

December 11, 1997

To the Joint Meeting

Ladies and Gentlemen:

ANNUAL REPORT OF THE SEWAGE CONTRIBUTION
OF THE MUNICIPALITIES ORGANIZED IN
JOINT MEETING (FOR THE PURPOSE OF
ASSESSMENT FOR THE YEAR 1998)

I present herewith the 63rd Annual Report for the eleven municipalities organized in Joint Meeting, covering their respective contribution to Section One of the Supplementary Joint Trunk Sewer and to the Treatment Plant, as called for under the terms of the 1926 Contract.

Article X of the 1926 Contract requires that an estimate be made for the purpose of assessing the costs of maintenance and operation each year.

In order that the amount of work necessary for the preparation of this estimate be completed in time for consideration by the Joint Meeting before the date specified by law for the adoption of the new budget, it has been customary to use the twelve-month period immediately prior thereto as the basis of consideration for the assessment purpose only.

You will please note that this is the first of the two Annual Reports prepared each year, and that it covers the twelve-month period from November 1, 1996 through October 31, 1997. Subsequently, at the beginning of each succeeding year, a second and final report is prepared covering the previously completed calendar year, which coincides with the fiscal year of the Joint Meeting.

Pursuant to the Federal Water Pollution Control Act Amendments of 1972, PL 92-500 and as a requirement of our Construction Grant for the expansion in Secondary Treatment, a "User Charge System" is used to apportion the operation and maintenance costs for the Joint Meeting for 1998. During the year 1978, a User Charge System was prepared and adopted by the member municipalities and is entitled "An Ordinance Establishing and Defining User Charges in Connection with the Collection and Treatment of Wastewater and Providing for the Payment of Said User Charges". During the year 1997, this "User Charge System" was utilized by the various municipalities for collection of the charges associated with the operation and maintenance of the trunk sewer system, the treatment plant, and the Sludge Dewatering Facility, the percentage of assessment based upon a report dated December 12, 1996.

During 1997, the various municipalities computed the actual dwelling units for each of their respective towns in accordance with the revised schedule included in the Sewer Use Ordinance. Table II depicts the new (1998) dwelling unit figures formulated by each municipality in 1997.

It should be noted that the methodology used to assess the City of Elizabeth for services rendered by the Joint Meeting is based on quantity and quality of sewage as measured at the Trenton Avenue Pumping Station, plus the Equivalent Dwelling Units (EDU's) tributary to the gravity Joint Meeting sewer through the Elmora Avenue Area in Elizabeth, plus the tributary area from the City of Linden. This methodology was approved by the Joint Meeting and the Elizabeth City Council. The percentage used in this assessment report for the City will be based upon a twelve (12) month, 365 day period of November 1, 1996, through October 31, 1997 and projected for a twelve (12) month period in 1998. This allocation will be assessed and paid in accordance with the member municipalities billing procedure. Then, based on the analysis of the samples taken at the Trenton Avenue Pumping Station, an adjustment is made (on a quarterly basis) to the percent allocation from the City. At the end of 1998, utilizing twelve (12) months of data, the actual percent contribution by the City will be calculated and certified thereto.

The accompanying computations include the total Dwelling Unit number of 47,181 for the City. (This Equivalent Dwelling Unit number was computed by Elson T. Killam Associates during the period November 8, 1979 and December 12, 1979 and revised by the City Engineer on February 9, 1982).

USER CHARGE APPORTIONMENT

Set forth below are the basis factors concerning flow, waste characteristics and projected cost of operations of the Facilities derived for the 365 day period from November 1, 1996, through October 31, 1997, and projected for 1998 and are based upon actual 1996-1997 operating statistics as well as a recent upgraded 1997 industrial waste survey. The industrial waste figures take into consideration actual yearly operational time for each industry (i.e., 5 day or 7 day working week, etc.).

1.	Flow	23,852.3310 MG/Year	65.3489 MGD
2.	BOD	16,327.8665 Tons/Year	89,467.7616 Lbs/Day
	TSS	15,032.9589 Tons/Year	82,372.3775 Lbs/Day
3.	Estimated Industrial Flow	980.2390 MG/Year	2.6856 MGD
4.	Estimated Industrial BOD	2,376.1808 Tons/Year	13,020.1688 Lbs/Day
5.	Estimated Industrial TSS	1,067.8209 Tons/Year	5,851.0734 Lbs/Day
6.	Estimated Total Operating Expenses in 1997		
			\$11,072,710 STP
			5,364,610 SDWF
			624,100 SDF
			584,320 Sewers
			<hr/> \$17,645,740 Total
7.	Estimated Total Dwelling Units in System		
			147,009 JM Members
			47,181 Elizabeth
			<hr/> 194,190 Total

In addition to the foregoing, it has been determined that the following cost allocations would fairly represent the actual costs of treatment.

Flow	28.2157640%
BOD	45.5697474%
Suspended Solids	26.2144886%

The basis for these cost allocations is set forth in Appendix A.

Based upon the foregoing allocations, Table I has been prepared which shows the projected and estimated flow and waste characteristics for 1998 and the projected estimated cost allocation between domestic sewage treated from residential and commercial establishments, and the industrial waste treatment reflecting industrial flow from industries in the collection system. This system takes into consideration the fact that the City of Elizabeth does not use the trunk sewer and will accordingly not be

charged for its use. The trunk sewer charge is assessed only against member municipalities, and their respective industries.

Table I
Joint Meeting of Essex & Union Counties
Estimated Flow Waste Characteristics and Cost Allocation for Treatment in 1998

Treatment Plant

	<u>Total for 1998</u>		<u>Domestic & Commercial</u>		<u>Industrial</u>
Flow	23,852.3310	MG/Yr. ¹	22,872.0920	MG/Yr.	980.2390 MG/Yr.
BOD	16,327.8665	Tons/Yr. ¹	13,951.6857	Tons/Yr.	2,376.1808 Tons/Yr.
Suspended Solid	15,032.9589	Tons/Yr. ¹	13,965.1380	Tons/Yr.	1,067.8209 Tons/Yr.

(1) Based upon data from November 1, 1996 thru October 31, 1997 (365 days)

Cost Allocation

	<u>Total for 1998</u>		<u>Domestic & Commercial</u>		<u>Industrial</u>
Flow	\$4,814,010.00		\$4,616,173.00		\$197,837.00
BOD	7,774,846.00		6,643,379.00		1,131,467.00
Suspended Solid	4,472,564.00		4,154,869.00		317,695.00
	<u>\$17,061,420.00</u>		<u>\$15,414,421.00</u>		<u>\$1,646,999.00</u>
	100.000000%		90.34664760%		9.65335240%

Elizabeth Contribution

Flow	-	5,946.0460	MG/Yr.
BOD	-	5,972.7448	Tons/Yr.
TSS	-	3,242.3508	Tons/Yr.

Trunk Sewer Flow ¹

<u>Total for 1998</u>	<u>Domestic & Commercial</u>	<u>Industrial</u>
17,906.2850 MG/Yr. ²	17,112.1940 MG/Yr.	794.091 MG/Yr.

(1) Based upon data from November 1, 1996 thru October 31, 1997 (365 days)

(2) (23,852.331 - 5,946.0460)

COST ALLOCATION

\$584,320.00	\$558,407.13	\$25,912.87
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Member municipalities will be assessed \$3.80 (\$58,407.13/147,009) for trunk sewer O&M per equivalent dwelling unit.

The estimated cost for treating industrial wastes has been determined to be \$234.46 per MG for flow, \$476.17 per ton of BOD, and \$297.52 per ton of suspended solids. These estimates are predicated upon the cost allocation to industry and the estimates of flow and strength characteristics of the industrial waste, all as indicated on Table I. These costs were determined as follows:

Flow	\$197,837.00	/	980.2390	=	\$201.8252691	/MG
BOD	\$1,131,467.00	/	2,376.1808	=	\$476.1704160	/Ton
Suspended Solids	\$317,695.00	/	1,067.8209	=	\$297.5171211	/Ton

All industries within the member municipalities (excluding Elizabeth) will be required to pay an additional \$32.63/MG of flow for trunk sewer use ($\$25,912.87/794.091 = \$32.632/\text{MG}$). This brings the total flow cost to \$234.46/MG ($\$201.825 + \32.632) for the indicated industries of member municipalities.

Based upon the user charges for 1998, a computation has been made to show the budget prepayment for each municipality of the Joint Meeting. These estimates are subject to revision annually, dependent upon the actual number of dwelling units which must be determined for each municipality in accordance with the schedule of dwelling units set forth in the ordinance. In addition thereto, the computation for the industrial user charges has been based upon actual calculations of flow and waste characteristics for the industries in the district as a result of the 1997 industrial waste survey of the service area. These are estimates for 1998 and must be verified on an annual basis to reflect the actual flow and waste characteristics.

The basis for the industrial waste flow and characteristics are set forth in Appendix B of this report. The dwelling unit figures have been compiled by each municipality with the exception of Elizabeth in accordance with the revised Schedule of Dwelling Units incorporated into the User Charge Ordinance.

