

**APPENDIX 9C**  
**HISTORIC MMSD DATA**

**OPERATING COST PER DRY TON FOR SOLIDS UTILIZATION ALTERNATIVES  
2004 ACTUAL ADJUSTED FOR ACTUAL UWS ENERGY COSTS**

|   | <b>JIWWTP</b>                   | <b>SSWWTP</b>     |                    |
|---|---------------------------------|-------------------|--------------------|
|   | Milorganite®<br><u>Products</u> | <u>Agri-Life®</u> | <u>Filter Cake</u> |
| Manufacturing or processing cost/ton (1)        | \$388.49                        | \$234.00          | \$368.30           |
| Mkt/Pkging or application/disposal cost/ton (1) | <u>60.93</u>                    | <u>306.62</u>     | <u>116.46</u>      |
| Gross cost/ton                                  | \$449.42                        | \$540.63          | \$484.76           |
| Less: net revenue/ton                           | <u>(116.21)</u>                 | <u>0.00</u>       | <u>0.00</u>        |
| Net cost/ton                                    | <u>\$333.21</u>                 | <u>\$540.63</u>   | <u>\$484.76</u>    |
| Tons processed (2)                              | 56,040                          | 4,665             | 2,168              |
| Tons sold/applied/disposed (2)                  | 49,086                          | 5,473             | 2,649              |

NOTES:

- 1) Costs included in this analysis consist of operating expenses directly charged to solids utilization by UWS, MMSD operating cost centers and MMSD administrative support.
- 2) Each solids disposal option includes an amount of water or moisture; therefore, to compare costs between options all tons have been converted to a 100% dry basis. In addition, credit has been given for solids removed during the digestion process at the SSWWTP plant.
- 3) Since the District's user charge rates do not recover depreciation cost and depreciation is a sunk cost, depreciation is excluded from this analysis of operating costs.

**OPERATING COST PER DRY TON FOR SOLIDS UTILIZATION ALTERNATIVES BY COST CENTER**

|   | <b>JIWWTP</b>            |                   | <b>SSWWTP</b>   |                 |
|---|--------------------------|-------------------|-----------------|-----------------|
|   | Milorganite®<br>Products | Agri-Life®<br>Dry | Agri-Life®      | Filter Cake     |
| Manufacturing or processing cost/ton        |                          |                   |                 |                 |
| United Water Services                       |                          |                   |                 |                 |
| UWS Contract (5)                            | \$308.95                 | \$0.00            | \$172.88        | \$277.75        |
| Admin Support from MMSD (1)                 | 25.69                    | 0.00              | \$16.79         | \$22.84         |
| MMSD Operations                             |                          |                   |                 |                 |
| 59 Contract Compliance                      | 43.13                    | 0.00              | 41.14           | 63.38           |
| 41 Engineering Services                     | 0.02                     | 0.00              | 0.19            | 0.26            |
| 43 Laboratory                               | 3.69                     | 0.00              | 3.00            | 4.07            |
| 51 Operations Administration                | 0.00                     | 0.00              | 0.00            | 0.00            |
| <b>Total</b>                                | <b>\$381.50</b>          | <b>\$0.00</b>     | <b>\$234.00</b> | <b>\$368.30</b> |
| Mkt/Pkging or application/disposal cost/ton |                          |                   |                 |                 |
| United Water Services                       |                          |                   |                 |                 |
| UWS Contract                                |                          | 0.00              | 200.79          | 86.00           |
| Admin Support from MMSD                     |                          | 0.00              | 25.50           | 11.01           |
| MMSD Operations                             |                          |                   |                 |                 |
| 59 Contract Compliance                      |                          | 0.00              | 75.01           | 17.16           |
| 41 Engineering Services                     |                          | 0.00              | 0.29            | 0.12            |
| 43 Laboratory                               |                          | 0.00              | 5.04            | 2.17            |
| 75 Marketing                                | 60.93                    |                   |                 |                 |
| 51 Operations Administration                |                          | 0.00              | 0.00            | 0.00            |
| <b>Total</b>                                | <b>\$60.93</b>           | <b>\$0.00</b>     | <b>\$306.62</b> | <b>\$116.46</b> |
| Gross cost/ton                              | \$442.43                 | \$0.00            | \$540.63        | \$484.76        |
| Less: net revenue/ton                       | (116.21)                 | 0.00              | 0.00            | 0.00            |
| Net cost/ton                                | \$326.22                 | \$0.00            | \$540.63        | \$484.76        |
| Tons processed (3)                          | 56,040                   | 0                 | 4,665           | 2,168           |
| Tons sold/applied/disposed (3)              | 49,086                   | 0                 | 5,473           | 2,649           |

**NOTES:**

- 1) MMSD administrative support costs incurred as a result of the UWS contract are reported separately from operating contract fees.
- 2) Operating costs from these cost centers include allocated costs from administrative cost centers.
- 3) Each solids disposal option includes an amount of water or moisture; therefore, to compare costs between options, all tons have been converted to a 100% dry basis. In addition, credit has been given for solids removed during the digestion process at the SSWWTP plant.
- 4) Since the District's user charge rates do not recover depreciation cost and depreciation is a sunk cost, depreciation is excluded from this analysis of operating costs.
- 5) UWS contract billing adjusted for actual energy costs incurred by UWS.

# OPERATING COST BY COST CENTER FOR SOLIDS UTILIZATION ALTERNATIVES

|   | JIWWTP                   |                   | SSWWTP      |             |
|---|--------------------------|-------------------|-------------|-------------|
|   | Milorganite®<br>Products | Agri-Life®<br>Dry | Agri-Life®  | Filter Cake |
| Manufacturing or processing cost        |                          |                   |             |             |
| United Water Services                   |                          |                   |             |             |
| UWS Contract                            | \$17,313,443             | \$0               | \$806,558   | \$602,050   |
| Admin Support from MMSD                 | \$1,439,845              | \$0               | \$78,322    | \$49,502    |
| MMSD Operations                         |                          |                   |             |             |
| 59 Contract Compliance                  | 2,417,180                | 0                 | 191,938     | 137,379     |
| 41 Engineering Services                 | 1,394                    | 0                 | 886         | 560         |
| 43 Laboratory                           | 207,044                  | 0                 | 14,011      | 8,824       |
| 51 Operations Administration            | 0                        | 0                 | 0           | 0           |
| Total                                   | \$21,378,906             | \$0               | \$1,091,714 | \$798,315   |
| Mkt/Pkging or application/disposal cost |                          |                   |             |             |
| United Water Services                   |                          |                   |             |             |
| UWS Contract                            |                          | \$0               | \$1,098,849 | \$227,827   |
| Admin Support from MMSD                 |                          | \$0               | \$139,561   | \$29,160    |
| MMSD Operations                         |                          |                   |             |             |
| 59 Contract Compliance                  |                          | 0                 | 410,511     | 45,465      |
| 41 Engineering Services                 |                          | 0                 | 1,578       | 330         |
| 43 Laboratory                           |                          | 0                 | 27,560      | 5,758       |
| 75 Marketing                            | \$2,990,952              |                   |             |             |
| 51 Operations Administration            |                          | 0                 | 0           | 0           |
| Total                                   | \$2,990,952              | \$0               | \$1,678,059 | \$308,540   |
| Gross cost before revenue               | \$24,369,858             | \$0               | \$2,769,773 | \$1,106,855 |
| Less: net revenue                       | (5,704,448)              | 0.00              | 0.00        | 0.00        |
| Net cost                                | \$18,665,409             | \$0               | \$2,769,773 | \$1,106,855 |
| Tons processed                          | 56,040                   | 0                 | 4,665       | 2,168       |
| Tons sold/applied/disposed              | 49,086                   | 0                 | 5,473       | 2,649       |

## NOTES:

Allocated costs include administrative support, pipeline transfer, and charges from depreciation costs are not included in this schedule.

JIWWTP and SSWWTP tonnage includes credit for solids removed by anaerobic digestion.

All tons converted to 100% dry for cost comparison purposes.

**UWS contract billing adjusted for actual energy costs incurred by UWS.**



## JIWWTP COSTS

|  | Prgm.<br>Number | Total               | Milorganite®        | Agri-Life®<br>Dry | Total               |
|--|-----------------|---------------------|---------------------|-------------------|---------------------|
| <b>Solids Processing</b>               |                 |                     |                     |                   |                     |
| Thickening                             | 2410            | 1,989,266           | \$1,989,266         | \$0               | \$1,989,266         |
| Mechanical dewatering                  | 2420            | 2,862,107           | \$2,862,107         | \$0               | \$2,862,107         |
| Drying                                 | 2430            | 13,084,346          | \$13,084,346        | \$0               | \$13,084,346        |
| Warehouse and shipping                 | 2460            | 1,790,659           | \$1,790,659         | \$0               | \$1,790,659         |
| Digested Sludge Costs from SSWWTP      | sched.          | 1,110,376           | \$1,110,376         | \$0               | \$1,110,376         |
| <b>Solids Manufacturing</b>            |                 |                     |                     |                   |                     |
| Pipeline transfers between plants      | 2455            | 14,302              | \$4,697             | \$0               | \$4,697             |
| Chaff processing for Milorganite®      | 2660            | 929,162             | \$929,162           |                   | \$929,162           |
|  |                 | <u>\$21,780,218</u> | <u>\$21,770,613</u> | <u>\$0</u>        | <u>\$21,770,613</u> |
| Tons manufactured                      |                 |                     | 56,040              | 0                 |                     |
| Manufacturing cost/ton                 |                 |                     | \$388.49            | \$0.00            |                     |
| <b>Marketing</b>                       |                 |                     |                     |                   |                     |
| Milorganite® products                  | 75xx            | <u>\$2,990,952</u>  | <u>\$2,990,952</u>  |                   |                     |
| Tons sold                              |                 |                     | 49,086              |                   |                     |
| Marketing cost/ton                     |                 |                     | \$60.93             |                   |                     |
| <b>Solids Disposal</b>                 |                 |                     |                     |                   |                     |
| Agri-Life® Dry appl. costs from SSWWTP | 3630            | <u>\$0</u>          |                     | <u>\$0</u>        |                     |
|  |                 |                     |                     | 0                 |                     |
|  |                 |                     |                     | \$0.00            |                     |
| <b>Solids Utilization Costs</b>        |                 |                     | <u>24,771,170</u>   | <u>24,761,565</u> | <u>0</u>            |

### NOTES:

- 1) Includes general administrative and operations administration cost allocations.
- 2) Includes cost allocations from cost centers 41, 43, 59, and 75.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.

