
| CURRENT LIABILITIES | | | |
| Accounts payable | 594,652 | 592,498 | 497,392 |
| Accrued interest payable | 57,746 | 58,988 | 61,325 |
| Current portion of long-term liabilities | 80,000 | 110,000 | 105,000 |
| Revenue bonds payable | 1,845,000 | | |
| Total current liabilities | <u>2,577,398</u> | <u>761,486</u> | <u>663,717</u> |
| LONG-TERM LIABILITIES | | | |
| Employees deferred compensation payable | 23,228 | 16,554 | 10,919 |
| Revenue bonds payable - Series of 1968 | | 1,910,000 | 1,990,000 |
| Revenue bonds payable - Series of 1994 | 800,000 | | |
| Less current portion included above | (80,000) | (110,000) | (105,000) |
| Net long-term liabilities | <u>743,228</u> | <u>1,816,554</u> | <u>1,895,919</u> |
| Total liabilities | <u>3,320,626</u> | <u>2,578,040</u> | <u>2,559,636</u> |
| EQUITY | | | |
| Contributions in aid of construction | 8,749,714 | 8,319,743 | 7,791,251 |
| Accumulated operating margin | 2,204,449 | 2,314,083 | 2,564,016 |
| Total equity | <u>10,954,163</u> | <u>10,633,826</u> | <u>10,355,267</u> |
| Total liabilities and equity | <u>14,274,789</u> | <u>13,211,866</u> | <u>12,914,903</u> |

**PATTON-FERGUSON JOINT AUTHORITY
COMPARATIVE STATEMENT OF REVENUE AND EXPENSES
FOR THE YEARS ENDED DECEMBER 31,**

| | <u>1994</u> | <u>1993</u> | <u>1992</u> |
|---|------------------|------------------|------------------|
| OPERATING REVENUE | | | |
| Sewer rentals and penalties | 2,069,444 | 2,207,094 | 1,939,290 |
| Waste water treatment for outside agencies | 165,443 | | |
| Act 339 reimbursement | 18,940 | 12,514 | 12,673 |
| Other revenues | 97,369 | 68,448 | 63,350 |
| Total operating revenue | <u>2,351,196</u> | <u>2,288,056</u> | <u>2,015,313</u> |
| OPERATING EXPENSES | | | |
| Audit, legal and trustee | 25,017 | 10,766 | 9,772 |
| Board fees | 670 | 700 | 700 |
| Employee benefits | 3,579 | 3,328 | 3,327 |
| Engineering | 6,776 | 11,798 | 2,774 |
| Insurance | 8,941 | 5,060 | 4,088 |
| Operation and maintenance | 340,397 | 276,069 | 265,695 |
| Membership dues - PMAA | 1,350 | 1,350 | 1,384 |
| Payroll taxes | 1,544 | 1,473 | 1,444 |
| Miscellaneous | 114 | 108 | 1,268 |
| Salaries | 18,666 | 17,761 | 19,530 |
| Treatment and sewer use | 1,847,030 | 1,980,631 | 1,512,517 |
| Travel and meetings | 520 | 400 | 400 |
| Depreciation | 217,151 | 209,202 | 201,485 |
| Total operating expenses | <u>2,471,755</u> | <u>2,518,646</u> | <u>2,024,384</u> |
| NET OPERATING MARGIN (DEFICIT) BEFORE DEBT SERVICES | <u>(120,559)</u> | <u>(230,590)</u> | <u>(9,071)</u> |
| DEBT SERVICE | | | |
| Revenue bond interest | 109,533 | 108,064 | 111,235 |
| Amortization of bond discount and expense | 3,989 | 3,989 | 3,989 |
| Total debt service | <u>113,522</u> | <u>112,053</u> | <u>115,224</u> |
| NET (DEFICIT) BEFORE OTHER INCOME | <u>(234,081)</u> | <u>(342,643)</u> | <u>(124,295)</u> |
| OTHER INCOME | | | |
| Interest earned on invested funds | 95,772 | 63,905 | 86,842 |
| Gain on early redemption of bonds | 125 | 255 | 2,098 |
| NET MARGIN | <u>(138,184)</u> | <u>(278,483)</u> | <u>(35,355)</u> |
| ADD DEPRECIATION ON FIXED ASSETS ACQUIRED BY GRANTS EXTERNALLY RESTRICTED FOR CAPITAL ACQUISITIONS | <u>28,550</u> | <u>28,550</u> | <u>28,550</u> |
| INCREASE (DECREASE) IN ACCUMULATED OPERATING MARGIN | <u>(109,634)</u> | <u>(249,933)</u> | <u>(6,805)</u> |