Table VII sets forth the cost to each municipality to establish the budget requirements of \$17,645,740.00 for 1998. However, it should be noted that in accordance with the Agreement between the Joint Meeting and the City of Elizabeth noted previously, and as a result of the monitoring of the Trenton Avenue Pumping Station, the City would provide for 31.1728395% of the treatment plant, sludge dewatering facility and sludge drying facility budgets initially with adjustments made quarterly. Upon completion and verification of the quality and quantity of the City's contribution as measured at the Trenton Avenue Pumping Station, plus the EDU's from the Elmora Avenue area, plus the City of Linden's contribution, an adjustment will then be made for the member municipalities.

Table II
Joint Meeting of Essex and Union Counties
Annual Report of the Sewer Contribution of the Municipalities
Municipality Dwelling Units and Industrial User Charge
1998

<u>Municipality</u>	<u>Dwelling Units ¹</u>	<u>User Charges Industrial</u>
East Orange	7,245	\$ -
Hillside	8,421	98,714
Irvington	26,721	37,336
Maplewood	9,093	9,536
Millburn	9,730 ⁴	-
Newark	16,972	-
Roselle Park	4,736	427
South Orange	6,834	-
Summit	14,039 ²	109,255 ³
Union	24,196	937,087
West Orange	19,022	6,755
Elizabeth	47,181	473,800
	<u>194,190</u>	<u>\$ 1,672,910</u>

(1) Based on actual calculation and verification by Municipalities; City of Elizabeth computed by Elson T. Killam Associates in 1979 and updated by City Engineer on February 9, 1982.

(2) Includes New Providence (3697)

(3) Includes Murray Hill

(4) Includes Livingston (431)

Table III
Joint Meeting of Essex and Union Counties
Computation of Estimated Percent
Contribution By City of Elizabeth

For Period 11/1/96-10/31/97 and Projected Contribution for 1998

Flow:	Treatment Plant	Elizabeth Pumping Station		Joint Meeting	
	23,852.331 MG	5,946.046 MG		17,906.285 MG	
		<i>Industrial</i>	<i>D&C</i>	<i>Industrial</i>	<i>D&C</i>
		164.486	5,781.56	794.091	17,112.194
		\$ 33,197.43	\$ 1,166,864.90	\$ 186,180.50	\$ 4,012,080.27
Unit Charge	\$ 201.8252691 Per MG for Elizabeth				
Unit Charge	\$ 234.4573856 Per MG for Joint Meeting				
BOD:	16327.8665 Tons	5,972.7448 Tons		10,355.1217 Tons	
		<i>Industrial</i>	<i>D&C</i>	<i>Industrial</i>	<i>D&C</i>
		768.5564	5,204.1884	1,564.0447	8,791.077
		\$ 365,963.82	\$ 2,478,080.56	\$ 744,751.82	
Unit Charge	476.170416 Per Ton				
TSS:	15,032.9589 Tons	3,242.3508 Tons		11,790.6081 Tons	
		<i>Industrial</i>	<i>D&C</i>	<i>Industrial</i>	<i>D&C</i>
		153.3869	3,088.9639	901.3879	10,889.2202
		\$ 45,635.23	\$ 919,019.65	\$ 268,178.33	
Unit Charge	297.5171211 Per Ton				
		\$ 5,008,761.59		\$ 1,199,110.65	

City of Elizabeth (Contribution from Pumping Station) \$ 5,008,761.59

City of Elizabeth (Industry Tributary to Joint Meeting Trunk)

Flow:	21.6620 MG/Year at	\$ 201.8252691	4,371.94
BOD:	43.5797 Tons/Year at	476.1704160	20,751.36
TSS:	13.0461 Tons/Year at	297.5171211	3,881.44

Joint Meeting Industrial		1,199,110.65
Subtotal		\$ 6,236,876.98

Total 1997 Budget	\$ 17,645,740.00
Subtotal (above)	(6,236,876.98)
Subtotal (EDU's)	\$ 11,408,863.02

Joint Meeting EDU's (X + Y) + Elmora EDU's (X)= \$ 11,408,863
 (Y = Additional Assessment to Member Municipalities for Trunk Sewer O&M)
 147,009 (X + \$3.798455401) + 3905 (X) = \$ 11,408,863

Equivalent Units-Member Municipalities 147,009

Elmora EDU's = 3,905 \$ 71.8982724600 Per Unit = X
 \$ 75.6967278610 Per Unit = X+Y

Joint Meeting EDU Assessment \$ 11,128,100.27
 Elmora Area Assessment \$ 280,762.75

Total Anticipated Payment from the City of Elizabeth

Pumping Station \$ 5,008,761.59
 Elmora EDU's 280,762.75
 Elmora Industrial 29,004.74
 \$ 5,318,529.08

Total Anticipated Payment from Member Municipalities

EDU's 11,128,100.27
 Industrial 1,199,110.65
 \$ 12,327,210.92

Estimated Percent Contribution of Treatment Plant, Sludge Dewatering and Sludge Drying Facility Budgets by
 City of Elizabeth

\$ 5,318,529.08 / \$ 17,061,420.00 = 31.1728395%

Table IV
Joint Meeting of Essex and Union Counties
Percent Allocation of Infiltration / Inflow

Municipality	Capacity By Contract			Base Year - 1982		Base Year - 1982		Base Year - 1982		Base Year - 1982		Base Year - 1982	
	Contract (MGD)	Capacity By Contract (Percent)	Phase IIB - SSES ¹ (GPD) ³	Infiltration (Percent)	SSES - November 1997		Phase IIB - SSES ²		Phase IIB - SSES ²		SSES - November 1997		
					(GPD) ⁴	(Percent)	(GPD)	Inflow (GPD)	(Percent)	(GPD) ⁵	(Percent)		
East Orange	5.50	4.88%	70,747	2.11%	50,523	54,327	2.61%	3,007,440	5.79%	3,925,815	3,007,440	6.15%	
Hillside	12.20	10.83%	79,012	2.36%	30,585	32,980	1.58%	1,185,120	2.28%	1,544,792	1,185,120	2.42%	
Irvington	18.61	16.52%	1,115,672	33.31%	740,813	797,026	38.27%	8,612,640	16.57%	10,175,203	7,791,840	15.94%	
Maplewood	7.08	6.29%	389,078	11.62%	185,445	199,485	9.58%	5,449,680	10.48%	7,117,535	5,449,680	11.15%	
Millburn	6.00	5.33%	191,609	5.72%	141,504	152,240	7.31%	2,729,520	5.25%	3,115,119	2,384,640	4.88%	
Newark	15.50	13.76%	234,484	7.00%	200,931	216,248	10.38%	1,959,540	3.77%	2,559,759	1,959,840	4.01%	
Roselle Park	9.44	8.38%	106,187	3.17%	60,589	65,147	3.13%	1,576,080	3.03%	2,055,468	1,576,080	3.22%	
South Orange	7.00	6.22%	410,876	12.27%	78,011	83,906	4.03%	2,183,760	4.20%	2,847,014	2,178,000	4.46%	
Summit	7.50	6.66%	171,657	5.13%	82,076	88,296	4.24%	3,651,120	7.02%	3,070,434	2,348,640	4.81%	
Union	10.30	9.14%	329,127	9.83%	221,257	238,013	11.43%	14,534,640	27.96%	18,607,726	14,246,640	29.15%	
West Orange	13.50	11.99%	250,811	7.48%	144,020	154,847	7.44%	7,097,040	13.65%	8,815,531	6,744,600	13.81%	
	112.63	100.00%	3,349,260	100.00%	1,935,754	2,082,515	100.00%	51,986,580	100.00%	63,834,396	48,872,520	100.00%	

(1) Identified by Hazen & Sawyer Phase IIB SSES (pg. S-2) with trunk sewer infiltration allocated based on contract capacity.