UWS COST: JIWWTP

|   | Prgm. Number | Total Before Power Alloc. | Energy Cost Adjustment Direct Cost | Power Alloc. | Acct 643,644 Adjustment | Power Allocation Weight | Amount      | Total        | Milorganite® | Agri-Life® Dry | Total        |
|---|--------------|---------------------------|------------------------------------|--------------|-------------------------|-------------------------|-------------|--------------|--------------|----------------|--------------|
| Solids Processing                           |              |                           |                                    |              |                         |                         |             |              |              |                |              |
| Thickening                                  | 2410         | 995,126                   | 185,050                            | 73,695       | 0                       | 7.2%                    | 396,301     | 1,650,171    | \$1,650,171  | \$0            | \$1,650,171  |
| Mechanical dewatering                       | 2420         | 1,729,607                 | 321,631                            | 44,632       | 0                       | 4.4%                    | 240,013     | 2,335,883    | \$2,335,883  | \$0            | \$2,335,883  |
| Drying                                      | 2430         | 8,000,038                 | 1,487,656                          | 303,082      | 0                       | 29.6%                   | 1,629,857   | 11,420,633   | \$11,420,633 | \$0            | \$11,420,633 |
| Warehouse and shipping                      | 2460         | 805,258                   | 149,743                            | 19,721       | 0                       | 1.9%                    | 106,052     | 1,080,774    | \$1,080,774  | \$0            | \$1,080,774  |
| Digested Sludge Costs from SSWWTP           | sched.       | 0                         |                                    |              |                         |                         |             | 0            | \$0          | \$0            | \$0          |
| Energy Distribution                         |              |                           |                                    |              |                         |                         |             |              |              |                |              |
| Electric generation and distribution        | 2510         | 5,200,496                 | 967,064                            | (967,064)    | 0                       |                         | (5,200,496) | 0            |              |                |              |
| Hot water and steam generation/distribution | 2530         | 303,063                   | 56,356                             | (56,356)     | 0                       |                         | (303,063)   | 0            |              |                |              |
| Solids Manufacturing                        |              |                           |                                    |              |                         |                         |             |              |              |                |              |
| Pipeline transfers between plants           | 2455         | 9,773                     | 65                                 |              | 0                       |                         |             | 9,838        | \$3,231      | \$0            | \$3,231      |
| Chaff processing for Milorganite®           | 2660         | 3,017                     | 621                                |              | 0                       |                         |             | 3,638        | \$3,638      |                | \$3,638      |
| All Other Processes                         |              |                           |                                    | 582,291      |                         | 56.9%                   | 3,131,335   | 3,713,626    |              |                |              |
|   |              | \$17,046,378              | \$3,168,186                        | \$0          | \$0                     | 100.0%                  | \$0         | \$20,214,564 | \$16,494,330 | \$0            | \$16,494,330 |
|   |              | check>>>                  |                                    |              | \$0                     |                         |             |              |              |                |              |
| Tons manufactured                           |              |                           |                                    |              |                         |                         |             |              | 56,040       | 0              |              |
| Manufacturing cost/ton                      |              |                           |                                    |              |                         |                         |             |              | \$294.33     | \$0.00         |              |
| Marketing                                   |              |                           |                                    |              |                         |                         |             |              |              |                |              |
| Milorganite® products                       | 75xx         | \$0                       |                                    |              |                         |                         |             |              | \$0          |                |              |
| Tons sold                                   |              |                           |                                    |              |                         |                         |             |              | 49,086       |                |              |
| Marketing cost/ton                          |              |                           |                                    |              |                         |                         |             |              | \$0.00       |                |              |
| Solids Disposal                             |              |                           |                                    |              |                         |                         |             |              |              |                |              |
| Agri-Life® Dry appl. costs from SSWWTP      | 3630         | \$0                       |                                    |              |                         |                         |             |              |              | \$0            |              |
|   |              |                           |                                    |              |                         |                         |             |              |              | 0              |              |
|   |              |                           |                                    |              |                         |                         |             |              |              | \$0.00         |              |
| Solids Utilization Costs                    |              | 17,046,378                |                                    |              |                         |                         |             |              | 16,494,330   | 0              |              |

NOTES:

- 1) Includes UWS fee assigned to activities as reported for user charge model and an adjustment for actual cost to UWS.
- 2) Excludes cost allocations from cost centers 41, 43, 59, and 75.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.

| Energy Allocation                     |      | full cost<br>Total | cost Center<br>Total | UWS       | 42 | 43     | 59        | 75        | Admin   |
|---------------------------------------|------|--------------------|----------------------|-----------|----|--------|-----------|-----------|---------|
| <b>JIWWTP</b>                         |      |                    |                      |           |    |        |           |           |         |
| Solids Processing                     |      |                    |                      |           |    |        |           |           |         |
| Thickening                            | 2410 | 450,916            | 450,916              | 396,301   | 7  | 2,550  | 34,149    |           | 17,909  |
| Mechanical dewatering                 | 2420 | 273,090            | 273,090              | 240,013   | 4  | 1,544  | 20,682    |           | 10,846  |
| Drying                                | 2430 | 1,854,472          | 1,854,472            | 1,629,857 | 29 | 10,486 | 140,444   |           | 73,655  |
| Warehouse and shipping                | 2460 | 120,668            | 120,668              | 106,052   | 2  | 682    | 9,138     |           | 4,793   |
| Solids Manufacturing                  |      |                    |                      |           |    |        |           |           |         |
| Pipeline transfers between plants     | 2455 |                    | 3,000                | 0         | 0  | 107    | 609       |           | 2,284   |
| Chaff processing for Milorganite®     | 2660 |                    | 925,524              | 0         | 0  | 0      | 925,524   |           | 0       |
| Marketing                             |      |                    |                      |           |    |        |           |           |         |
| Milorganite® products                 | 75xx |                    | 2,990,952            |           |    |        |           | 2,990,952 |         |
| <b>SSWWTP</b>                         |      |                    |                      |           |    |        |           |           |         |
| Solids Processing                     |      |                    |                      |           |    |        |           |           |         |
| Thickening                            | 3410 |                    | 0                    |           |    |        |           |           |         |
| Centrifuge thickening                 | 3420 |                    | 0                    |           |    |        |           |           |         |
| Digestion                             | 3440 |                    | 0                    |           |    |        |           |           |         |
| Agri-Life® storage                    | 3450 |                    | 0                    |           |    |        |           |           |         |
| Plate and frame press dewatering      | 3460 |                    | 0                    |           |    |        |           |           |         |
| Pipeline transfer                     | 3455 |                    | 0                    |           |    |        |           |           |         |
| Solids Disposal                       |      |                    |                      |           |    |        |           |           |         |
| Agriculture utilization of Agri-Life® | 3630 |                    | 0                    |           |    |        |           |           |         |
| Polymer filter cake to WEPCO          | 3660 |                    | 0                    |           |    |        |           |           |         |
| Lime filter cake to WEPCO             | 3661 |                    | 0                    |           |    |        |           |           |         |
| Polymer filter cake to landfill       | 3662 |                    | 0                    |           |    |        |           |           |         |
|                                       |      |                    | 6,618,621            | 2,372,224 | 43 | 15,369 | 1,130,546 | 2,990,952 | 109,487 |