COLLEGE-HARRIS JOINT AUTHORITY
 COMPARATIVE BALANCE SHEET
 DECEMBER 31,

| | <u>1994</u> | <u>1993</u> | <u>1992</u> |
|--|-------------------|-------------------|-------------------|
| ASSETS | | | |
| CURRENT ASSETS | | | |
| Cash and equivalents | 165,257 | 144,921 | 265,884 |
| Accounts receivable | 538,282 | 520,729 | 381,043 |
| Trustee funds available for current needs | 285,196 | 410,848 | 166,032 |
| Total Current assets | <u>988,735</u> | <u>1,076,498</u> | <u>812,959</u> |
| FIXED ASSETS | | | |
| Sanitary sewer system | 17,206,122 | 16,952,465 | 16,030,483 |
| Maintenance equipment | 163,014 | 146,852 | 142,046 |
| Office equipment | 39,451 | 39,437 | 39,187 |
| Office building | 157,107 | 157,107 | 157,107 |
| Total | <u>17,565,694</u> | <u>17,295,861</u> | <u>16,368,823</u> |
| Accumulated depreciation | (4,496,342) | (4,230,110) | (3,971,420) |
| Net fixed assets | <u>13,069,352</u> | <u>13,065,751</u> | <u>12,397,403</u> |
| OTHER ASSETS | | | |
| Cash and investments held in Trustee restricted funds | 1,018,720 | 1,095,317 | 2,830,601 |
| Unamortized bond discount and expense | 55,745 | 58,813 | 61,882 |
| Total other assets | <u>1,074,465</u> | <u>1,154,130</u> | <u>2,892,483</u> |
| Total assets | <u>15,132,552</u> | <u>15,296,379</u> | <u>16,102,845</u> |
| LIABILITIES AND EQUITY | | | |
| CURRENT LIABILITIES | | | |
| Accounts payable | 355,211 | 608,970 | 544,551 |
| Bond interest payable | 73,930 | 77,136 | 106,435 |
| Note payable | 140,000 | 54,436 | 69,000 |
| Current portion of long-term liabilities | 140,000 | 135,000 | 1,125,000 |
| Total current liabilities | <u>569,141</u> | <u>875,542</u> | <u>1,844,986</u> |
| LONG-TERM LIABILITIES | | | |
| Sewer Revenue Bonds - Series of 1973 | 2,455,000 | 2,590,000 | 3,615,000 |
| Less current portion included above | (140,000) | (135,000) | (1,125,000) |
| Long-term liabilities | <u>2,315,000</u> | <u>2,455,000</u> | <u>2,490,000</u> |
| Total liabilities | <u>2,884,141</u> | <u>3,330,542</u> | <u>4,334,986</u> |
| EQUITY | | | |
| Contributions in aid of construction | 10,899,062 | 10,526,219 | 10,201,715 |
| Accumulated operating margin | 1,349,349 | 1,439,618 | 1,566,144 |
| Total equity | <u>12,248,411</u> | <u>11,965,837</u> | <u>11,767,859</u> |
| Total liabilities and equity | <u>15,132,552</u> | <u>15,296,379</u> | <u>16,102,845</u> |

COLLEGE-HARRIS JOINT AUTHORITY
COMPARATIVE STATEMENT AND EXPENSES
FOR THE YEARS ENDED DECEMBER 31,

| | <u>1994</u> | <u>1993</u> | <u>1992</u> |
|---|------------------------|-------------------------|-------------------------|
| OPERATING REVENUE | | | |
| Sewer rentals | 1,647,284 | 1,566,486 | 1,296,823 |
| Act 339 reimbursement | 17,948 | 13,071 | 9,820 |
| Maintenance and operation | 66,516 | 73,128 | 33,000 |
| Other operating revenue | 41,661 | 43,792 | 31,481 |
| Total operating revenue | <u>1,773,409</u> | <u>1,696,477</u> | <u>1,371,124</u> |
| OPERATING EXPENSES | | | |
| Audit, legal and trustee | 12,063 | 12,192 | 11,951 |
| Engineering | 58,098 | 15,236 | 12,063 |
| Insurance | 8,620 | 6,789 | 5,920 |
| Operation and maintenance | 383,554 | 279,752 | 234,621 |
| Sewage treatment | 1,051,976 | 1,130,095 | 1,077,170 |
| Utilities | 23,517 | 20,283 | 14,081 |
| Management | 26,467 | 25,431 | 25,664 |
| Interest expenses | 1,515 | 6,006 | |
| Depreciation | 6,694 | 19,613 | 1,232 |
| | 266,232 | 258,689 | 250,226 |
| Total operating expenses | <u>1,838,736</u> | <u>1,774,086</u> | <u>1,632,928</u> |
| NET OPERATING (DEFICIT) MARGIN BEFORE DEBT SERVICE EXPENSE | (65,327) | (77,609) | (261,804) |
| DEBT SERVICE EXPENSE | | | |
| Revenue bond interest | 140,619 | 148,204 | 207,771 |
| Amortization of bond discount | 3,068 | 3,068 | 3,068 |
| Total debt service expense | <u>143,687</u> | <u>151,272</u> | <u>210,839</u> |
| NET (DEFICIT) MARGIN BEFORE OTHER INCOME | (209,014) | (228,881) | (472,643) |
| OTHER INCOME | | | |
| Interest earned on investing funds | 63,027 | 46,637 | 126,281 |
| Total other income | <u>63,027</u> | <u>46,637</u> | <u>126,281</u> |
| NET (DEFICIT) MARGIN | (145,987) | (182,244) | (346,362) |
| ADD DEPRECIATION ON FIXED ASSETS ACQUIRED BY GRANTS EXTERNALLY RESTRICTED FOR CAPITAL ACQUISITIONS | 55,718 | 55,718 | 55,718 |
| INCREASE (DECREASE) IN ACCUMULATED OPERATING MARGIN | <u>(90,269)</u> | <u>(126,526)</u> | <u>(290,644)</u> |