(2) Identified by Hazen & Sawyer Phase IIB SSES (pg. S-3)

(3) "Base Year - 1982" Infiltration: 3.35 MGD / 52.79 MGD = 6.346%

(4) 1997 - Infiltration related to base year total = 2.083 MGD / 52.79 MGD = 3.94582307%

- Adjusted for period 11/1/96 - 10/31/97; (3.94582307% x 17,906.2850 = 706.55 MG / Year / 365 = 1,935,754 GPD)

(5) 1997 inflow adjusted for period 11/1/96 - 10/31/97 - (43.39" / 33.22") x (48,872,520) = 63,834,396 GPD

Table IV - A
Joint Meeting of Essex and Union Counties
Adjusted 1997 - Summary of Infiltration and Inflow

Municipality	Phase IIB		1997		Phase IIB		1997	
	SSES Infiltration (GPD)	1996 Infiltration (GPD)	1997 Infiltration Removed (GPD)	1997 Infiltration (GPD)	SSES Inflow (GPD)	1996 Inflow (GPD)	1997 Inflow Removed (GPD)	1997 Inflow (GPD)
East Orange	70,747	54,327	-	54,327	3,007,440	3,007,440	-	3,007,440
Hillside	79,012	32,980	-	32,980	1,185,120	1,185,120	-	1,185,120
Irvington	1,115,672	797,026	-	797,026	8,612,640	7,820,640	28,800	7,791,840
Maplewood	389,078	199,485	-	199,485	5,449,680	5,449,680	-	5,449,680
Millburn	191,609	152,240	-	152,240	2,729,520	2,441,520	56,880	2,384,640
Newark	234,484	216,248	-	216,248	1,959,540	1,959,840	-	1,959,840
Roselle Park	106,187	65,147	-	65,147	1,576,080	1,576,080	-	1,576,080
South Orange	410,876	83,906	-	83,906	2,183,760	2,178,000	-	2,178,000
Summit	171,657	88,296	-	88,296	3,651,120	2,378,160	29,520	2,348,640
Union	329,127	238,013	-	238,013	14,534,640	14,246,640	-	14,246,640
West Orange	250,811	154,847	-	154,847	7,097,040	6,744,600	-	6,744,600
Total	3,349,260	2,082,515	-	2,082,515	51,986,580	48,987,720	115,200	48,872,520

Table V

Joint Meeting of Essex and Union Counties

Cost Allocation - Flow, BOD & TSS with Infiltration / Inflow

				Domestic & Commercial		Industrial
				Total		
Flow				17,906,2850 MG	17,112,1940 MG	794,0910 MG
				\$3,888,500.54	\$3,702,320.04	
Infiltration	3.9458231%			706.55	675.22	\$186,180.50
Inflow	9.9933627%			1,789.44	1,710.08	31.33
						\$369,985.49
BOD	at	\$476.1704160 Per Ton		10,355,1217 Tons	8,791,0770 Tons	1,564,0447 Tons
				\$4,930,802.61	\$4,186,050.79	\$744,751.82
TSS	at	\$297.5171211 Per Ton		11,790,6081 Tons	10,889,2202	901,3879
				\$3,507,907.78	\$3,239,729.44	\$268,178.33
Total				\$12,327,210.93	\$11,128,100.27	\$1,199,110.65
(1) Amount anticipated from Members after allocation of 31.1728395% to City of Elizabeth \$ 5,318,529.08						
"Base Year - 1982"						
Infiltration:	3.35 MGD / 52.79 MGD =			6.34590% (Per H&S Phase IIB Report)		
Inflow:	113 MGD (Excluding Elizabeth) / 137 MGD (Total) =			82.4817518% 1 inch of rain = 50 mg of inflow (Per H&S Phase IIB Report)		
"1996 - 1997"						
Infiltration:	2.083 MGD/52.79MGD =			3.94582307%	17,906,2850	706.55 MG / Year
					(November 1, 1996 - October 31, 1997)	
Inflow:	Rainfall = 43.39 Inches X 50 MG X 82.482%			1,789.44	MG / Year	
Total D&C				\$11,128,100.27		
Less: Infiltration				(146,087.67)		
Less: Inflow				(369,985.49)		
Net after infiltration and inflow				\$10,612,027.11		
Equivalent Dwelling Units				147,009		
User Charge Per Unit				\$72.1862410464665		

Table VI
Joint Meeting of Essex and Union Counties
Estimated Annual Operation Expenses To Member Municipalities
1998

Domestic & Commercial									
Municipality	Dwelling Units	User Charge		Infiltration		Inflow		Total Cost	Unit Cost
		\$	Per Unit	Percent ¹	Amount	Percent ²	Amount		
East Orange	7,245	\$522,989.32		2.61%	\$3,812.89	6.15%	\$22,754.11	\$549,556.32	\$75.8532
Hillside	8,421	607,880.34		1.58%	2,308.19	2.42%	8,953.65	619,142.18	73.5236
Irvington	26,721	1,928,888.55		38.27%	55,907.75	15.94%	58,975.69	2,043,771.99	76.4856
Maplewood	9,093	656,389.49		9.58%	13,995.20	11.15%	41,253.38	711,638.07	78.2622
Millburn	9,730 ³	702,372.13		7.31%	10,679.01	4.88%	18,055.29	731,106.43	75.1394
Newark	16,972	1,225,144.88		10.38%	15,163.90	4.01%	14,836.42	1,255,145.20	73.9539
Roselle Park	4,736	341,874.04		3.13%	4,572.54	3.22%	11,913.53	358,360.11	75.6673
South Orange	6,834	493,320.77		4.03%	5,887.33	4.46%	16,501.35	515,709.45	75.4623
Summit	14,039 ⁴	1,013,422.64		4.24%	6,194.12	4.81%	17,796.30	1,037,413.06	73.8951
Union	24,196	1,746,618.28		11.43%	16,697.82	29.15%	107,850.77	1,871,166.87	77.3337
West Orange	19,022	1,373,126.67		7.44%	10,868.92	13.81%	51,095.00	1,435,090.59	75.4437
	147,009	\$10,612,027.11		100.00%	\$146,087.67	100.00%	\$369,985.49	\$11,128,100.27	\$75.6967

(1) See Table IV - Infiltration for November of the Prior Year

(2) See Table IV - Inflow for November of the Prior Year

(3) Includes Livingston (431)

(4) Includes New Providence (3697)

Table VI (Continued)
Joint Meeting of Essex and Union Counties
Estimated Annual Operation Expenses To Member Municipalities
1997

Industrial										
Municipality	BOD (Tons / Year)	BOD ¹ (\$/Year)	TSS (Tons / Year)	TSS ² (\$/Year)	Flow (MG / Year)				Flow ³ (\$/Year)	Total Cost
					Dry Weather	Infiltration 3.945823%	Inflow 9.993363%	Total		
East Orange	0.0000	\$0.00	0.0000	\$0.00	0.00	0.00	0.00	0.00	\$0.00	\$0.00
Hillside	170.3470	81,114.20	24.0602	7,158.32	38.33	1.76	4.45	44.54	10,442.26	98,714.79
Irvington	40.5215	19,295.14	31.9683	9,511.12	31.31	1.44	3.64	36.38	8,529.79	37,336.05
Maplewood	13.5514	6,452.78	3.6231	1,077.93	7.36	0.34	0.85	8.55	2,004.61	9,535.32
Millburn	0.0000	0.00	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Newark	0.0000	0.00	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Roselle Park	0.1430	68.09	0.2036	60.57	1.09	0.05	0.13	1.27	298.00	426.66
South Orange	0.0000	0.00	0.0000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Summit ⁴	58.9433	28,067.06	49.5934	14,754.89	243.85	11.18	28.32	283.35	66,433.50	109,255.44
Union	1,277.8810	608,489.13	789.3823	234,854.75	344.10	15.78	39.96	399.83	93,743.33	937,087.21
West Orange	2.6575	1,265.42	2.5570	760.75	17.36	0.80	2.02	20.17	4,729.01	6,755.18
	1,564.0447	\$ 744,751.82	901.3879	\$268,178.33	683.40	31.33	79.36	794.09	\$186,180.50	\$1,199,110.65

(1) At \$476.170416/Ton

(2) At \$297.5171211/Ton

(3) At \$234.4573856/MG

(4) Includes Murray Hill

Table VII
Joint Meeting of Essex and Union Counties
Summary of Estimated Annual Operational and Maintenance Expenses To Member Municipalities
1998

Domestic & Commercial					
Municipality	Total Assessments ¹	User Charge		Infiltration / Inflow Charges	Assessment Percentage
		Domestic Sewage 72.18624105	User Charges Industrial		
East Orange	\$549,556.32	\$522,989.32	\$0.00	\$26,567.00	4.4581%
Hillside	717,856.97	607,880.34	98,714.79	11,261.84	5.8234%
Irvington	2,081,108.04	1,928,888.55	37,336.05	114,883.44	16.8822%
Maplewood	721,173.39	656,389.49	9,535.32	55,248.58	5.8503%
Millburn	731,106.43	702,372.13	0.00	28,734.30	5.9308%
Newark	1,255,145.20	1,225,144.88	0.00	30,000.32	10.1819%
Roselle Park	358,786.77	341,874.04	426.66	16,486.07	2.9105%
South Orange	515,709.45	493,320.77	0.00	22,388.68	4.1835%
Summit	1,146,668.50	1,013,422.64	109,255.44	23,990.42	9.3019%
Union	2,808,254.08	1,746,618.28	937,087.21	124,548.59	22.7809%
West Orange	1,441,845.77	1,373,126.67	6,755.18	61,963.92	11.6965%
	<u>\$12,327,210.92</u>	<u>\$10,612,027.11</u>	<u>\$1,199,110.65</u>	<u>\$516,073.16</u>	<u>100.0000%</u>
Elizabeth	5,318,529.08				
Total	<u><u>\$ 17,645,740.00</u></u>				

(1) Reflects anticipated payment of \$5,318,529.08 from the City of Elizabeth which is 31.1728395% of allocation from Treatment Plant, Sludge Dewatering, and Sludge Drying budget. Exact 1998 percent contribution to be calculated at the end of fiscal year. Quarterly adjustments to be made in accordance with Agreement between Elizabeth and Joint Meeting.