**ADMIN ALLOCATION TO UWS: JIWWTP**

|   | Prgm.<br>Number | Total Before<br>Power Alloc. | Acct 643,644<br>Adjustment | Power Allocation |                    | Total              | Milorganite®       | Agri-Life®<br>Dry | Total              | distribution<br>check |
|---|-----------------|------------------------------|----------------------------|------------------|--------------------|--------------------|--------------------|-------------------|--------------------|-----------------------|
|   |                 |                              |                            | Weight           | Amount             |                    |                    |                   |                    |                       |
| Solids Processing                           |                 |                              |                            |                  |                    |                    |                    |                   |                    |                       |
| Thickening                                  | 2410            | 145,525                      | 0                          | 7.2%             | 17,909             | 163,434            | \$163,434          | \$0               | \$163,434          | 0                     |
| Mechanical dewatering                       | 2420            | 233,557                      | 0                          | 4.4%             | 10,846             | 244,403            | \$244,403          | \$0               | \$244,403          | 0                     |
| Drying                                      | 2430            | 722,819                      | 0                          | 29.6%            | 73,655             | 796,474            | \$796,474          | \$0               | \$796,474          | 0                     |
| Warehouse and shipping                      | 2460            | 154,778                      | 0                          | 1.9%             | 4,793              | 159,571            | \$159,571          | \$0               | \$159,571          | 0                     |
| Energy Distribution                         |                 |                              |                            |                  |                    |                    |                    |                   |                    |                       |
| Electric generation and distribution        | 2510            | 177,874                      | 0                          |                  | (177,874)          | 0                  |                    |                   |                    |                       |
| Hot water and steam generation/distribution | 2530            | 70,838                       | 0                          |                  | (70,838)           | 0                  |                    |                   |                    |                       |
| Solids Manufacturing                        |                 |                              |                            |                  |                    |                    |                    |                   |                    |                       |
| Pipeline transfers between plants           | 2455            | 2,284                        | 0                          |                  |                    | 2,284              | \$750              | \$0               | \$750              | (1,534)               |
| Chaff processing for Milorganite®           | 2660            | 0                            | 0                          |                  |                    | 0                  | \$0                | \$0               | \$0                | 0                     |
| All Other Processes                         |                 |                              |                            | 56.9%            | 141,509            | 141,509            |                    |                   |                    |                       |
|   |                 | <u>\$1,507,675</u>           | <u>\$0</u>                 | 43.1%            | <u>(\$141,509)</u> | <u>\$1,366,166</u> | <u>\$1,364,633</u> | <u>\$0</u>        | <u>\$1,364,633</u> | <u>(1,534)</u>        |
|   |                 | check>>>                     | \$0                        |                  |                    |                    |                    |                   |                    |                       |
| Tons manufactured                           |                 |                              |                            |                  |                    |                    | 56,040             | 0                 |                    |                       |
| Manufacturing cost/ton                      |                 |                              |                            |                  |                    |                    | \$24.35            | \$0.00            |                    |                       |
| Marketing                                   |                 |                              |                            |                  |                    |                    |                    |                   |                    |                       |
| Milorganite® products                       | 75xx            | <u>\$0</u>                   |                            |                  |                    |                    | <u>\$0</u>         |                   |                    |                       |
| Tons sold                                   |                 |                              |                            |                  |                    |                    | 49,086             |                   |                    |                       |
| Marketing cost/ton                          |                 |                              |                            |                  |                    |                    | \$0.00             |                   |                    |                       |
| Solids Disposal                             |                 |                              |                            |                  |                    |                    |                    |                   |                    |                       |
| Agri-Life® Dry appl. costs from SSWWTP      | 3630            | <u>\$0</u>                   |                            |                  |                    |                    |                    | <u>\$0</u>        |                    |                       |
|   |                 |                              |                            |                  |                    |                    |                    | 0                 |                    |                       |
|   |                 |                              |                            |                  |                    |                    |                    | \$0.00            |                    |                       |
| Solids Utilization Costs                    |                 | <u>1,507,675</u>             |                            |                  |                    |                    | <u>1,364,633</u>   | <u>0</u>          |                    |                       |

**NOTES:**

- 1) Includes UWS fee assigned to activities as reported for user charge model.
- 2) Excludes cost allocations from cost centers 41, 43, 59, and 75.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.

**UWS FEE ADJUSTMENT**

|  |                   |
|--|-------------------|
| 643 - Contract Fees                    | \$0               |
| 644 - Utilities                        | 0                 |
| Total Operating Contract Payments      | <u>\$0</u>        |
| Less: User Charge Model Allocated Fees | <u>34,250,550</u> |
| Adjustment to Reflect Total UWS Fees   | <u>\$0</u>        |
| JI 52                                  | 64.00%            |
| SS 54                                  | 23.80%            |
| Field 57                               | 12.20%            |
|  | <u>100.00%</u>    |
|  | <u>\$0</u>        |



#### 42 COST: JIWWTP

|   | Prgm.<br>Number | Total Before<br>Power Alloc. | Power Allocation<br>Weight | Amount | Total | Milorganite® | Agri-Life®<br>Dry | Total | distribution<br>check |
|---|-----------------|------------------------------|----------------------------|--------|-------|--------------|-------------------|-------|-----------------------|
| Solids Processing                           |                 |                              |                            |        |       |              |                   |       |                       |
| Thickening                                  | 2410            | 58                           | 7.2%                       | 7      | 65    | \$65         | \$0               | \$65  | 0                     |
| Mechanical dewatering                       | 2420            | 93                           | 4.4%                       | 4      | 97    | \$97         | \$0               | \$97  | 0                     |
| Drying                                      | 2430            | 288                          | 29.6%                      | 29     | 317   | \$317        | \$0               | \$317 | 0                     |
| Warehouse and shipping                      | 2460            | 62                           | 1.9%                       | 2      | 64    | \$64         | \$0               | \$64  | 0                     |
| Energy Distribution                         |                 |                              |                            |        |       |              |                   |       |                       |
| Electric generation and distribution        | 2510            | 71                           |                            | (71)   | 0     |              |                   |       |                       |
| Hot water and steam generation/distribution | 2530            | 28                           |                            | (28)   | 0     |              |                   |       |                       |
|   |                 |                              |                            |        |       |              |                   | \$0   | 0                     |
| Solids Manufacturing                        |                 |                              |                            |        |       |              |                   | \$0   | 0                     |
| Pipeline transfers between plants           | 2455            | 1                            |                            |        | 1     | \$0          | \$0               | \$0   | (1)                   |
| Chaff processing for Milorganite®           | 2660            | 0                            |                            |        | 0     | \$0          |                   | \$0   | 0                     |
| All Other Processes                         |                 |                              | 56.9%                      | 56     | 56    |              |                   |       |                       |
|   |                 | \$601                        | 100.0%                     | \$0    | \$601 | \$544        | \$0               | \$544 | (1)                   |
| Tons manufactured                           |                 |                              |                            |        |       | 56,040       | 0                 |       |                       |
| Manufacturing cost/ton                      |                 |                              |                            |        |       | \$0.01       | \$0.00            |       |                       |
| Marketing                                   |                 |                              |                            |        |       |              |                   |       |                       |
| Milorganite® products                       | 75xx            | \$0                          |                            |        |       | \$0          |                   |       |                       |
| Tons sold                                   |                 |                              |                            |        |       | 49,086       |                   |       |                       |
| Marketing cost/ton                          |                 |                              |                            |        |       | \$0.00       |                   |       |                       |
| Solids Disposal                             |                 |                              |                            |        |       |              |                   |       |                       |
| Agri-Life® Dry appl. costs from SSWWTP      | 3630            | \$0                          |                            |        |       |              | \$0               |       |                       |
|   |                 |                              |                            |        |       |              | 0                 |       |                       |
|   |                 |                              |                            |        |       |              | \$0.00            |       |                       |
| Solids Utilization Costs                    |                 | 601                          |                            |        |       | 544          | 0                 |       |                       |

#### NOTES:

- 1) Includes UWS fee assigned to activities as reported for user charge model..
- 2) Excludes cost allocations from cost centers 41, 43, 59, and 75.

### 43 COST: JIWWTP

|   | Prgm.<br>Number | Total Before<br>Power Alloc. | Power Allocation<br>Weight | Amount   | Total     | Milorganite® | Agri-Life®<br>Dry | Total     | distribution<br>check |
|---|-----------------|------------------------------|----------------------------|----------|-----------|--------------|-------------------|-----------|-----------------------|
| Solids Processing                           |                 |                              |                            |          |           |              |                   |           |                       |
| Thickening                                  | 2410            | 20,718                       | 7.2%                       | 2,550    | 23,268    | \$23,268     | \$0               | \$23,268  | 0                     |
| Mechanical dewatering                       | 2420            | 33,251                       | 4.4%                       | 1,544    | 34,795    | \$34,795     | \$0               | \$34,795  | 0                     |
| Drying                                      | 2430            | 102,906                      | 29.6%                      | 10,486   | 113,392   | \$113,392    | \$0               | \$113,392 | 0                     |
| Warehouse and shipping                      | 2460            | 22,035                       | 1.9%                       | 682      | 22,717    | \$22,717     | \$0               | \$22,717  | 0                     |
| Energy Distribution                         |                 |                              |                            |          |           |              |                   |           |                       |
| Electric generation and distribution        | 2510            | 25,323                       |                            | (25,323) | 0         |              |                   |           |                       |
| Hot water and steam generation/distribution | 2530            | 10,085                       |                            | (10,085) | 0         |              |                   |           |                       |
| Solids Manufacturing                        |                 |                              |                            |          |           |              |                   |           |                       |
| Pipeline transfers between plants           | 2455            | 325                          |                            |          | 325       | \$107        | \$0               | \$107     | (218)                 |
| Chaff processing for Milorganite®           | 2660            | 0                            |                            |          | 0         | \$0          |                   | \$0       | 0                     |
| All Other Processes                         |                 |                              | 56.9%                      | 20,146   | 20,146    |              |                   |           |                       |
|   |                 | \$214,643                    | 100.0%                     | \$0      | \$214,643 | \$194,279    | \$0               | \$194,279 | (218)                 |
| Tons manufactured                           |                 |                              |                            |          |           | 56,040       | 0                 |           |                       |
| Manufacturing cost/ton                      |                 |                              |                            |          |           | \$3.47       | \$0.00            |           |                       |
| Marketing                                   |                 |                              |                            |          |           |              |                   |           |                       |
| Milorganite® products                       | 75xx            | \$0                          |                            |          |           | \$0          |                   |           |                       |
| Tons sold                                   |                 |                              |                            |          |           | 49,086       |                   |           |                       |
| Marketing cost/ton                          |                 |                              |                            |          |           | \$0.00       |                   |           |                       |
| Solids Disposal                             |                 |                              |                            |          |           |              |                   |           |                       |
| Agri-Life®Dry appl. costs from SSWWTP       | 3630            | \$0                          |                            |          |           |              | \$0               |           |                       |
|   |                 |                              |                            |          |           |              | 0                 |           |                       |
|   |                 |                              |                            |          |           |              | \$0.00            |           |                       |
| Solids Utilization Costs                    |                 | 214,643                      |                            |          |           | 194,279      | 0                 |           |                       |

#### NOTES:

- 1) Includes UWS fee assigned to activities as reported for user charge model..
- 2) Excludes cost allocations from cost centers 41, 43, 59, and 75.