University Area Joint Authority

Comparison of Revenue Requirement Scenarios

1995 Rate Making Revenue Requirements

| | UAJA | PFJA | CHJA |
|----------------------------------|--------------------|--------------------|--------------------|
| | ----- | ----- | ----- |
| Operating & Maintenance Expenses | \$2,506,210 | \$2,423,189 | \$1,769,323 |
| Debt Service & Coverage | 2,872,566 | 88,000 | 310,998 |
| Capital Budget | 572,118 | 177,290 | 267,541 |
| Operation Margin | 299,887 | 160,236 | 20,791 |
| Total Revenue Requirements | <u>\$6,250,781</u> | <u>\$2,848,715</u> | <u>\$2,368,653</u> |

1995 Revenue Requirements Based Upon Financial Statement Presentation

| | UAJA | PFJA | CHJA |
|----------------------------------|--------------------|--------------------|--------------------|
| | ----- | ----- | ----- |
| Operating & Maintenance Expenses | \$2,506,210 | \$2,207,611 | \$1,569,823 |
| Depreciation | 668,958 | 188,601 | 210,514 |
| Debt Service & Coverage | 2,872,566 | 130,250 | 310,997 |
| Total Revenue Requirements | <u>\$6,047,734</u> | <u>\$2,526,462</u> | <u>\$2,091,334</u> |
| Excess Revenue | \$203,047 | \$322,253 | \$277,319 |

University Area Joint Authority

Revenue Requirement Based on the 1995 Budget

| | |
|---|---------------------------|
| Operating and Maintenance Expenses | \$2,506,210 |
| Debt Service & Coverage | 2,872,566 |
| Capital Budget | 572,118 |
| Operation Margin | 299,887 |
| Total 1995 Revenue Requirement (Adjusted) | <u><u>\$6,250,781</u></u> |

Development of Uniform Volumetric Treatment Rate:

| | |
|------------------------------|-------------------|
| \$6,250,781 ÷ 1,688.803 mg - | \$3,701.31 per mg |
| Use: | \$3,700.00 per mg |

Volume and Capacity Allocations for Use in Schedules 14 & 15:

Volume: \$2,806,097 (\$2,506,210+\$299,887):

| | Percent | Dollars |
|--------|---------|-------------|
| | ----- | ----- |
| PFJA | 31.73% | \$890,374 |
| CHJA | 19.20% | 538,771 |
| Boro | 48.79% | 1,369,095 |
| PSU | 0.28% | 7,857 |
| | ----- | ----- |
| Totals | 100.00% | \$2,806,097 |

Capacity: \$3,444,684 (\$2,872,566+\$572,118):

| | Percent | Dollars |
|--------|---------|-------------|
| | ----- | ----- |
| PFJA | 29.46% | \$1,014,804 |
| CHJA | 21.55% | 742,329 |
| Boro | 48.70% | 1,677,561 |
| PSU | 0.29% | 9,990 |
| | ----- | ----- |
| Totals | 100.00% | \$3,444,684 |

Patton-Ferguson Joint Authority

Allocation of the 1995 Revenue Requirement to
Volume, Capacity and Customer Cost Functions