Table VIII
Joint Meeting of Essex and Union Counties
Comparison of 1998 Assessment with 1997 Assessment

Municipality	1997	1998		Comparison	
				Amount	Percentage
East Orange	\$537,745.85	\$549,556.32	(+)	\$11,810.47	2.20%
Hillside	706,434.36	717,856.97	(+)	11,422.61	1.62%
Irvington	2,029,381.37	2,081,108.04	(+)	51,726.67	2.55%
Maplewood	704,957.67	721,173.39	(+)	16,215.72	2.30%
Millburn	709,857.47	731,106.43	(+)	21,248.96	2.99%
Newark	1,213,298.91	1,255,145.20	(+)	41,846.29	3.45%
Roselle Park	350,401.25	358,786.77	(+)	8,385.52	2.39%
South Orange	503,099.46	515,709.45	(+)	12,609.99	2.51%
Summit	1,084,144.69	1,146,668.50	(+)	62,523.81	5.77%
Union	3,202,483.99	2,808,254.08	(-)	(394,229.91)	-12.31%
West Orange	1,415,434.82	1,441,845.77	(+)	26,410.95	1.87%
	\$12,457,239.84	\$12,327,210.92	(-)	(\$130,028.92)	-1.04%
Elizabeth	6,222,508.16	5,318,529.08	(-)	\$ (903,979.08)	-14.53%
Total	\$18,679,748.00	\$17,645,740.00	(-)	(\$1,034,008.00)	-5.54%

Note: City of Elizabeth percentage contribution of Treatment Plant, Sludge Dewatering, and Sludge Drying Budget:

1994	32.84626490%
1995	33.09447430%
1996	37.06967270%
1997	34.89536790%
1998	31.17283950%

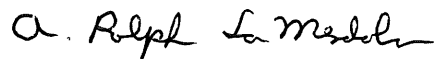
Table III, IV, V, VI, and VII, have been prepared to reflect the Domestic Sewer Usage and Industrial User assessment to each municipality for 1998 as a result of the Agreement with the City of Elizabeth which requires 31.1728395% of the 1998 Treatment Plant, Sludge Dewatering and Sludge Drying Budget to be paid in Quarterly assessments with adjustments made following the determination of the actual percentage of contribution for each quarter. The 31.1728395% figure is an estimate based upon actual monitoring of quality and quantity at the Trenton Avenue Pumping Station, etc., in accordance with the Agreement. The actual percentage of contribution will be determined following the completion of the annual audit of expenses. In addition, these tables reflect the costs associated with Infiltration / Inflow for the member municipalities, the percentages of which were determined from the Phase IIB SSES Reports, adjusted as a result of rehabilitation work, and updated in 1997.

Summary and Certification

On the basis of the measured usage of Section One of the Supplementary Joint Trunk Sewer and the Treatment Plant, including the Sludge Dewatering and Sludge Drying Facilities, and an estimate of Dwelling Units and Waste Characteristics for the municipalities organized in Joint Meeting, and in accordance with the provisions of the 1926 contract, I hereby certify that the estimated maintenance and operating costs of the Joint Meeting for the 1998 are apportioned as follows:

	<u>1998</u>	<u>1997</u>		<u>1998</u>	<u>1997</u>
East Orange	4.4581%	4.3167%	Roselle Park	2.9105%	2.8128%
Hillside	5.8234%	5.6709%	South Orange	4.1835%	4.0386%
Irvington	16.8822%	16.2908%	Summit	9.3019%	8.7029%
Maplewood	5.8503%	5.6590%	Union	22.7809%	25.7078%
Millburn	5.9308%	5.6984%	West Orange	11.6965%	11.3623%
Newark	10.1819%	9.7397%	Total	<u>100.0000%</u>	<u>100.0000%</u>

Respectfully submitted,



A. Ralph LaMendola
Chief Engineer

**Joint Meeting of Essex and Union Counties
Annual Report of the Sewer Contribution of the Municipalities
Appendix A
1998 Budget**

	Treatment Plant	Dewatering Facility	Drying Facility	Sewer	Total
Electric Service	\$ 1,260,000	\$ 112,000	\$ 28,000	\$ -	\$ 1,400,000
Gas Service	107,000	12,000	-	-	119,000
Fuel, Oil & Kerosene	209,000	70,000	-	-	279,000
Water Service	83,000	45,000	-	-	128,000
Chemicals	314,500	707,500	2,000	2,000	1,026,000
Sludge Disposal	-	2,272,000	-	-	2,272,000
Insurance	369,500	79,500	37,500	13,500	500,000
Administration	1,187,000	502,660	300,000	33,840	2,023,500
Labor	3,451,850	740,950	-	12,700	4,205,500
Benefits	1,068,080	234,280	-	10,880	1,313,240
Equipment	100,000	30,000	-	-	130,000
Printing & Stationery	15,000	4,000	-	1,000	20,000
Maintenance, Supplies & Spare Parts	914,280	434,720	5,600	445,900	1,800,500
Screening Disposal	130,000	-	-	-	130,000
Reserve Contingency	43,000	-	-	-	43,000
Miscellaneous Expenses	110,000	50,000	-	25,000	185,000
Technical & Professional Services	400,000	65,000	-	35,000	500,000
Replacement Fund	800,000	-	-	-	800,000
NJPDES & Miscellaneous Permit Fee	510,500	5,000	251,000	4,500	771,000
	\$ 11,072,710	\$ 5,364,610	\$ 624,100	\$ 584,320	\$ 17,645,740
	62.75%	30.40%	3.54%	3.31%	100.00%

Joint Meeting of Essex and Union Counties
Annual Report of the Sewer Contribution of the Municipalities
Appendix A (Continued)
Operations and Management Cost Allocations
(Treatment Plant)

	Estimated Total Cost	Percent Flow	Cost Flow	Percent SS	Cost SS	Percent BOD	Cost BOD
General Expenditures ¹	\$ 1,733,500	80%	\$ 1,386,800	10%	\$ 173,350	10%	\$ 173,350
Power	1,260,000	40%	\$ 504,000	5%	\$ 63,000	55%	\$ 693,000
Chlorine	92,000	40%	\$ 36,800			60%	\$ 55,200
Maintenance, Equipment, Supplies, Spare Parts, & Replacement Fund	1,857,280	28%	\$ 520,038	27%	\$ 501,466	45%	\$ 835,776
Fuel, Oil & Kerosene	209,000	40%	\$ 83,600	30%	\$ 62,700	30%	\$ 62,700
Administration, Labor & Benefits (Payroll Retirement)	5,706,930	40%	2,282,772	10%	\$ 570,693	50%	\$ 2,853,465
Sludge Processing ²	214,000			50%	\$ 107,000	50%	\$ 107,000
Total	\$11,072,710	100%	\$ 4,814,010		\$ 1,478,209		\$ 4,780,491
			43.4763486%		13.3500200%		43.1736314%

492,985

(1) General Expenditures
(From the Approved Budget)

(2) Sludge Processing

Insurance	\$ 369,500	Polymer	\$ 209,000
Technical & Professional Services	400,000	K2MnO4	5,000
Stationery & Printing	15,000		
Gas	107,000		
Water	83,000		
Miscellaneous	110,000		
Service Contracts	130,000		
Permit Fees	510,500		
Weed Killer, Bug Spray & Deodorant	8,500		
	<u>\$1,733,500</u>		<u>\$ 214,000</u>