**59 COST: JIWWTP**

|   | Prgm.<br>Number | Total Before<br>Power Alloc. | Power Allocation<br>Weight | Amount    | Total       | Milorganite® | Agri-Life®<br>Dry | Total       | distribution<br>check |
|---|-----------------|------------------------------|----------------------------|-----------|-------------|--------------|-------------------|-------------|-----------------------|
| Solids Processing                           |                 |                              |                            |           |             |              |                   |             |                       |
| Thickening                                  | 2410            | 118,179                      | 7.2%                       | 34,149    | 152,328     | \$152,328    | \$0               | \$152,328   | 0                     |
| Mechanical dewatering                       | 2420            | 226,246                      | 4.4%                       | 20,682    | 246,928     | \$246,928    | \$0               | \$246,928   | 0                     |
| Drying                                      | 2430            | 613,085                      | 29.6%                      | 140,444   | 753,529     | \$753,529    | \$0               | \$753,529   | 0                     |
| Warehouse and shipping                      | 2460            | 126,688                      | 1.9%                       | 9,138     | 135,826     | \$135,826    | \$0               | \$135,826   | 0                     |
| Energy Distribution                         |                 |                              |                            |           |             |              |                   |             |                       |
| Electric generation and distribution        | 2510            | 416,713                      |                            | (416,713) | 0           |              |                   |             |                       |
| Hot water and steam generation/distribution | 2530            | 57,526                       |                            | (57,526)  | 0           |              |                   |             |                       |
| Process Air Generation                      | 2540            | 0                            |                            | 0         | 0           |              |                   |             |                       |
| Solids Manufacturing                        |                 |                              |                            |           |             |              |                   |             |                       |
| Pipeline transfers between plants           | 2455            | 1,854                        |                            |           | 1,854       | \$609        | \$0               | \$609       | (1,245)               |
| Chaff processing for Milorganite            | 2660            | 925,524                      |                            |           | 925,524     | \$925,524    |                   | \$925,524   | 0                     |
| All Other Processes                         |                 |                              | 56.9%                      | 269,826   | 269,826     |              |                   |             |                       |
|   |                 | \$2,485,815                  | 100.0%                     | \$0       | \$2,485,815 | \$2,214,744  | \$0               | \$2,214,744 | (1,245)               |
| Tons manufactured                           |                 |                              |                            |           |             | 56,040       | 0                 |             |                       |
| Manufacturing cost/ton                      |                 |                              |                            |           |             | \$39.52      | \$0.00            |             |                       |
| Marketing                                   |                 |                              |                            |           |             |              |                   |             |                       |
| Milorganite products                        | 75xx            | \$0                          |                            |           |             | \$0          |                   |             |                       |
| Tons sold                                   |                 |                              |                            |           |             | 49,086       |                   |             |                       |
| Marketing cost/ton                          |                 |                              |                            |           |             | \$0.00       |                   |             |                       |
| Solids Disposal                             |                 |                              |                            |           |             |              |                   |             |                       |
| AGRI-LIFE Dry appl. costs from SSWWTP       | 3630            | \$0                          |                            |           |             |              | \$0               |             |                       |
|   |                 |                              |                            |           |             |              | 0                 |             |                       |
|   |                 |                              |                            |           |             |              | \$0.00            |             |                       |
| Solids Utilization Costs                    |                 | 2,485,815                    |                            |           |             | 2,214,744    | 0                 |             |                       |

**NOTES:**

- 1) Includes UWS fee assigned to activities as reported for user charge model...  
2) Excludes cost allocations from cost centers 41, 43, 59, and 75.

**SSWWTP COSTS**

| Distribution of Solids Utilization Costs to: |                 |           |              |        |             |             |             |
|--|-----------------|-----------|--------------|--------|-------------|-------------|-------------|
|  | Activity Number | Total     | Milorganite® | Dry    | Agri-Life®  | Filter Cake | Total       |
| Solids Processing                            |                 |           |              |        |             |             |             |
| Thickening                                   | 3410            | 379,562   | 292,305      | 0      | 59,577      | 27,680      | 379,562     |
| Centrifuge thickening                        | 3420            | 1,005,327 | 0            | 0      | 686,414     | 318,913     | 1,005,327   |
| Digestion                                    | 3440            | 932,484   | 718,116      | 0      | 146,366     | 68,003      | 932,484     |
| Agri-Life® storage                           | 3450            | 199,357   |              |        | 199,357     |             | 199,357     |
| Plate and frame press dewatering             | 3460            | 383,719   |              |        |             | 383,719     | 383,719     |
| Pipeline transfer                            | 3455            | 304,345   | 99,955       | 0      |             |             | 99,955      |
|  |                 |           | \$1,110,376  | \$0    | \$1,091,714 | \$798,315   | \$3,000,405 |
|  |                 |           |              |        |             |             |             |
| Tons processed from digesters                |                 |           | 14,140       | 0      | 2,882       | 1,339       | 18,361      |
| Add: digestion removal credit                |                 |           | 8,750        | 0      | 1,783       | 829         | 11,362      |
| Tons processed (digestion basis)             |                 |           | 22,890       | 0      | 4,665       | 2,168       | 29,723      |
| Processing cost/ton                          |                 |           | \$48.51      | \$0.00 | \$234.00    | \$368.30    |             |
|  |                 |           |              |        |             |             |             |
| Solids Disposal                              |                 |           |              |        |             |             |             |
| Agriculture utilization of Agri-Life®        | 3630            | 1,678,059 |              | 0      | 1,678,059   |             | 1,678,059   |
| Polymer filter cake to Ag/WEPCO              | 3631/60         | 280,681   |              |        |             | 280,681     | 280,681     |
| Lime filter cake to WEPCO                    | 3661            | 27,859    |              |        |             | 27,859      | 27,859      |
| Polymer filter cake to landfill              | 3662            | 0         |              |        |             | 0           | 0           |
|  |                 |           | \$0          | \$0    | \$1,678,059 | \$308,540   | \$1,986,599 |
|  |                 |           |              |        |             |             |             |
| Tons applied or disposed                     |                 |           |              | 0      | 3,582       | 1,734       | 5,316       |
| Add: digestion removal credit                |                 |           |              | 0      | 1,891       | 915         | 2,806       |
| Tons applied/disposed (digestion basis)      |                 |           |              | 0      | 5,473       | 2,649       | 8,122       |
| Application or disposal cost/ton             |                 |           |              | \$0.00 | \$306.62    | \$116.46    |             |
|  |                 |           |              |        |             |             |             |
| Solids Utilization Costs                     |                 | 5,191,394 | \$1,110,376  | \$0    | \$2,769,773 | \$1,106,855 | \$4,987,003 |

**NOTES:**

- 1) Includes general administrative and operations administration cost allocations.
- 2) Includes cost allocations from cost centers 41, 43, and 59.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.



**2004 Unit Process Costs**  
**Allocation of Energy Cost Adjustment**

|   | <b>Unit<br/>Process #</b> | <b>Unadjusted<br/>Total Cost</b> | <b>Energy Cost<br/>Adjustment</b> |
|---|---------------------------|----------------------------------|-----------------------------------|
| <b>JIWWTP</b>                               |                           |                                  |                                   |
| <b>Permit Fees</b>                          | 2840                      | 676,149                          | 125,734                           |
| <b>Primary Treatment</b>                    |                           |                                  |                                   |
| Screening, metering and pumping             | 2101                      | 1,087,255                        | 202,182                           |
| Primary sedimentation                       | 2150                      | 328,133                          | 61,018                            |
| Lab analysis                                | 2890                      | 61,573                           | 11,450                            |
| Debris/chaff/refuse disposal                | 2650                      | 308,973                          | 57,455                            |
| <b>Secondary Treatment</b>                  |                           |                                  |                                   |
| A/S aeration/process air generation         | 2210/2540                 | 925,122                          | 172,032                           |
| A/S clarification                           | 2220                      | 360,641                          | 67,063                            |
| A/S sludge return                           | 2230                      | 232,756                          | 43,282                            |
| Lab analysis                                | 2891                      | 1,563                            | 291                               |
| <b>Advanced Wastewater Treatment</b>        |                           |                                  |                                   |
| Disinfection/phosphorus removal             | 2310/2320                 | 885,286                          | 164,624                           |
| Lab analysis                                | 2892                      | 6,643                            | 1,235                             |
| <b>Solids Processing</b>                    |                           |                                  |                                   |
| Thickening                                  | 2410                      | 995,126                          | 185,050                           |
| Mechanical dewatering                       | 2420                      | 1,729,607                        | 321,631                           |
| Drying                                      | 2430                      | 8,000,038                        | 1,487,656                         |
| Warehouse and shipping                      | 2460                      | 805,258                          | 149,743                           |
| <b>Energy Distribution</b>                  |                           |                                  |                                   |
| Electric generation & distribution          |                           | 5,200,496                        | 967,064                           |
| Hot water and steam generation/distribution |                           | 303,063                          | 56,356                            |
| <b>Off-Plant facilities and programs</b>    |                           |                                  |                                   |
| Pipeline transfer between plants            | 2455                      | 9,773                            | 1,817                             |
| <b>Product Lines</b>                        |                           |                                  |                                   |
| Chaff processing for Milorganite®           | 2660                      | 3,017                            | 561                               |
| <b>Subtotal: JIWWTP</b>                     |                           | <b>21,920,472</b>                | <b>4,076,246</b>                  |