| Description | 1995 Revenue Requirement | Allocation Code | ----- Volume | Costs Allocated to Capacity | ----- Customer |
|--|--------------------------------|--------------------|-----------------|--------------------------------|-------------------|
| <u>Operating & Maintenance Expenses:</u> | | | | | |
| University Area Joint Authority Expenses: | | | | | |
| Assessment Program (Labor) | \$500 | 3 | \$0 | \$0 | \$500 |
| Billing | | | | | |
| Labor | 18,600 | 3 | 0 | 0 | 18,600 |
| Billing Cards | 350 | 3 | 0 | 0 | 350 |
| Engineering/Special Consultant | 2,000 | 1 | 2,000 | 0 | 0 |
| Office & Garage Operation | | | | | |
| Labor | 15,000 | 4 | 7,500 | 0 | 7,500 |
| Other Costs | 8,500 | 4 | 4,250 | 0 | 4,250 |
| Data Processing (Supplies & Maint.) | 3,200 | 3 | 0 | 0 | 3,200 |
| Equipment Maintenance | | | | | |
| Labor | 300 | 1 | 300 | 0 | 0 |
| Parts | 6,800 | 1 | 6,800 | 0 | 0 |
| Small Tools | 500 | 1 | 500 | 0 | 0 |
| Main Line Inspection (Labor) | 24,600 | 1 | 24,600 | 0 | 0 |
| Inspection & Testing by Developers | | | | | |
| Labor | 7,300 | 2 | 0 | 7,300 | 0 |
| Other Costs | 1,000 | 2 | 0 | 1,000 | 0 |
| Office Supplies | 1,000 | 4 | 500 | 0 | 500 |
| Office Furniture & Equipment | 100 | 4 | 50 | 0 | 50 |
| Postage | 2,500 | 3 | 0 | 0 | 2,500 |
| Pump Station Maintenance | | | | | |
| Labor | 27,500 | 1 | 27,500 | 0 | 0 |
| Parts | 10,000 | 1 | 10,000 | 0 | 0 |
| Sewer Line Maintenance | | | | | |
| Labor | 40,000 | 1 | 40,000 | 0 | 0 |
| Other Costs | 9,000 | 1 | 9,000 | 0 | 0 |
| Vehicle Expense | | | | | |
| Labor | 5,000 | 1 | 5,000 | 0 | 0 |
| Parts | 4,000 | 1 | 4,000 | 0 | 0 |
| Utilities | | | | | |
| Telephone | 2,000 | 4 | 1,000 | 0 | 1,000 |
| Power (Pump Stations) | 5,500 | 1 | 5,500 | 0 | 0 |
| Insurance - Vehicle & Liability | 2,575 | 1 | 2,575 | 0 | 0 |
| Insurance - Radio Tower | 100 | 1 | 100 | 0 | 0 |
| Insurance - Office Building | 500 | 4 | 250 | 0 | 250 |
| Insurance - Computer | 125 | 4 | 62 | 0 | 63 |
| Insurance - Inland Marine Casualty | 400 | 4 | 200 | 0 | 200 |
| Operation of Authority's Office | | | | | |
| Labor | 24,700 | 5 | 18,668 | 1,299 | 4,733 |
| Other | 4,500 | 5 | 3,401 | 237 | 862 |
| Supervision (Labor) | 20,500 | 5 | 15,494 | 1,078 | 3,928 |
| Training | | | | | |
| Labor | 4,000 | 5 | 3,023 | 210 | 767 |
| Seminar Fees | 2,500 | 5 | 1,890 | 131 | 479 |
| Overhead Transfer (Employee Benefits) | 102,605 | 5 | 77,549 | 5,397 | 19,659 |
| Advertising | 500 | 6 | 380 | 23 | 97 |
| Travel | 1,000 | 6 | 759 | 47 | 194 |
| | ----- | | ----- | ----- | ----- |
| Total U.A.J.A. O&M Expenses | \$359,255 | | \$272,851 | \$16,722 | \$69,682 |
| Percent | 100.00% | | 75.95% | 4.65% | 19.40% |

Patton-Ferguson Joint Authority

Allocation of the 1995 Revenue Requirement to
Volume, Capacity and Customer Cost Functions

| Description | 1995 | | Costs Allocated to | | |
|--|---------------------|-----------------|--------------------|--------------------|-----------------|
| | Revenue Requirement | Allocation Code | Volume | Capacity | Customer |
| <u>Operating & Maintenance Expenses (cont.):</u> | | | | | |
| Sewage Treatment | 1,905,178 | 7 | 890,374 | 1,014,804 | 0 |
| Insurance - Liability | 8,700 | 1 | 8,700 | 0 | 0 |
| Insurance - Workers Comp. | 325 | 6 | 246 | 17 | 62 |
| Engineering | 15,000 | 1 | 15,000 | 0 | 0 |
| Sewer Use - W. Beaver Ave. | 3,455 | 1 | 3,455 | 0 | 0 |
| Sewer Use - N. Meter Station | 33,358 | 1 | 33,358 | 0 | 0 |
| Auditing | 3,800 | 6 | 2,886 | 177 | 737 |
| Legal | 6,500 | 6 | 4,937 | 302 | 1,261 |
| Trustee | 675 | 6 | 513 | 31 | 131 |
| Travel | 1,500 | 6 | 1,139 | 70 | 291 |
| Membership - P.M.A.A. | 1,350 | 6 | 1,025 | 63 | 262 |
| Salaries | 62,890 | 5 | 47,532 | 3,308 | 12,050 |
| Employee Benefits | 13,676 | 5 | 10,336 | 720 | 2,620 |
| Payroll Taxes | 4,665 | 5 | 3,526 | 245 | 894 |
| Board Fees | 840 | 6 | 638 | 39 | 163 |
| Miscellaneous - Connections | 1,022 | 2 | 0 | 1,022 | 0 |
| Miscellaneous - Other | 1,000 | 6 | 760 | 46 | 194 |
| Total Operating & Maintenance Expenses | \$2,423,189 | | \$1,297,276 | \$1,037,566 | \$88,347 |
| Percent | 100.00% | | 53.54% | 42.82% | 3.64% |
| Operation Margin | \$160,236 | 8 | 85,790 | 68,613 | 5,833 |
| <u>Debt Service Requirement:</u> | | | | | |
| Loan | \$80,000 | 2 | \$0 | \$80,000 | \$0 |
| 10% Coverage | 8,000 | 2 | 0 | 8,000 | 0 |
| Total Debt Service Requirement | \$88,000 | | \$0 | \$88,000 | \$0 |
| Capital Budget | \$177,290 | 2 | \$0 | \$177,290 | \$0 |
| Total Revenue Requirement | \$2,848,715 | | \$1,383,066 | \$1,371,469 | \$94,180 |
| Percent | 100.00% | | 48.55% | 48.14% | 3.31% |