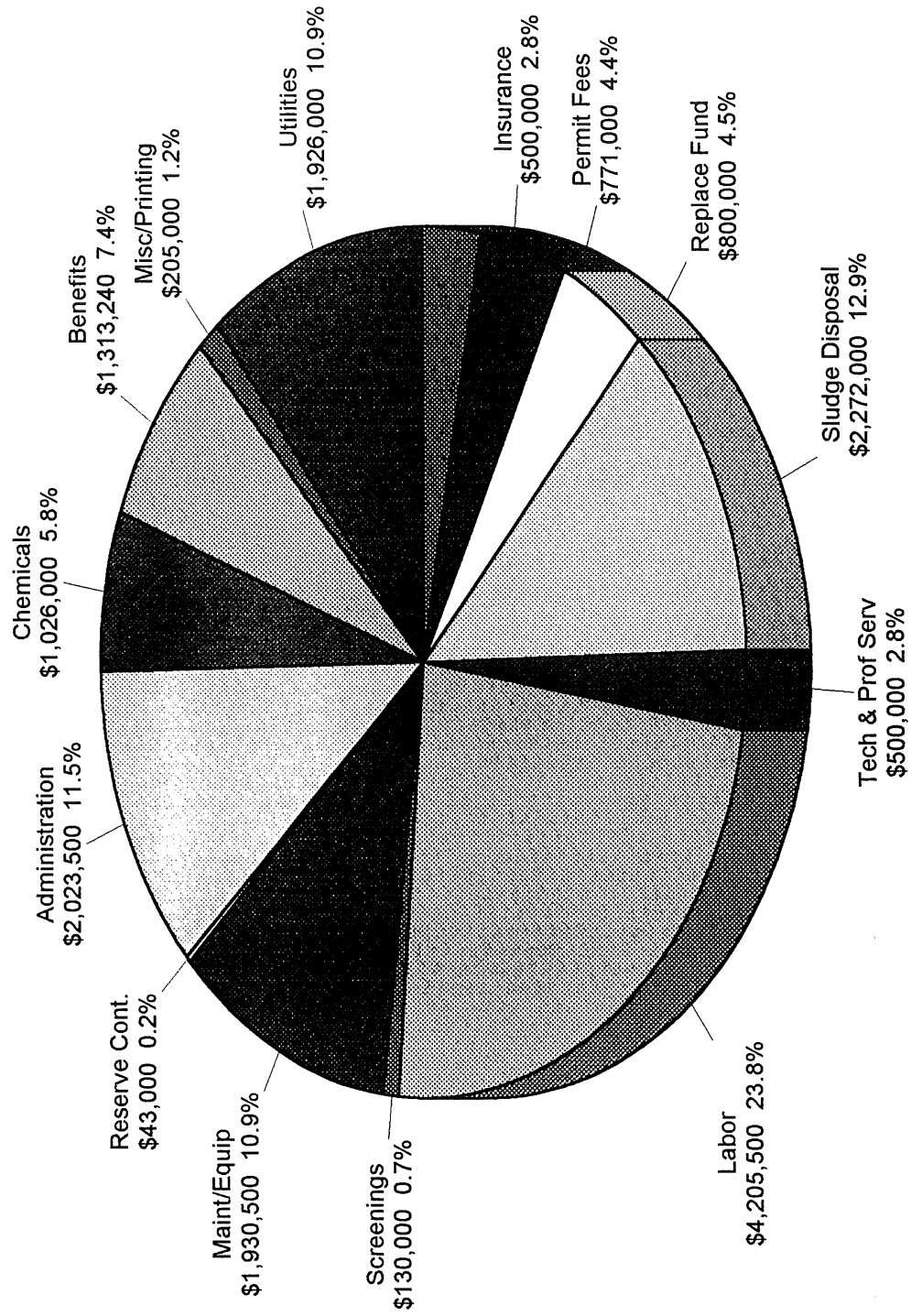
Joint Meeting of Essex and Union Counties
Annual Report of the Sewer Contribution of the Municipalities
Appendix A (Continued)
Operations and Management Allocations

	Estimated			
	Total Cost	Cost Flow	Cost TSS	Cost BOD
Treatment Plant	\$ 11,072,710	\$ 4,814,010	\$ 1,478,209	\$ 4,780,491
Dewatering Facility	5,364,610		2,682,305	2,682,305
Drying Facility	624,100		312,050	312,050
	<u>\$ 17,061,420</u>	<u>\$ 4,814,010</u>	<u>\$ 4,472,564</u>	<u>\$ 7,774,846</u>
Subtotal	100.00%	28.2157640%	26.2144886%	45.5697474%
Sewers ¹	\$ 584,320			
Total	<u>\$ 17,645,740</u>			