**2004 Unit Process Costs**  
**Allocation of Energy Cost Adjustment**

|  | <b>Unit<br/>Process #</b> | <b>Unadjusted<br/>Total Cost</b> | <b>Energy Cost<br/>Adjustment</b> |
|--|---------------------------|----------------------------------|-----------------------------------|
| <b>SSWWTP</b>  |                           |                                  |                                   |
| <b>Permit Fees</b>                                       | 3840                      | 450,766                          | 83,823                            |
| <b>Primary Treatment</b>                                 |                           |                                  |                                   |
| Prechlorination  | 3110                      | 136,589                          | 25,400                            |
| Coarse screening / grit removal                          | 3120/3130                 | 497,692                          | 92,549                            |
| Meter vault / primary sedimentation                      | 3140/3150                 | 196,625                          | 36,564                            |
| Debris, scum removal & disposal                          | 3160/3650                 | 192,585                          | 35,812                            |
| Primary sludge screening                                 | 3170                      | 152,518                          | 28,362                            |
| Lab analysis   | 3890                      | 134,053                          | 24,928                            |
| <b>Secondary Treatment</b>                               |                           |                                  |                                   |
| A/S aeration / process air generation                    | 3210/3540                 | 1,311,429                        | 243,868                           |
| A/S clarification  | 3220                      | 312,588                          | 58,128                            |
| A/S sludge return  | 3230                      | 83,839                           | 15,590                            |
| Lab analysis   | 3891                      | 3,394                            | 631                               |
| <b>Advanced Wastewater Treatment</b>                     |                           |                                  |                                   |
| Disinfection / phosphorous removal                       | 3310/3320                 | 885,698                          | 164,701                           |
| Chemicals / Effluent pumping                             | 3330/3340                 | 149,187                          | 27,742                            |
| <b>Solids Processing</b>                                 |                           |                                  |                                   |
| Thickening   | 3410                      | 144,059                          | 26,789                            |
| Centrifuge thickening                                    | 3420                      | 445,729                          | 82,886                            |
| Digestion  | 3440                      | 369,009                          | 68,619                            |
| Agri-Life® storage                                       | 3450                      | 113,501                          | 21,106                            |
| Plate and frame press dewatering                         | 3460                      | 212,256                          | 39,470                            |
| Lab analysis   | 3894                      | 18,165                           | 3,378                             |
| <b>Energy Distribution</b>                               |                           |                                  |                                   |
| Electric generation                                      | 3510                      | 14,317                           | 2,662                             |
| Electric distribution                                    | 3520                      | 848,362                          | 157,758                           |
| Hot water distribution                                   | 3530                      | 138,398                          | 25,736                            |
| Digester gas system                                      | 3550                      | 139,354                          | 25,914                            |
| <b>Solids Utilization</b>                                |                           |                                  |                                   |
| Agriculture use of Agri-Life®                            | 3630                      | 926,551                          | 172,298                           |
| Agriculture use of polymer cake                          | 3631                      | 175,026                          | 32,547                            |
| Polymer filter cake to WEPCO                             | 3660                      | 115                              | 21                                |
| Lime filter cake to WEPCO                                | 3661                      | 16,963                           | 3,154                             |
| Pipeline transfer  | 3455                      | 83,336                           | 15,497                            |
| <b>Subtotal: SSWWTP</b>                                  |                           | <b>8,152,104</b>                 | <b>1,515,933</b>                  |
| <b>Treatment Plant Operation &amp; Maintenance Total</b> |                           | <b>\$30,072,576</b>              | <b>\$5,592,179</b>                |
| Additional Actual Energy Cost to Allocate                |                           |                                  | <b>\$5,592,179</b>                |

UWS COST: SSWWTP

|   | Activity | Total Before | Energy Cost Adjustment | Acct 643,644 |            | Power Allocation |           |           | Distribution of Solids Utilization Costs to: |            |             |             |             |
|---|----------|--------------|------------------------|--------------|------------|------------------|-----------|-----------|--|------------|-------------|-------------|-------------|
|   | Number   | Power Alloc. | Direct Cost            | Power Alloc. | Adjustment | Weight           | Amount    | Total     | Milorganite®                                 | Agri-Life® | Dry         | Filter Cake | Total       |
| Solids Processing                       |          |              |                        |              |            |                  |           |           |  |            |             |             |             |
| Thickening                              | 3410     | 150,912      | 27,167                 | 18,567       | 0          | 8.8%             | 99,848    | 296,494   | 228,333                                      | 0          | 46,539      | 21,622      | 296,494     |
| Centrifuge thickening                   | 3420     | 452,449      | 84,058                 | 33,108       | 0          | 15.6%            | 178,042   | 747,657   | 0  | 0          | 510,483     | 237,174     | 747,657     |
| Digestion                               | 3440     | 371,205      | 69,590                 | 34,450       | 0          | 16.2%            | 185,260   | 660,505   | 508,662                                      | 0          | 103,675     | 48,168      | 660,505     |
| Agri-Life® storage                      | 3450     | 115,897      | 21,405                 | 1,342        | 0          | 0.6%             | 7,218     | 145,862   |  |            | 145,862     |             | 145,862     |
| Plate and frame press dewatering        | 3460     | 212,256      | 40,028                 | 6,711        | 0          | 3.2%             | 36,090    | 295,085   |  |            |             | 295,085     | 295,085     |
| Pipeline transfer                       | 3455     | 128,964      | 15,497                 | 16,554       | 0          | 7.8%             | 89,021    | 250,036   | 82,118                                       | 0          |             |             | 82,118      |
|   |          |              |                        |              |            |                  |           |           | \$819,113                                    | \$0        | \$806,558   | \$602,050   | \$2,227,721 |
| Energy Distribution                     |          |              |                        |              |            |                  |           |           |  |            |             |             |             |
| Electric generation                     | 3510     | 14,317       | 2,662                  | (2,662)      | 0          |                  | (14,317)  | 0         |  |            |             |             |             |
| Electric distribution                   | 3520     | 848,362      | 157,758                | (157,758)    | 0          |                  | (848,362) | 0         |  |            |             |             |             |
| Hot water distribution                  | 3530     | 138,398      | 25,736                 | (25,736)     | 0          |                  | (138,398) | 0         |  |            |             |             |             |
| Digester gas system                     | 3550     | 139,354      | 25,914                 | (25,914)     | 0          |                  | (139,354) | 0         |  |            |             |             |             |
| Tons processed from digesters           |          |              |                        |              |            |                  |           |           | 14,140                                       | 0          | 2,882       | 1,339       | 18,361      |
| Add: digestion removal credit           |          |              |                        |              |            |                  |           |           | 8,750  | 0          | 1,783       | 829         | 11,362      |
| Tons processed (digestion basis)        |          |              |                        |              |            |                  |           |           | 22,890                                       | 0          | 4,665       | 2,168       | 29,723      |
| Processing cost/ton                     |          |              |                        |              |            |                  |           |           | \$35.78                                      | #DIV/0!    | \$172.88    | \$277.75    |             |
| Solids Disposal                         |          |              |                        |              |            |                  |           |           |  |            |             |             |             |
| Agriculture utilization of Agri-Life®   | 3630     | 926,551      | 172,298                |              | 0          |                  |           | 1,098,849 |  | 0          | 1,098,849   |             | 1,098,849   |
| Polymer filter cake to Ag/WEPCO         | 3631/60  | 175,141      | 32,569                 |              | 0          |                  |           | 207,710   |  |            |             | 207,710     | 207,710     |
| Lime filter cake to WEPCO               | 3661     | 16,963       | 3,154                  |              | 0          |                  |           | 20,117    |  |            |             | 20,117      | 20,117      |
| Polymer filter cake to landfill         | 3662     | 0            |                        |              | 0          |                  |           | 0         |  |            |             | 0           | 0           |
|   |          |              |                        |              |            |                  |           |           | \$0  | \$0        | \$1,098,849 | \$227,827   | \$1,326,676 |
| Tons applied or disposed                |          |              |                        |              |            |                  |           |           |  | 0          | 3,582       | 1,734       | 5,316       |
| Add: digestion removal credit           |          |              |                        |              |            |                  |           |           |  | 0          | 1,891       | 915         | 2,806       |
| Tons applied/disposed (digestion basis) |          |              |                        |              |            |                  |           |           |  | 0          | 5,473       | 2,649       | 8,122       |
| Application or disposal cost/ton        |          |              |                        |              |            |                  |           |           |  | #DIV/0!    | \$200.79    | \$86.00     |             |
| All Other Processes                     |          |              |                        | 101,338      |            | -52.2%           | 544,953   |           |  |            |             |             |             |
| Solids Utilization Costs                |          | 3,690,769    | 677,836                | 0            | 0          | 0.0%             | 0         | 3,722,314 | \$819,113                                    | \$0        | \$1,905,407 | \$829,877   | \$3,554,396 |
|   |          | check>>>     |                        |              | 0          |                  |           |           |  |            |             |             |             |

NOTES:

- 1) Includes general administrative and operations administration cost allocations.
- 2) Includes cost allocations from cost centers 41, 43, and 59.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.