Explanation of Allocation Codes:

- | Code | Description |
|------|---|
| 1 | Allocates entirely to Volume Component. |
| 2 | Allocates entirely to Capacity Component. |
| 3 | Allocates entirely to Customer Component. |
| 4 | Allocates 50% to Volume Component and 50% to Customer Component. |
| 5 | Allocates to Volume, Capacity, and Customer Components based on the composite allocation of all previous labor items. |
| 6 | Allocates to Volume, Capacity, and Customer Components based on the composite allocation of all UAJA Operating & Maintenance Expenses. |
| 7 | Sewage treatment allocation is based on separate analyses (Schedule 13). |
| 8 | Allocates to Volume, Capacity, and Customer Components based on the composite allocation of all Total Operating & Maintenance Expenses. |

College-Harris Joint Authority

Allocation of the 1995 Revenue Requirement to
Volume, Capacity and Customer Cost Functions

| Description | 1995 | | Costs Allocated to | | |
|--|---------------------|-----------------|--------------------|-----------------|-----------------|
| | Revenue Requirement | Allocation Code | Volume | Capacity | Customer |
| Operating & Maintenance Expenses: | | | | | |
| University Area Joint Authority Expenses: | | | | | |
| Assessment Program (Labor) | \$900 | 3 | \$0 | \$0 | \$900 |
| Billing | | | | | |
| Labor | 10,000 | 3 | 0 | 0 | 10,000 |
| Billing Cards | 500 | 3 | 0 | 0 | 500 |
| Engineering/Special Consultant | 1,500 | 1 | 1,500 | 0 | 0 |
| Office & Garage Operation | | | | | |
| Labor | 15,000 | 4 | 7,500 | 0 | 7,500 |
| Other Costs | 8,500 | 4 | 4,250 | 0 | 4,250 |
| Data Processing (Supplies & Maint.) | 3,600 | 3 | 0 | 0 | 3,600 |
| Equipment Maintenance | | | | | |
| Labor | 350 | 1 | 350 | 0 | 0 |
| Parts | 7,500 | 1 | 7,500 | 0 | 0 |
| Small Tools | 500 | 1 | 500 | 0 | 0 |
| Main Line Inspection (Labor) | 17,600 | 1 | 17,600 | 0 | 0 |
| Inspection & Testing by Developers | | | | | |
| Labor | 8,000 | 2 | 0 | 8,000 | 0 |
| Other Costs | 200 | 2 | 0 | 200 | 0 |
| Office Supplies | 1,000 | 4 | 500 | 0 | 500 |
| Office Furniture & Equipment | 100 | 4 | 50 | 0 | 50 |
| Postage | 2,100 | 3 | 0 | 0 | 2,100 |
| Pump Station Maintenance | | | | | |
| Labor | 45,000 | 1 | 45,000 | 0 | 0 |
| Parts | 25,000 | 1 | 25,000 | 0 | 0 |
| Sewer Line Maintenance | | | | | |
| Labor | 21,500 | 1 | 21,500 | 0 | 0 |
| Other Costs | 16,000 | 1 | 16,000 | 0 | 0 |
| Vehicle Expense | | | | | |
| Labor | 5,000 | 1 | 5,000 | 0 | 0 |
| Parts | 4,500 | 1 | 4,500 | 0 | 0 |
| Utilities | | | | | |
| Telephone | 2,000 | 4 | 1,000 | 0 | 1,000 |
| Power (Pump Stations) | 3,400 | 1 | 3,400 | 0 | 0 |
| Insurance - Vehicle & Liability | 2,800 | 1 | 2,800 | 0 | 0 |
| Insurance - Radio Tower | 100 | 1 | 100 | 0 | 0 |
| Insurance - Office Building | 200 | 4 | 100 | 0 | 100 |
| Insurance - Computer | 150 | 4 | 75 | 0 | 75 |
| Insurance - Inland Marine Casualty | 350 | 4 | 175 | 0 | 175 |
| Operation of Authority's Office | | | | | |
| Labor | 24,000 | 5 | 18,864 | 1,555 | 3,581 |
| Other | 3,000 | 5 | 2,358 | 194 | 448 |
| Supervision (Labor) | 20,000 | 5 | 15,720 | 1,296 | 2,984 |
| Training | | | | | |
| Labor | 4,000 | 5 | 3,144 | 259 | 597 |
| Seminar Fees | 2,500 | 5 | 1,965 | 162 | 373 |
| Overhead Transfer (Employee Benefits) | 92,023 | 5 | 72,330 | 5,963 | 13,730 |
| Advertising | 500 | 6 | 400 | 25 | 75 |
| Travel | 1,000 | 6 | 799 | 51 | 150 |
| Miscellaneous | 500 | 6 | 400 | 25 | 75 |
| Total U.A.J.A. O&M Expenses | \$350,873 | | \$280,380 | \$17,730 | \$52,763 |
| Percent | 100.00% | | 79.91% | 5.05% | 15.04% |