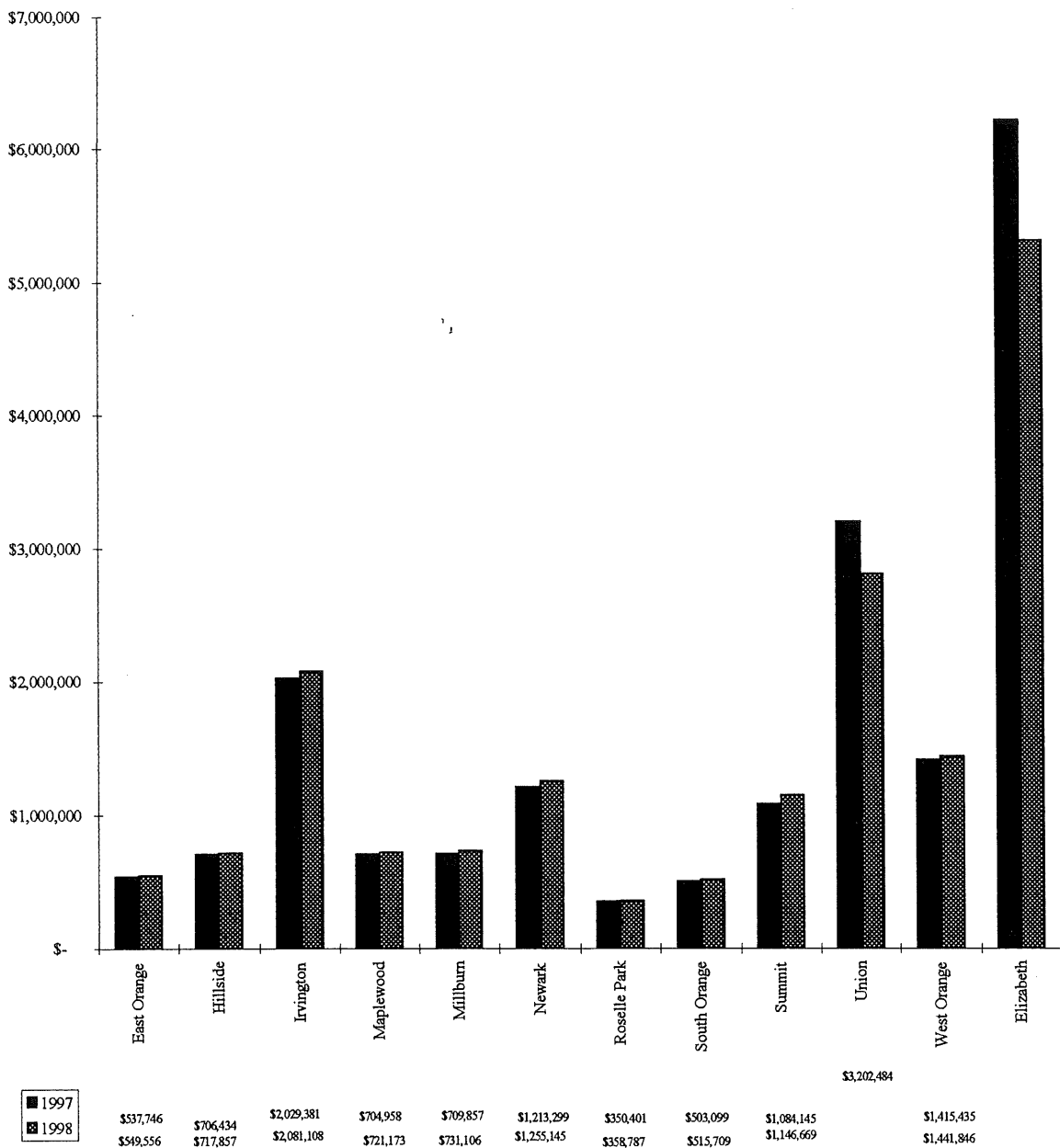
(1) Joint Meeting Members Only

Joint Meeting of Essex & Union Counties

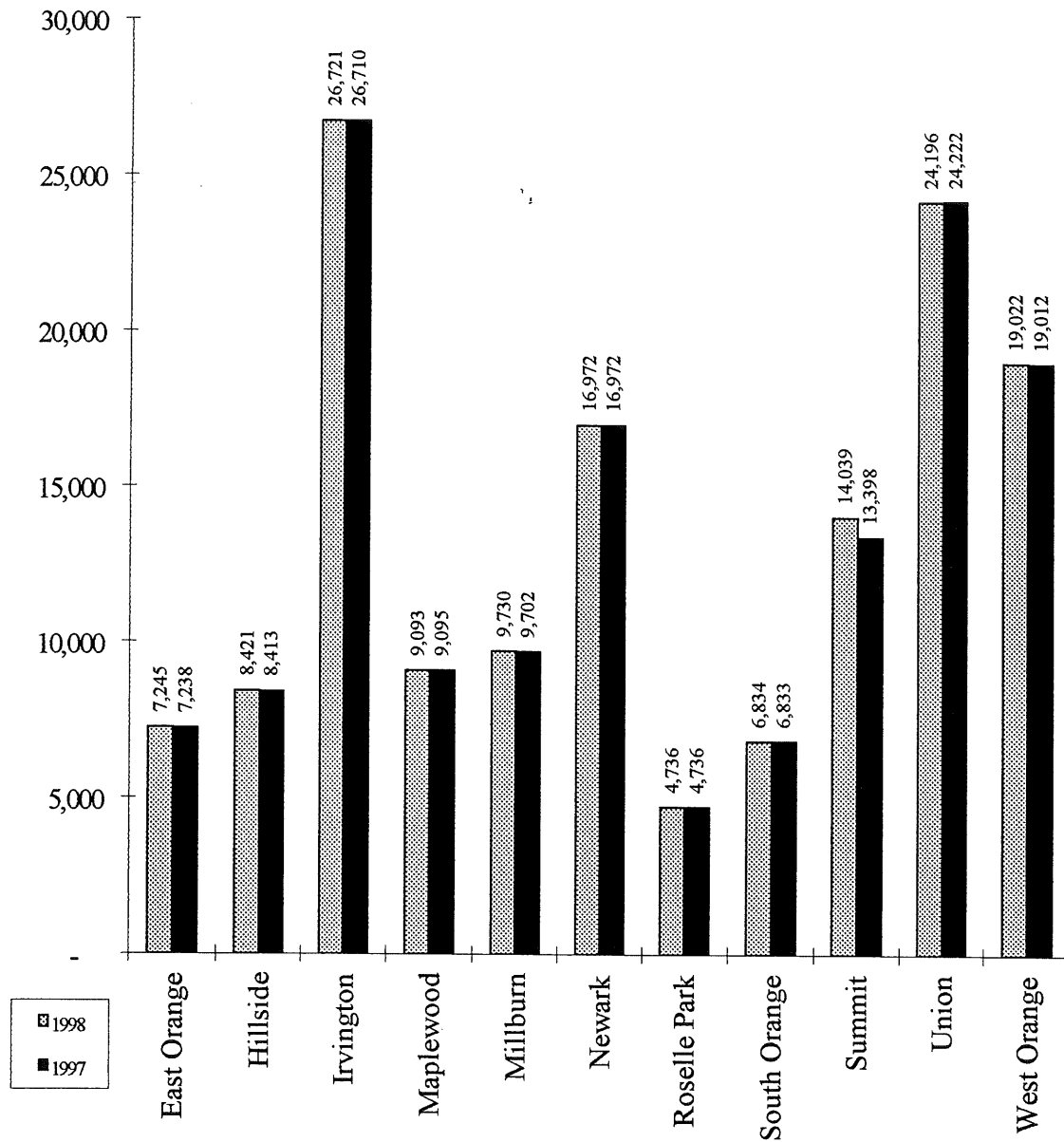
1998 O&M Budget



**Joint Meeting of Essex & Union Counties
1998 O&M Expenses
Total Assessment**

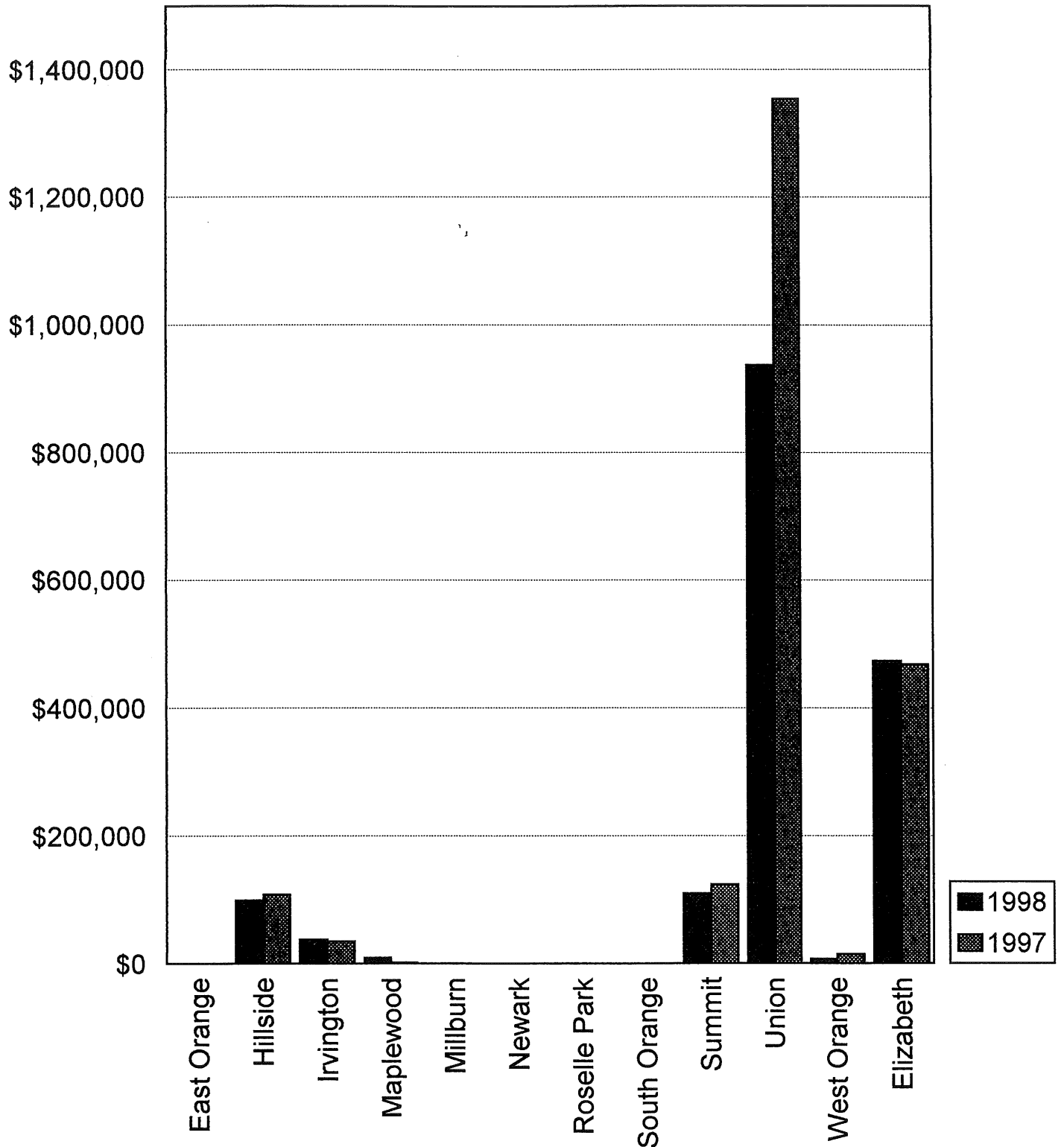


Joint Meeting of Essex & Union Counties 1998 Equivalent Dwelling Units



Joint Meeting of Essex & Union Counties

1998 Industrial User Charges



Joint Meeting of Essex & Union Counties

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User Charge Report

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Municipality	----- Cost Factors -----		
	Flow per MG	BOD per Ton	TSS per Ton
Elizabeth	201.8252691	476.1704160	297.5171211
Hillside	234.4573856	476.1704160	297.5171211
Irvington	234.4573856	476.1704160	297.5171211
Maplewood	234.4573856	476.1704160	297.5171211
Millburn	234.4573856	476.1704160	297.5171211
Murray Hill	234.4573856	476.1704160	297.5171211
Roselle Park	234.4573856	476.1704160	297.5171211
Summit	234.4573856	476.1704160	297.5171211
Union	234.4573856	476.1704160	297.5171211
West Orange	234.4573856	476.1704160	297.5171211

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Municipality: Elizabeth

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
201.8252691	476.1704160	297.5171211

IU #: 0010 Apex Chemical Corporation

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	36.625	23.125	0.2170	0.0331	0.0209	
Totals:			0.2170	0.0331	0.0209	
Cost Analysis:			43.7961	15.7612	6.2181	65.7754

IU #: 0025 Interbake Foods

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
3	757.000	393.000	29.9730	94.6155	49.1201	
Totals:			29.9730	94.6155	49.1201	
Cost Analysis:			6,049.3088	45,053.1020	14,614.0707	65,716.4815

IU #: 0030 Concord Beverage

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	1,826.000	104.700	47.4720	361.4717	20.7262	
Totals:			47.4720	361.4717	20.7262	
Cost Analysis:			9,581.0492	172,122.1298	6,166.3994	187,869.5783

IU #: 0037 Deb El Foods Corp

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	1,703.091	291.000	6.3450	45.0615	7.6995	
Totals:			6.3450	45.0615	7.6995	
Cost Analysis:			1,280.5813	21,456.9532	2,290.7331	25,028.2676

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Municipality: Elizabeth

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
201.8252691	476.1704160	297.5171211

IU #: 0055 Emkay Chemical Company

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	407.770	35.580	1.2490	2.1238	0.1853	
Totals:			1.2490	2.1238	0.1853	
Cost Analysis:			252.0798	1,011.2907	55.1299	1,318.5004

IU #: 0058 Exact Anodizing Corp.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	10.750	147.750	3.0050	0.1347	1.8514	
Totals:			3.0050	0.1347	1.8514	
Cost Analysis:			606.4849	64.1402	550.8232	1,221.4483

IU #: 0062 Garcia Laundry

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	573.417	227.364	2.0190	4.8277	1.9142	
99	170.000	155.000	0.0370	0.0262	0.0239	
Totals:			2.0560	4.8539	1.9381	
Cost Analysis:			414.9528	2,311.2836	576.6179	3,302.8543