**ADMIN ALLOCATION TO UWS: SSWWTP**

|   | Activity | Total Before | Acct 643,644 | Power Allocation |          |         | Distribution of Solids Utilization Costs to: |        |            |             |           | distribution |
|---|----------|--------------|--------------|------------------|----------|---------|--|--------|------------|-------------|-----------|--------------|
|   | Number   | Power Alloc. | Adjustment   | Weight           | Amount   | Total   | Agri-Life®                                   |        |            |             |           | check        |
|   |          |              |              |                  |          |         | Milorganite®                                 | Dry    | Agri-Life® | Filter Cake | Total     |              |
| Solids Processing                       |          |              |              |                  |          |         |  |        |            |             |           |              |
| Thickening                              | 3410     | 21,532       | 0            | 8.8%             | 4,244    | 25,776  | 19,850                                       | 0      | 4,046      | 1,880       | 25,776    | 0            |
| Centrifuge thickening                   | 3420     | 58,387       | 0            | 15.6%            | 7,568    | 65,955  | 0  | 0      | 45,032     | 20,922      | 65,955    | 0            |
| Digestion                               | 3440     | 57,255       | 0            | 16.2%            | 7,875    | 65,130  | 50,157                                       | 0      | 10,223     | 4,750       | 65,130    | 0            |
| Agri-Life® storage                      | 3450     | 18,714       | 0            | 0.6%             | 307      | 19,021  |  |        | 19,021     |             | 19,021    | 0            |
| Plate and frame press dewatering        | 3460     | 20,416       | 0            | 3.2%             | 1,534    | 21,950  |  |        |            | 21,950      | 21,950    | 0            |
| Pipeline transfer                       | 3455     | 12,063       | 0            | 7.8%             | 3,784    | 15,847  | 5,205  | 0      |            |             | 5,205     | (10,642)     |
|   |          |              |              |                  |          |         | \$75,212                                     | \$0    | \$78,322   | \$49,502    | \$203,036 |              |
| Energy Distribution                     |          |              |              |                  |          |         |  |        |            |             |           |              |
| Electric generation                     | 3510     | 2,361        | 0            |                  | (2,361)  | 0       |  |        |            |             |           |              |
| Electric distribution                   | 3520     | 10,733       | 0            |                  | (10,733) | 0       |  |        |            |             |           |              |
| Hot water distribution                  | 3530     | 12,405       | 0            |                  | (12,405) | 0       |  |        |            |             |           |              |
| Digester gas system                     | 3550     | 22,976       | 0            |                  | (22,976) | 0       |  |        |            |             |           |              |
| Tons processed from digesters           |          |              |              |                  |          |         | 14,140                                       | 0      | 2,882      | 1,339       | 18,361    |              |
| Add: digestion removal credit           |          |              |              |                  |          |         | 8,750  | 0      | 1,783      | 829         | 11,362    |              |
| Tons processed (digestion basis)        |          |              |              |                  |          |         | 22,890                                       | 0      | 4,665      | 2,168       | 29,723    |              |
| Processing cost/ton                     |          |              |              |                  |          |         | \$3.29                                       | \$0.00 | \$16.79    | \$22.84     |           |              |
| Solids Disposal                         |          |              |              |                  |          |         |  |        |            |             |           |              |
| Agriculture utilization of Agri-Life®   | 3630     | 139,561      | 0            |                  |          | 139,561 |  | 0      | 139,561    |             | 139,561   |              |
| Polymer filter cake to Ag/WEPCO         | 3631/60  | 26,363       | 0            |                  |          | 26,363  |  |        |            | 26,363      | 26,363    |              |
| Lime filter cake to WEPCO               | 3661     | 2,797        | 0            |                  |          | 2,797   |  |        |            | 2,797       | 2,797     |              |
| Polymer filter cake to landfill         | 3662     | 0            | 0            |                  |          | 0       |  |        |            | 0           | 0         |              |
|   |          |              |              |                  |          |         | \$0  | \$0    | \$139,561  | \$29,160    | \$168,721 |              |
| Tons applied or disposed                |          |              |              |                  |          |         |  | 0      | 3,582      | 1,734       | 5,316     |              |
| Add: digestion removal credit           |          |              |              |                  |          |         |  | 0      | 1,891      | 915         | 2,806     |              |
| Tons applied/disposed (digestion basis) |          |              |              |                  |          |         |  | 0      | 5,473      | 2,649       | 8,122     |              |
| Application or disposal cost/ton        |          |              |              |                  |          |         |  | \$0.00 | \$25.50    | \$11.01     |           |              |
| Solids Utilization Costs                |          |              |              |                  |          |         |  |        |            |             |           |              |
|   |          | 405,563      | 0            | 52.2%            | (23,164) | 382,399 | \$75,212                                     | \$0    | \$217,883  | \$78,662    | \$371,757 | (10,642)     |
|   |          | check>>>     | 0            |                  |          |         |  |        |            |             |           |              |

**NOTES:**

- 1) Includes general administrative and operations administration cost allocations.
- 2) Includes cost allocations from cost centers 41, 43, and 59.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.



**41 COST: SSWWTP**

|   | Activity Number | Total Before Power Alloc. | Power Allocation Weight | Power Allocation Amount | Total | Distribution of Solids Utilization Costs to: |        |            |             |         | distribution check |
|---|-----------------|---------------------------|-------------------------|-------------------------|-------|--|--------|------------|-------------|---------|--------------------|
|   |                 |                           |                         |                         |       | Agri-Life®                                   |        |            |             |         |                    |
|   |                 |                           |                         |                         |       | Milorganite®                                 | Dry    | Agri-Life® | Filter Cake | Total   |                    |
| Solids Processing                       |                 |                           |                         |                         |       |  |        |            |             |         |                    |
| Thickening                              | 3410            | 244                       | 8.8%                    | 48                      | 292   | 225  | 0      | 46         | 21          | 292     | 0                  |
| Centrifuge thickening                   | 3420            | 660                       | 15.6%                   | 86                      | 746   | 0  | 0      | 509        | 237         | 746     | 0                  |
| Digestion                               | 3440            | 647                       | 16.2%                   | 89                      | 736   | 567  | 0      | 116        | 54          | 736     | 0                  |
| Agri-Life® storage                      | 3450            | 212                       | 0.6%                    | 3                       | 215   |  |        | 215        |             | 215     | 0                  |
| Plate and frame press dewatering        | 3460            | 231                       | 3.2%                    | 17                      | 248   |  |        |            | 248         | 248     | 0                  |
| Pipeline transfer                       | 3455            | 135                       | 7.8%                    | 43                      | 178   | 58   | 0      |            |             | 58      | (119)              |
|   |                 |                           |                         |                         |       | \$850  | \$0    | \$886      | \$560       | \$2,296 |                    |
| Energy Distribution                     |                 |                           |                         |                         |       |  |        |            |             |         |                    |
| Electric generation                     | 3510            | 27                        |                         | (27)                    |       |  |        |            |             |         |                    |
| Electric distribution                   | 3520            | 122                       |                         | (122)                   |       |  |        |            |             |         |                    |
| Hot water distribution                  | 3530            | 140                       |                         | (140)                   |       |  |        |            |             |         |                    |
| Digester gas system                     | 3550            | 260                       |                         | (260)                   |       |  |        |            |             |         |                    |
| Tons processed from digesters           |                 |                           |                         |                         |       | 14,140                                       | 0      | 2,882      | 1,339       | 18,361  |                    |
| Add: digestion removal credit           |                 |                           |                         |                         |       | 8,750  | 0      | 1,783      | 829         | 11,362  |                    |
| Tons processed (digestion basis)        |                 |                           |                         |                         |       | 22,890                                       | 0      | 4,665      | 2,168       | 29,723  |                    |
| Processing cost/ton                     |                 |                           |                         |                         |       | \$0.04                                       | \$0.00 | \$0.19     | \$0.26      |         |                    |
| Solids Disposal                         |                 |                           |                         |                         |       |  |        |            |             |         |                    |
| Agriculture utilization of Agri-Life®   | 3630            | 1,578                     |                         |                         | 1,578 |  | 0      | 1,578      |             | 1,578   |                    |
| Polymer filter cake to Ag/WEPCO         | 3631/60         | 298                       |                         |                         | 298   |  |        |            | 298         | 298     |                    |
| Lime filter cake to WEPCO               | 3661            | 32                        |                         |                         | 32    |  |        |            | 32          | 32      |                    |
| Polymer filter cake to landfill         | 3662            | 0                         |                         |                         | 0     |  |        |            | 0           | 0       |                    |
|   |                 |                           |                         |                         |       | \$0  | \$0    | \$1,578    | \$330       | \$1,908 |                    |
| Tons applied or disposed                |                 |                           |                         |                         |       |  | 0      | 3,582      | 1,734       | 5,316   |                    |
| Add: digestion removal credit           |                 |                           |                         |                         |       |  | 0      | 1,891      | 915         | 2,806   |                    |
| Tons applied/disposed (digestion basis) |                 |                           |                         |                         |       |  | 0      | 5,473      | 2,649       | 8,122   |                    |
| Application or disposal cost/ton        |                 |                           |                         |                         |       |  | \$0.00 | \$0.29     | \$0.12      |         |                    |
| Solids Utilization Costs                |                 | 4,586                     | 52.2%                   | (262)                   | 4,324 | \$850  | \$0    | \$2,464    | \$890       | \$4,204 | (119)              |

**NOTES:**

- 1) Includes general administrative and operations administration cost allocations.
- 2) Includes cost allocations from cost centers 41, 43, and 59.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.