College-Harris Joint Authority

Allocation of the 1995 Revenue Requirement to
Volume, Capacity and Customer Cost Functions

| Description | 1995 | | ----- Volume | ----- Costs Allocated to Capacity | | ----- Customer |
|--|------------------------|--------------------|-----------------|---|--|-------------------|
| | Revenue Requirement | Allocation Code | | | | |
| <u>Operating & Maintenance Expenses (cont.):</u> | | | | | | |
| Sewage Treatment | 1,281,100 | 7 | 538,771 | 742,329 | | 0 |
| Purchased Power | 23,950 | 1 | 23,950 | 0 | | 0 |
| Water | 50 | 1 | 50 | 0 | | 0 |
| Insurance | 8,700 | 1 | 8,700 | 0 | | 0 |
| Engineering | 45,000 | 1 | 45,000 | 0 | | 0 |
| Sewer Use - Borough | | | | | | |
| Everhart Village & Vallamont II | 17,300 | 1 | 17,300 | 0 | | 0 |
| Auditing | 3,800 | 6 | 3,037 | 192 | | 571 |
| Legal | 6,000 | 6 | 4,795 | 303 | | 902 |
| Management Fees (P.F.J.A.) | 27,000 | 6 | 21,576 | 1,363 | | 4,061 |
| Trustee | 2,200 | 6 | 1,758 | 111 | | 331 |
| Travel | 1,000 | 6 | 799 | 51 | | 150 |
| Membership - P.M.A.A. | 1,350 | 6 | 1,079 | 68 | | 203 |
| Miscellaneous | 1,000 | 6 | 799 | 51 | | 150 |
| | ----- | | ----- | ----- | | ----- |
| Total Operating & Maintenance Expenses | \$1,769,323 | | \$947,994 | \$762,198 | | \$59,131 |
| Percent | 100.00% | | 53.58% | 43.08% | | 3.34% |
| Operation Margin | \$20,791 | 8 | \$11,140 | \$8,957 | | \$694 |
| <u>Debt Service Requirement:</u> | | | | | | |
| Revenue Bonds | \$282,725 | 2 | \$0 | \$282,725 | | \$0 |
| 10% Coverage | 28,273 | 2 | 0 | 28,273 | | 0 |
| | ----- | | ----- | ----- | | ----- |
| Total Debt Service Requirement | \$310,998 | | \$0 | \$310,998 | | \$0 |
| Capital Budget | \$267,541 | 2 | \$0 | \$267,541 | | \$0 |
| | ----- | | ----- | ----- | | ----- |
| Total Revenue Requirement | \$2,368,653 | | \$959,134 | \$1,349,694 | | \$59,825 |
| | ===== | | ===== | ===== | | ===== |
| Percent | 100.00% | | 40.49% | 56.98% | | 2.53% |

Explanation of Allocation Codes:

| Code | Description |
|------|---|
| 1 | Allocates entirely to Volume Component. |
| 2 | Allocates entirely to Capacity Component. |
| 3 | Allocates entirely to Customer Component. |
| 4 | Allocates 50% to Volume Component and 50% to Customer Component. |
| 5 | Allocates to Volume, Capacity, and Customer Components based on the composite allocation of all previous labor items. |
| 6 | Allocates to Volume, Capacity, and Customer Components based on the composite allocation of all UAJA Operating & Maintenance Expenses. |
| 7 | Sewage treatment allocation is based on separate analyses (Schedule 13). |
| 8 | Allocates to Volume, Capacity, and Customer Components based on the composite allocation of all Total Operating & Maintenance Expenses. |