IU #: 0067 Purepac Pharmaceutical Co.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	2,501.455	76.100	2.9030	30.2814	0.9212	
99	170.000	155.000	18.7590	13.2983	12.1249	
Totals:			21.6620	43.5797	13.0461	
Cost Analysis:			4,371.9390	20,751.3639	3,881.4381	29,004.7410

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Municipality: Elizabeth

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
201.8252691	476.1704160	297.5171211

IU #: 0078 Magnolia Beef Company

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	1,615.714	368.500	0.2950	1.9876	0.4533	
Totals:			0.2950	1.9876	0.4533	
Cost Analysis:			59.5385	946.4363	134.8645	1,140.8393

IU #: 0095 OK Towel & Uniform Supply Co

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	282.000	113.700	15.8100	18.5916	7.4960	
Totals:			15.8100	18.5916	7.4960	
Cost Analysis:			3,190.8575	8,852.7699	2,230.1883	14,273.8158

IU #: 0100 Papetti's Hygrade Egg Company

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
4	1,459.929	250.929	16.2960	99.2085	17.0517	
99	170.000	155.000	6.7830	4.8085	4.3842	
Totals:			23.0790	104.0170	21.4359	
Cost Analysis:			4,657.9254	49,529.8182	6,377.5473	60,565.2908

IU #: 0105 Jersey Pride Foods

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	1,662.857	360.875	14.1840	98.3535	21.3448	
Totals:			14.1840	98.3535	21.3448	
Cost Analysis:			2,862.6896	46,833.0270	6,350.4434	56,046.1601

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Municipality: Elizabeth

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
201.8252691	476.1704160	297.5171211

IU #: 0120 Phelps Dodge Magnet Wire Co.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	21.300	19.563	1.0220	0.0908	0.0834	
99	170.000	155.000	1.1690	0.8287	0.7556	
Totals:			2.1910	0.9195	0.8390	
Cost Analysis:			442.1992	437.8387	249.6169	1,129.6547

IU #: 0148 Superior Powder Coating

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	80.674	77.526	1.0900	0.3667	0.3524	
99	170.000	155.000	0.3190	0.2261	0.2062	
Totals:			1.4090	0.5928	0.5586	
Cost Analysis:			284.3718	282.2738	166.1931	732.8387

IU #: 0155 S & G Packaging

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	222.833	219.143	4.7320	4.3970	4.3242	
2	235.667	250.000	1.0680	1.0496	1.1134	
Totals:			5.8000	5.4466	5.4376	
Cost Analysis:			1,170.5866	2,593.5098	1,617.7791	5,381.8754

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Municipality: Elizabeth

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
201.8252691	476.1704160	297.5171211

IU #: 0165 Wakefern Food Corp.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
98	638.456	300.369	11.4010	30.3536	14.2802	
Totals:			11.4010	30.3536	14.2802	
Cost Analysis:			2,301.0099	14,453.4863	4,248.6040	21,003.1002

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
Elizabeth Totals:	186.1480	812.1361	166.4330	
Cost Analysis:	37,569.3702	386,715.1846	49,516.6670	473,801.2218

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Municipality: Hillside

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
234.4573856	476.1704160	297.5171211

IU #: 1003 Accufleet

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	156.857	54.286	1.7410	1.1388	0.3941	
Totals:			1.7410	1.1388	0.3941	
Cost Analysis:			408.1903	542.2629	117.2515	1,067.7047

IU #: 1010 Ariston, Inc

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	228.333	236.500	0.5510	0.5246	0.5434	
Totals:			0.5510	0.5246	0.5434	
Cost Analysis:			129.1860	249.7990	161.6708	540.6558

IU #: 1012 Atlantic Metal Products

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	23.800	58.222	5.5200	0.5478	1.3402	
2	39.111	33.143	8.0180	1.3077	1.1081	
99	170.000	155.000	0.9550	0.6770	0.6173	
Totals:			14.4930	2.5325	3.0656	
Cost Analysis:			3,397.9909	1,205.9016	912.0685	5,515.9610

IU #: 1015 Bristol-Myers Products R&D

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	81.100	93.600	4.9700	1.6808	1.9399	
Totals:			4.9700	1.6808	1.9399	
Cost Analysis:			1,165.2532	800.3472	577.1535	2,542.7539

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Joint Meeting of Essex & Union Counties

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Municipality: Hillside

----- Cost Factors -----
 Flow per MG BOD per Ton TSS per Ton

 234.4573856 476.1704160 297.5171211

IU #: 1020 Bristol-Myers Products - Pilot

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
5	209.556	200.889	0.2240	0.1957	0.1876	
Totals:			0.2240	0.1957	0.1876	
Cost Analysis:			52.5185	93.1866	55.8142	201.5192

IU #: 1025 Certified Processing

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	449.750	10.025	2.3860	4.4748	0.0997	
Totals:			2.3860	4.4748	0.0997	
Cost Analysis:			559.4153	2,130.7674	29.6625	2,719.8452

IU #: 1032 McCain Citrus, Inc.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
3	4,765.932	293.776	7.6850	152.7312	9.4145	
Totals:			7.6850	152.7312	9.4145	
Cost Analysis:			1,801.8050	72,726.0790	2,800.9749	77,328.8590

IU #: 1035 ECD, Inc.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
1	11.400	176.300	8.4870	0.4035	6.2394	
99	170.000	155.000	1.0330	0.7323	0.6677	
Totals:			9.5200	1.1358	6.9071	
Cost Analysis:			2,232.0343	540.8344	2,054.9805	4,827.8492

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Municipality: Hillside

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 1037 Fabric Wash

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
-----	-----	-----	-----	-----	-----	-----
1	928.625	86.571	1.2620	4.8869	0.4556	
Totals:			1.2620	4.8869	0.4556	
Cost Analysis:			295.8852	2,326.9972	135.5488	2,758.4312

IU #: 1045 Parkway Business Center

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
-----	-----	-----	-----	-----	-----	-----
1	59.571	105.857	1.3030	0.3237	0.5752	
Totals:			1.3030	0.3237	0.5752	
Cost Analysis:			305.4980	154.1364	171.1318	630.7662

IU #: 1050 Manhattan Drug Company, Inc.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
-----	-----	-----	-----	-----	-----	-----
2	429.750	284.111	0.4030	0.7222	0.4775	
Totals:			0.4030	0.7222	0.4775	
Cost Analysis:			94.4863	343.8903	142.0644	580.4410

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
-----	-----	-----	-----	-----
Hillside Totals:	44.5380	170.3470	24.0602	
Cost Analysis:	10,442.2630	81,114.2019	7,158.3214	98,714.7863

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Municipality: Irvington

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 2008 Archon Vitamin Corporation

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	169.620	87.800	0.2460	0.1740	0.0901	
3	264.920	264.200	0.2460	0.2718	0.2710	
Totals:			0.4920	0.4458	0.3611	
Cost Analysis:			115.3530	212.2768	107.4334	435.0632

IU #: 2035 Industrial Retaining Ring

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	254.275	822.333	1.2500	1.3254	4.2864	
Totals:			1.2500	1.3254	4.2864	
Cost Analysis:			293.0717	631.1163	1,275.2774	2,199.4654

IU #: 2036 Intergel

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	459.600	114.800	2.4280	4.6533	1.1623	
Totals:			2.4280	4.6533	1.1623	
Cost Analysis:			569.2625	2,215.7638	345.8041	3,130.8305

IU #: 2040 Jabel, Incorporated

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	168.250	59.000	0.9740	0.6834	0.2396	
Totals:			0.9740	0.6834	0.2396	
Cost Analysis:			228.3615	325.4149	71.2851	625.0615

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Municipality: Irvington

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 2050 Max Marx Color Corporation

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	328.227	183.655	8.3190	11.3863	6.3710	
Totals:			8.3190	11.3863	6.3710	
Cost Analysis:			1,950.4510	5,421.8192	1,895.4816	9,267.7518

IU #: 2055 Revlon, Incorporated

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
4	172.300	477.778	1.3470	0.9678	2.6837	
99	170.000	155.000	4.5950	3.2574	2.9700	
Totals:			5.9420	4.2252	5.6537	
Cost Analysis:			1,393.1458	2,011.9152	1,682.0725	5,087.1336

IU #: 2057 Sal's Cleaners

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	256.571	64.857	2.6050	2.7871	0.7045	
99	170.000	155.000	0.1040	0.0737	0.0672	
Totals:			2.7090	2.8608	0.7717	
Cost Analysis:			635.1451	1,362.2283	229.5940	2,226.9673

IU #: 2060 Standard Uniform Service

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	251.143	220.571	14.2670	14.9413	13.1225	
Totals:			14.2670	14.9413	13.1225	
Cost Analysis:			3,345.0035	7,114.6050	3,904.1684	14,363.7770

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Municipality: Irvington

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
	----	-----	-----	-----
Irvington Totals:	36.3810	40.5215	31.9683	
Cost Analysis:	8,529.7941	19,295.1395	9,511.1166	37,336.0502