**43 COST: SSWWTP**

|   | Activity Number | Total Before Power Alloc. | Power Allocation Weight | Allocation Amount | Total  | Distribution of Solids Utilization Costs to: |        |            |             |          | distribution check |
|---|-----------------|---------------------------|-------------------------|-------------------|--------|--|--------|------------|-------------|----------|--------------------|
|   |                 |                           |                         |                   |        | Milorganite®                                 | Dry    | Agri-Life® | Filter Cake | Total    |                    |
| Solids Processing                       |                 |                           |                         |                   |        |  |        |            |             |          |                    |
| Thickening                              | 3410            | 4,252                     | 8.8%                    | 0                 | 4,252  | 3,275  | 0      | 667        | 310         | 4,252    | 0                  |
| Centrifuge thickening                   | 3420            | 11,530                    | 15.6%                   | 0                 | 11,530 | 0  | 0      | 7,872      | 3,658       | 11,530   | 0                  |
| Digestion                               | 3440            | 11,307                    | 16.2%                   | 0                 | 11,307 | 8,708  | 0      | 1,775      | 825         | 11,307   | 0                  |
| Agri-Life® storage                      | 3450            | 3,696                     | 0.6%                    | 0                 | 3,696  |  |        | 3,696      |             | 3,696    | 0                  |
| Plate and frame press dewatering        | 3460            | 4,032                     | 3.2%                    | 0                 | 4,032  |  |        |            | 4,032       | 4,032    | 0                  |
| Pipeline transfer                       | 3455            | 2,383                     | 7.8%                    | 0                 | 2,383  | 783  | 0      |            |             | 783      | (1,600)            |
|   |                 |                           |                         |                   |        | \$12,765                                     | \$0    | \$14,011   | \$8,824     | \$35,600 |                    |
| Energy Distribution                     |                 |                           |                         |                   |        |  |        |            |             |          |                    |
| Electric generation                     |                 | 0                         |                         | 0                 |        |  |        |            |             |          |                    |
| Electric distribution                   |                 | 0                         |                         | 0                 |        |  |        |            |             |          |                    |
| Hot water distribution                  |                 | 0                         |                         | 0                 |        |  |        |            |             |          |                    |
| Digester gas system                     |                 | 0                         |                         | 0                 |        |  |        |            |             |          |                    |
| Tons processed from digesters           |                 |                           |                         |                   |        | 14,140                                       | 0      | 2,882      | 1,339       | 18,361   |                    |
| Add: digestion removal credit           |                 |                           |                         |                   |        | 8,750  | 0      | 1,783      | 829         | 11,362   |                    |
| Tons processed (digestion basis)        |                 |                           |                         |                   |        | 22,890                                       | 0      | 4,665      | 2,168       | 29,723   |                    |
| Processing cost/ton                     |                 |                           |                         |                   |        | \$0.56                                       | \$0.00 | \$3.00     | \$4.07      |          |                    |
| Solids Disposal                         |                 |                           |                         |                   |        |  |        |            |             |          |                    |
| Agriculture utilization of Agri-Life®   | 3630            | 27,560                    |                         |                   | 27,560 |  | 0      | 27,560     |             | 27,560   |                    |
| Polymer filter cake to Ag/WEPCO         | 3631/60         | 5,206                     |                         |                   | 5,206  |  |        |            | 5,206       | 5,206    |                    |
| Lime filter cake to WEPCO               | 3661            | 552                       |                         |                   | 552    |  |        |            | 552         | 552      |                    |
| Polymer filter cake to landfill         | 3662            | 0                         |                         |                   | 0      |  |        |            | 0           | 0        |                    |
|   |                 |                           |                         |                   |        | \$0  | \$0    | \$27,560   | \$5,758     | \$33,318 |                    |
| Tons applied or disposed                |                 |                           |                         |                   |        |  | 0      | 3,582      | 1,734       | 5,316    |                    |
| Add: digestion removal credit           |                 |                           |                         |                   |        |  | 0      | 1,891      | 915         | 2,806    |                    |
| Tons applied/disposed (digestion basis) |                 |                           |                         |                   |        |  | 0      | 5,473      | 2,649       | 8,122    |                    |
| Application or disposal cost/ton        |                 |                           |                         |                   |        |  | \$0.00 | \$5.04     | \$2.17      |          |                    |
| Solids Utilization Costs                |                 | 70,518                    | 52.2%                   | 0                 | 70,518 | \$12,765                                     | \$0    | \$41,571   | \$14,582    | \$68,918 | (1,600)            |

**NOTES:**

- 1) Includes general administrative and operations administration cost allocations.
- 2) Includes cost allocations from cost centers 41, 43, and 59.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.

**59 COST: SSWWTP**

|   | Activity | Total Before | Power Allocation |           |           | Distribution of Solids Utilization Costs to: |        |            |             |           | distribution |
|---|----------|--------------|------------------|-----------|-----------|--|--------|------------|-------------|-----------|--------------|
|   | Number   | Power Alloc. | Weight           | Amount    | Total     | Agri-Life®                                   |        |            |             |           | check        |
|   |          |              |                  |           |           | Milorganite®                                 | Dry    | Agri-Life® | Filter Cake | Total     |              |
| Solids Processing                       |          |              |                  |           |           |  |        |            |             |           |              |
| Thickening                              | 3410     | 33,572       | 8.8%             | 19,176    | 52,748    | 40,622                                       | 0      | 8,279      | 3,847       | 52,748    | 0            |
| Centrifuge thickening                   | 3420     | 145,247      | 15.6%            | 34,193    | 179,440   | 0  | 0      | 122,518    | 56,923      | 179,440   | 0            |
| Digestion                               | 3440     | 159,227      | 16.2%            | 35,579    | 194,806   | 150,022                                      | 0      | 30,577     | 14,207      | 194,806   | 0            |
| Agri-Life® storage                      | 3450     | 29,177       | 0.6%             | 1,386     | 30,563    |  |        | 30,563     |             | 30,563    | 0            |
| Plate and frame press dewatering        | 3460     | 55,472       | 3.2%             | 6,931     | 62,403    |  |        |            | 62,403      | 62,403    | 0            |
| Pipeline transfer                       | 3455     | 18,806       | 7.8%             | 17,097    | 35,903    | 11,791                                       | 0      |            |             | 11,791    | (24,111)     |
|   |          |              |                  |           |           | \$202,435                                    | \$0    | \$191,938  | \$137,379   | \$531,752 |              |
| Energy Distribution                     |          |              |                  |           |           |  |        |            |             |           |              |
| Electric generation                     | 3510     | 3,680        |                  | (3,680)   |           |  |        |            |             |           |              |
| Electric distribution                   | 3520     | 160,177      |                  | (160,177) |           |  |        |            |             |           |              |
| Hot water distribution                  | 3530     | 19,341       |                  | (19,341)  |           |  |        |            |             |           |              |
| Digester gas system                     | 3550     | 35,823       |                  | (35,823)  |           |  |        |            |             |           |              |
| Tons processed from digesters           |          |              |                  |           |           | 14,140                                       | 0      | 2,882      | 1,339       | 18,361    |              |
| Add: digestion removal credit           |          |              |                  |           |           | 8,750  | 0      | 1,783      | 829         | 11,362    |              |
| Tons processed (digestion basis)        |          |              |                  |           |           | 22,890                                       | 0      | 4,665      | 2,168       | 29,723    |              |
| Processing cost/ton                     |          |              |                  |           |           | \$8.84                                       | \$0.00 | \$41.14    | \$63.38     |           |              |
| Solids Disposal                         |          |              |                  |           |           |  |        |            |             |           |              |
| Agriculture utilization of Agri-Life®   | 3630     | 410,511      |                  |           | 410,511   |  | 0      | 410,511    |             | 410,511   |              |
| Polymer filter cake to Ag/WEPCO         | 3631/60  | 41,104       |                  |           | 41,104    |  |        |            | 41,104      | 41,104    |              |
| Lime filter cake to WEPCO               | 3661     | 4,361        |                  |           | 4,361     |  |        |            | 4,361       | 4,361     |              |
| Polymer filter cake to landfill         | 3662     | 0            |                  |           | 0         |  |        |            | 0           | 0         |              |
|   |          |              |                  |           |           | \$0  | \$0    | \$410,511  | \$45,465    | \$455,976 |              |
| Tons applied or disposed                |          |              |                  |           |           |  | 0      | 3,582      | 1,734       | 5,316     |              |
| Add: digestion removal credit           |          |              |                  |           |           |  | 0      | 1,891      | 915         | 2,806     |              |
| Tons applied/disposed (digestion basis) |          |              |                  |           |           |  | 0      | 5,473      | 2,649       | 8,122     |              |
| Application or disposal cost/ton        |          |              |                  |           |           |  | \$0.00 | \$75.01    | \$17.16     |           |              |
| Solids Utilization Costs                |          |              |                  |           |           |  |        |            |             |           |              |
|   |          | 1,116,498    | 52.2%            | (104,659) | 1,011,839 | \$202,435                                    | \$0    | \$602,449  | \$182,844   | \$987,728 | (24,111)     |

**NOTES:**

- 1) Includes general administrative and operations administration cost allocations.
- 2) Includes cost allocations from cost centers 41, 43, and 59.
- 3) Unallocated pipeline costs attributable to primary and secondary treatment.