Patton-Ferguson Joint Authority

Calculation of Equivalent Meter Costs

| Class | No. of Customers | Typical Meter Size | Factor | Equivalent Meters |
|----------------------------|------------------|--------------------|--------|-------------------|
| <u>Residential:</u> | | | | |
| Single Family | 3,311 | 5/8" | 1.0 | 3,311.0 |
| Apartment Buildings | 202 | 2" | 8.0 | 1,616.0 |
| Duplexes | 186 | 1" | 2.5 | 465.0 |
| Mobile home Parks | 37 | 1" | 2.5 | 92.5 |
| Townhomes | 809 | 5/8" | 1.0 | 809.0 |
| Rooming Units | 2 | 5/8" | 1.0 | 2.0 |
| <u>Commercial:</u> | | | | |
| Garages | 38 | 5/8" | 1.0 | 38.0 |
| Motels | 4 | 1 1/2" | 5.0 | 20.0 |
| Retail Stores | 69 | 5/8" | 1.0 | 69.0 |
| Restaurants | 36 | 1 1/2" | 5.0 | 180.0 |
| Other | 195 | 1 1/2" | 5.0 | 975.0 |
| Industrial | 33 | 2" | 8.0 | 264.0 |
| Public Buildings & Schools | 25 | 1 1/2" | 5.0 | 125.0 |
| Totals | 4,947 | | | 7,966.5 |

| | |
|---------------------------------|-------------|
| Cost Allocation: Capacity | \$1,371,469 |
| Customer | 94,180 |
| | ----- |
| | \$1,465,649 |
| Divide by: | |
| No. of Equivalent Meters | 7,966.5 |
| | ----- |
| Equivalent Meter Cost Per Year | \$183.98 |
| Equivalent Meter Cost Per Month | \$15.33 |

Patton-Ferguson Joint Authority

Rate Design

Customer Charges Based on Meter Size:

| Meter Size | Factor | Monthly Charge | Quarterly Charge | Annual Charge |
|------------|--------|----------------|------------------|---------------|
| 5/8" | 1.0 | \$15.33 | \$45.99 | \$183.96 |
| 3/4" | 1.5 | 23.00 | 69.00 | 276.00 |
| 1" | 2.5 | 38.33 | 114.99 | 459.96 |
| 1 1/2" | 5.0 | 76.65 | 229.95 | 919.80 |
| 2" | 8.0 | 122.64 | 367.92 | 1,471.68 |
| 3" | 15.0 | 229.95 | 689.85 | 2,759.40 |
| 4" | 25.0 | 383.25 | 1,149.75 | 4,599.00 |
| 6" | 50.0 | 766.50 | 2,299.50 | 9,198.00 |
| 8" | 80.0 | 1,226.40 | 3,679.20 | 14,716.80 |

Volume Charge:

Applied to all volume read on the water meter

Cost Allocation: Volume \$1,383,066

Divide by:

Thousand Gallons 535,904

Indicated Cost Per Thousand Gallon \$2.581

Use \$2.58

College-Harris Joint Authority

Calculation of Equivalent Meter Costs

| Class | No. of Customers | Typical Meter Size | Factor | Equivalent Meters |
|----------------------------|------------------|--------------------|--------|-------------------|
| <u>Residential:</u> | | | | |
| Single Family | 3,143 | 3/4" | 1.5 | 4,714.5 |
| Apartment Buildings | 145 | 2" | 8.0 | 1,160.0 |
| Duplexes | 21 | 1" | 2.5 | 52.5 |
| Mobile Home Parks | 9 | 1" | 2.5 | 22.5 |
| Townhomes | 63 | 3/4" | 1.5 | 94.5 |
| Rooming Units | 4 | 3/4" | 1.5 | 6.0 |
| <u>Commercial:</u> | | | | |
| Garages | 27 | 3/4" | 1.5 | 40.5 |
| Motels | 7 | 1 1/2" | 5.0 | 35.0 |
| Retail Stores | 75 | 3/4" | 1.5 | 112.5 |
| Restaurants | 21 | 1 1/2" | 5.0 | 105.0 |
| Other | 123 | 1 1/2" | 5.0 | 615.0 |
| Industrial | 21 | 2" | 8.0 | 168.0 |
| Public Buildings & Schools | 25 | 1 1/2" | 5.0 | 125.0 |
| Totals | 3,684 | | | 7,251.0 |

| | |
|---------------------------------|-------------|
| Cost Allocation: Capacity | \$1,349,694 |
| Customer | 59,825 |
| | ----- |
| | \$1,409,519 |
| Divide by: | |
| No. of Equivalent Meters | 7,251.0 |
| | ----- |
| Equivalent Meter Cost Per Year | \$194.39 |
| Equivalent Meter Cost Per Month | \$16.20 |

College-Harris Joint Authority

Rate Design

Customer Charges Based on Meter Size:

| Meter Size | Factor | Monthly Charge | Quarterly Charge | Annual Charge |
|------------|--------|----------------|------------------|---------------|
| 5/8" | 1.0 | \$16.20 | \$48.60 | \$194.40 |
| 3/4" | 1.5 | 24.30 | 72.90 | 291.60 |
| 1" | 2.5 | 40.50 | 121.50 | 486.00 |
| 1 1/2" | 5.0 | 81.00 | 243.00 | 972.00 |
| 2" | 8.0 | 129.60 | 388.80 | 1,555.20 |
| 3" | 15.0 | 243.00 | 729.00 | 2,916.00 |
| 4" | 25.0 | 405.00 | 1,215.00 | 4,860.00 |
| 6" | 50.0 | 810.00 | 2,430.00 | 9,720.00 |
| 8" | 80.0 | 1,296.00 | 3,888.00 | 15,552.00 |