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Municipality: Maplewood

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 3020 Gleason Cleaners

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	413.636	166.909	1.5090	2.6028	1.0503	
Totals:			1.5090	2.6028	1.0503	
Cost Analysis:			353.7962	1,239.3764	312.4822	1,905.6548

IU #: 3033 NJ Transit Bus Terminal

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	392.167	89.500	6.6630	10.8962	2.4867	
Totals:			6.6630	10.8962	2.4867	
Cost Analysis:			1,562.1896	5,188.4481	739.8358	7,490.4735

IU #: 3045 Universal Chain Company

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	33.240	54.600	0.3780	0.0524	0.0861	
Totals:			0.3780	0.0524	0.0861	
Cost Analysis:			88.6249	24.9513	25.6162	139.1924

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
	----	-----	-----	-----
Maplewood Totals:	8.5500	13.5514	3.6231	
Cost Analysis:	2,004.6106	6,452.7758	1,077.9343	9,535.3207

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Municipality: Murray Hill

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 5010 Lucent Technologies

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	15.230	18.536	68.4030	4.3442	5.2873	
Totals:			68.4030	4.3442	5.2873	
Cost Analysis:			16,037.5885	2,068.5795	1,573.0623	19,679.2303

IU #: 5020 Fablok Mills, Incorporated

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	223.556	107.000	12.3410	11.5046	5.5064	
Totals:			12.3410	11.5046	5.5064	
Cost Analysis:			2,893.4386	5,478.1502	1,638.2483	10,009.8370

IU #: 5021 FRC-Electrical Industries

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	13.457	10.543	12.5950	0.7068	0.5537	
Totals:			12.5950	0.7068	0.5537	
Cost Analysis:			2,952.9908	336.5573	164.7352	3,454.2833

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
	----	-----	-----	-----
Murray Hill Totals:	93.3390	16.5556	11.3474	
Cost Analysis:	21,884.0179	7,883.2869	3,376.0458	33,143.3506

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Municipality: Roselle Park

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 6005 Hexacon Electric Company

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	8.851	23.633	1.1280	0.0416	0.1112	
99	170.000	155.000	0.1430	0.1014	0.0924	
Totals:			1.2710	0.1430	0.2036	
Cost Analysis:			297.9953	68.0924	60.5745	426.6622

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
	----	-----	-----	-----
Roselle Park Totals:	1.2710	0.1430	0.2036	
Cost Analysis:	297.9953	68.0924	60.5745	426.6622

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Municipality: Summit

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 5505 Celanese Research Company

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	105.250	125.875	20.7860	9.1228	10.9105	
Totals:			20.7860	9.1228	10.9105	
Cost Analysis:			4,873.4312	4,344.0075	3,246.0605	12,463.4992

IU #: 5510 Novartis Pharmaceuticals Corp

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
3a	34.974	27.289	152.3870	22.2242	17.3408	
99	170.000	155.000	15.0560	10.6732	9.7314	
Totals:			167.4430	32.8974	27.0722	
Cost Analysis:			39,258.2480	15,664.7686	8,054.4430	62,977.4597

IU #: 5515 Columbia Cleaners Inc.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	43.667	43.111	0.6240	0.1136	0.1122	
2	52.571	31.286	1.1580	0.2539	0.1511	
Totals:			1.7820	0.3675	0.2633	
Cost Analysis:			417.8031	174.9926	78.3363	671.1319

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
-----	-----	-----	-----	-----
Summit Totals:	190.0110	42.3877	38.2460	
Cost Analysis:	44,549.4823	20,183.7687	11,378.8398	76,112.0909

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Municipality: Union

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 7015 ACuPowder International

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
3a	141.125	154.778	0.2140	0.1259	0.1381	
4a	98.125	58.750	0.9730	0.3981	0.2384	
Totals:			1.1870	0.5240	0.3765	
Cost Analysis:			278.3009	249.5133	112.0152	639.8294

IU #: 7025 Allied Processing Corp.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	12.840	5.250	0.4510	0.0241	0.0099	
Totals:			0.4510	0.0241	0.0099	
Cost Analysis:			105.7403	11.4757	2.9454	120.1614

IU #: 7035 American Products Company

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	269.333	234.333	1.3600	1.5274	1.3290	
Totals:			1.3600	1.5274	1.3290	
Cost Analysis:			318.8620	727.3027	395.4003	1,441.5650

IU #: 7045 TransTechnology / Breeze

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	85.963	63.750	2.5790	0.9245	0.6856	
Totals:			2.5790	0.9245	0.6856	
Cost Analysis:			604.6656	440.2195	203.9777	1,248.8629

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Municipality: Union

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 7060 National Envelope Corp. East

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	293.200	273.273	1.7910	2.1898	2.0409	
Totals:			1.7910	2.1898	2.0409	
Cost Analysis:			419.9132	1,042.7180	607.2027	2,069.8338

IU #: 7065 Culligan Water Conditioning

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	11.973	24.273	3.8710	0.1933	0.3918	
Totals:			3.8710	0.1933	0.3918	
Cost Analysis:			907.5845	92.0437	116.5672	1,116.1955

IU #: 7070 Durex, Incorporated

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	43.111	58.500	12.9120	2.3212	3.1498	
Totals:			12.9120	2.3212	3.1498	
Cost Analysis:			3,027.3138	1,105.2868	937.1194	5,069.7200

IU #: 7080 Foremost Manufacturing Co.

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	22.286	271.429	19.3280	1.7962	21.8765	
Totals:			19.3280	1.7962	21.8765	
Cost Analysis:			4,531.5923	855.2973	6,508.6333	11,895.5229

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Municipality: Union

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 7092 Interlux/Courtauld Coating

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	81.600	84.640	5.9750	2.0331	2.1089	
Totals:			5.9750	2.0331	2.1089	
Cost Analysis:			1,400.8829	968.1021	627.4339	2,996.4188

IU #: 7105 Stonco Lighting

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2	161.475	184.000	2.2850	1.5386	1.7532	
Totals:			2.2850	1.5386	1.7532	
Cost Analysis:			535.7351	732.6358	521.6070	1,789.9779

IU #: 7110 NEI/DoAll

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	62.667	7.278	1.4290	0.3734	0.0434	
99	170.000	155.000	0.2160	0.1531	0.1396	
Totals:			1.6450	0.5265	0.1830	
Cost Analysis:			385.6824	250.7037	54.4456	690.8318

IU #: 7145 Schering Corporation

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
5	102.132	37.853	188.8830	80.4431	29.8144	
Totals:			188.8830	80.4431	29.8144	
Cost Analysis:			44,285.0144	38,304.6244	8,870.2945	91,459.9332

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Municipality: Union

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 7150 SS Studios, Incorporated

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	203.125	74.000	0.2770	0.2346	0.0855	
Totals:			0.2770	0.2346	0.0855	
Cost Analysis:			64.9447	111.7096	25.4377	202.0920

IU #: 7167 Turbo Braze Corporation

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	177.143	76.667	1.6880	1.2469	0.5397	
Totals:			1.6880	1.2469	0.5397	
Cost Analysis:			395.7641	593.7369	160.5700	1,150.0709

IU #: 7170 Tuscan Dairy Farms, Incorp

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
2a	2,017.118	1,242.618	135.5910	1,140.5075	702.5940	
2b	501.600	269.000	20.0080	41.8502	22.4436	
Totals:			155.5990	1,182.3577	725.0376	
Cost Analysis:			36,481.3347	563,003.7579	215,711.0994	815,196.1921

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
-----	-----	-----	-----	-----
Union Totals:	399.8310	1,277.8810	789.3823	
Cost Analysis:	93,743.3309	608,489.1274	234,854.7493	937,087.2077

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Municipality: West Orange

----- Cost Factors -----		
Flow per MG	BOD per Ton	TSS per Ton
-----	-----	-----
234.4573856	476.1704160	297.5171211

IU #: 8030 Organon, Incorporated

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	33.500	32.571	18.2890	2.5549	2.4841	
Totals:			18.2890	2.5549	2.4841	
Cost Analysis:			4,287.9911	1,216.5678	739.0623	6,243.6212

IU #: 8040 Turtle Back Zoo

Site	BOD (mg/L)	TSS (mg/L)	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
----	-----	-----	-----	-----	-----	-----
1	13.075	9.300	1.8810	0.1026	0.0729	
Totals:			1.8810	0.1026	0.0729	
Cost Analysis:			441.0143	48.8551	21.6890	511.5584

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
	----	-----	-----	-----
West Orange Totals:	20.1700	2.6575	2.5570	
Cost Analysis:	4,729.0055	1,265.4229	760.7513	6,755.1796

	Flow (MG)	BOD (Tons)	TSS (Tons)	Annual Payment
	----	-----	-----	-----
Grand Totals:	980.2390	2,376.1808	1,067.8209	
Cost Analysis:	223,749.8700	1,131,467.0000	317,695.0000	1,672,911.8700