Volume Charge:

| | |
|---|-----------|
| Applied to all volume read on the water meter | |
| Cost Allocation: Volume | \$959,134 |
| Divide by: | |
| Thousand Gallons | 324,194 |
| Indicated Cost Per Thousand Gallon | \$2.959 |
| Use | \$2.96 |

Patton-Ferguson Joint Authority

Comparison of Present Rates to Proposed Rates For Residential (Single Residence) and the Authority's 7 Largest Users

| Customer Name (a) | EDUs (b) | 1995 Present Rates | | Proposed Rates | | | Difference | | |
|------------------------|-------------|--------------------|-----------------|---------------------------------|---------------------------|--------------------------|---------------------------------|-------------|------------|
| | | Water Usage (c) | EDU Rate (d) | Annual Bill (b) x (d) (e) | Customer Change (f) | Volume Charges (g) | Annual Bill (f) + (g) (h) | (\$) (i) | (%) (j) |
| Residential | 1.0 | 59,500 * | \$252.00 | \$252.00 | \$183.96 | \$153.51 | \$337.47 | \$85 | 33.73% |
| Heritage Oaks | 409.0 | 21,626,000 | 252.00 | 103,068.00 | 1,471.68 | 55,795.08 | 57,266.76 | (45,801) | -44.44% |
| Murata-Erie | 336.0 | 20,397,000 | 252.00 | 84,672.00 | 1,471.68 | 52,624.26 | 54,095.94 | (30,576) | -36.11% |
| Park Forest Apartments | 272.0 | 18,015,000 | 252.00 | 68,544.00 | 1,471.68 | 46,478.70 | 47,950.38 | (20,594) | -30.04% |
| Turtle Creek | 207.0 | 12,117,000 | 252.00 | 52,164.00 | 1,471.68 | 31,261.86 | 32,733.54 | (19,430) | -37.25% |
| Parkgate Apartments | 138.0 | 6,381,000 | 252.00 | 34,776.00 | 1,471.68 | 16,462.98 | 17,934.66 | (16,841) | -48.43% |
| Pennwood North | 151.0 | 6,104,000 | 252.00 | 38,052.00 | 1,471.68 | 15,748.32 | 17,220.00 | (20,832) | -54.75% |
| Cricklewood Gardens | 115.0 | 5,645,000 | 252.00 | 28,980.00 | 1,471.68 | 14,564.10 | 16,035.78 | (12,944) | -44.67% |

* Based on 1994 average consumption.

College-Harris Joint Authority

Comparison of Present Rates to Proposed Rates For Residential (Single Residence) and the Authority's 7 Largest Users

| Customer Name | EDUs | 1995 Water Usage | Present Rates | | Proposed Rates | | | Difference | |
|--------------------------|-------|------------------|---------------|-----------------------|-----------------|----------------|-----------------------|------------|---------|
| | | | 1995 EDU Rate | Annual Bill (b) x (d) | Customer Charge | Volume Charges | Annual Bill (f) + (g) | (\$) | (%) |
| (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) | (i) | (j) |
| Residential | 1.0 | 60,900 * | \$272.00 | \$272.00 | \$194.40 | \$180.26 | \$374.66 | \$103 | 37.87% |
| Centre Comm. Hospital | 377.0 | 31,098,000 | 272.00 | 102,544.00 | 1,555.20 | 92,050.08 | 93,605.28 | (8,939) | -8.72% |
| Rental Uniform | 354.5 | 13,111,000 | 272.00 | 96,424.00 | 1,555.20 | 38,808.56 | 40,363.76 | (56,060) | -58.14% |
| Penn State Scanticon | 167.0 | 12,126,580 | 272.00 | 45,424.00 | 972.00 | 35,894.68 | 36,866.68 | (8,557) | -18.84% |
| Hampton Inn | 60.5 | 5,771,000 | 272.00 | 16,456.00 | 972.00 | 17,082.16 | 18,054.16 | 1,598 | 9.71% |
| Brookline The Fairways | 81.5 | 5,426,000 | 272.00 | 22,168.00 | 1,555.20 | 16,060.96 | 17,616.16 | (4,552) | -20.53% |
| Apartments Rolling Ridge | 152.0 | 4,223,000 | 272.00 | 41,344.00 | 972.00 | 12,500.08 | 13,472.08 | (27,872) | -67.41% |
| Brookline The Inn | 71.0 | 3,859,000 | 272.00 | 19,312.00 | 1,555.20 | 11,422.64 | 12,977.84 | (6,334) | -32.80% |

* Based on 1994 average consumption.