# Production, Inventory and Transfer of Solids By-Products

|  |            | Dry Tons Processed |            |
|--|------------|--------------------|------------|
|  | Beginning: | 1/1/2004           | 1/1/2004   |
|  | Ending:    | 12/31/2004         | 12/31/2004 |
| JIWWTP Solids Products                 |            | Product            | 100% Dry   |
| Beginning inventory 1/1/04             |            |                    |            |
| Milorganite® - 93% dry                 | 14,107     |                    |            |
| Agri-Life® Dry - 94% dry               | 0          | 14,107             | 13,120     |
| Add: production 1/1 - 12/31/04         |            |                    |            |
| Milorganite®                           |            | 48,236             | 44,859     |
| Chaff - 90% dry                        |            | 2,700              | 2,430      |
| Agri-Life® Dry                         |            | 0                  | 0          |
| Less: Ending inventory 12/31/04        |            |                    |            |
| Milorganite®                           | (19,573)   |                    |            |
| Agri-Life® Dry                         | 0          | (19,573)           | (18,203)   |
| Calculated Sales / Disposal            |            | 45,470             | 42,206     |
| Actual Sales / Disposal 1/1 - 12/31/04 |            |                    |            |
| Milorganite®                           |            | (42,300)           | (39,762)   |
| Agri-Life® Dry                         |            | 0                  | 0          |
| Milorganite® Inventory Losses          |            | (300)              | (279)      |
| Blender's Grade - 90% dry              |            | 0                  | 0          |
| Chaff - 90% dry                        |            | (2,700)            | (2,430)    |
| Variance - Calc Over (Under) Actual    |            | 170                | (265)      |

|                                     |         |  |          |
|-------------------------------------|---------|--|----------|
| <b>South Shore Solids Products</b>  |         |  |          |
| Beginning inventory 1/1/04          |         |  |          |
| Filter cake                         | 130     |  |          |
| Agri-Life®                          | 2,102   |  | 2,232    |
| Solids sent to digestion            |         |  | 32,463   |
| Less: recycle from centrifuge       |         |  | (550)    |
| Less: anaerobic digestion removal   |         |  | (11,362) |
| Less: pipeline transfer to JIWWTP   |         |  | (14,140) |
| Solids production from centrifuges  |         |  | 6,411    |
| Less: Ending inventory 12/31        |         |  |          |
| Filter cake                         | (525)   |  |          |
| Agri-Life®                          | (2,802) |  | (3,327)  |
| Calculated Disposal                 |         |  | 5,316    |
| Actual Disposal                     |         |  |          |
| Filter cake                         | (1,734) |  |          |
| Agriculture                         | (3,582) |  | (5,316)  |
| Variance - Calc Over (Under) Actual |         |  | (0)      |

Anaerobic digestion credit for sales applied as follows:

|                | Base   | Tons  |
|----------------|--------|-------|
| Milorganite®   | 12,533 | 6,615 |
| Agri-Life® Dry | 0      | 0     |
| Filter cake    | 1,734  | 915   |
| Agri-Life®     | 3,582  | 1,891 |
|                | 17,849 | 9,421 |

Anaerobic digestion credit for production applied as follows:

|                | Base   | Tons   |
|----------------|--------|--------|
| Milorganite®   | 14,140 | 8,750  |
| Agri-Life® Dry | 0      | 0      |
| Filter cake    | 1,339  | 829    |
| Agri-Life®     | 2,882  | 1,783  |
|                | 18,361 | 11,362 |

Pipeline costs allocated as follows:

|                           | Tons   | % Alloc.      |
|---------------------------|--------|---------------|
| JIWWTP Primary to SSWWTP  | 14,967 |               |
| SSWWTP Digested to JIWWTP | 14,140 | 32.84% JIWWTP |
| SSWWTP WAS to JIWWTP      | 13,947 |               |
| Total                     | 43,054 |               |



**2004 ACTUAL COST FOR SOLIDS UTILIZATION ALTERNATIVES**  
**MILORGANITE® REVENUE: 2004 ACTUAL**

| Acct                                      | JIWWTP             |                    |
|---|--------------------|--------------------|
| 411 Milorganite® sales                    | \$5,046,541        |                    |
| 413 Bulk sales - mixing                   | 2,365,984          |                    |
| Gross revenue                             | <u>7,412,525</u>   | \$7,412,525        |
| Less: selling expenses                    |                    |                    |
| 421 Sales rebates and allowances          | (108,275)          |                    |
| 422 Brokers' fees                         | 0                  |                    |
| 423 Registration, tonnage fees, sales tax | (27,605)           |                    |
| 425 Freight                               | (1,487,640)        |                    |
| 426 Cash discount                         | (84,556)           |                    |
| Selling expenses                          | <u>(1,708,077)</u> | <u>(1,708,077)</u> |
| Net Revenue                               |                    | <u>\$5,704,448</u> |
| Tons sold/applied/disposed (see notes)    |                    | 49,086             |
| Net revenue/ton                           |                    | \$116.21           |

NOTES:

- 1) Milorganite® tonnage base excludes Agri-Life® Dry, includes Greens Grade, Blender's Grade and chaff
- 2) Milorganite® tonnage base reflects conversion to dry tons.
- 3) Milorganite® tonnage includes credit for solids removed by anaerobic digestion.

|                                | Product       | 100% Dry      |
|--------------------------------|---------------|---------------|
| Milorganite®                   | 42,300        | 39,762        |
| Milorganite® Inventory Losses  | 300           | 279           |
| Blender's Grade - 90% dry      | 0             | 0             |
| Chaff - 90% dry                | 2,700         | 2,430         |
| Credit for anaerobic digestion |               | 6,615         |
| Total Milorganite® Products    | <u>45,300</u> | <u>49,086</u> |

**2003 ACTUAL COST FOR SOLIDS UTILIZATION ALTERNATIVES**  
**UWS COST PER DRY TON**

|   | <b>JIWWTP</b><br>Milorganite®<br>Products | <b>SSWWTP</b>     |                    |
|---|---|-------------------|--------------------|
|   |   | <u>Agri-Life®</u> | <u>Filter Cake</u> |
| Manufacturing or processing cost/ton        | \$308.95                                  | \$172.88          | \$277.75           |
| Mkt/Pkging or application/disposal cost/ton | <u>0.00</u>                               | <u>200.79</u>     | <u>86.00</u>       |
| Gross cost/ton                              | \$308.95                                  | \$373.67          | \$363.75           |
| Less: net revenue/ton                       | <u>0.00</u>                               | <u>0.00</u>       | <u>0.00</u>        |
| Net cost/ton                                | <u>\$308.95</u>                           | <u>\$373.67</u>   | <u>\$363.75</u>    |
| Tons processed                              | 56,040                                    | 4,665             | 2,168              |
| Tons sold/applied/disposed                  | 49,086                                    | 5,473             | 2,649              |

**NOTES:**

Includes UWS costs only as assigned to activities for user charge model.

Excludes costs from Engineering Services, Laboratory, Contract Compliance, and Marketing.

Depreciation costs are not included in this schedule.

JIWWTP and SSWWTP tonnage includes credit for solids removed by anaerobic digestion.

All tons converted to 100% dry for cost comparison purposes.

## SSWWTP SOLIDS CONVERSION SHEET

| <u>Tonnage Conversion</u> | Factors for Each Base |          |          |
|---------------------------|-----------------------|----------|----------|
| Dry Tons                  | 1                     | 0.637691 | 0.31746  |
| Processed Dry Tons        | 1.568158              | 1        | 0.497828 |
| Wet Tons (Filter Cake)    | 3.15                  | 2.008726 | 1        |

| <u>Cost Conversion</u>   | Factors for Each Base |          |          |
|--------------------------|-----------------------|----------|----------|
| \$/Dry Ton               | 1                     | 1.568158 | 3.15     |
| \$/Processed Dry Ton     | 0.637691              | 1        | 2.008726 |
| \$/Wet Ton (Filter Cake) | 0.31746               | 0.497828 | 1        |

### Notes:

Summary cost report uses processed dry ton basis

Processed dry ton ratio derived from 1995 production summary.

Wet ton ratio reported by Paul Schlecht.

Caution: Remember that Jones Island tonnage includes Milorganite®, Blender's Grade, and chaff.

## JIWWTP SOLIDS CONVERSION SHEET

| <u>Tonnage Conversion</u> | Factors for Each Base |        |          |
|---------------------------|-----------------------|--------|----------|
| Dry Tons                  | 1                     | 0.95   | 0.31746  |
| Processed Dry Tons        | 1.052632              | 1      | 0.334169 |
| Wet Tons (Filter Cake)    | 3.15                  | 2.9925 | 1        |

| <u>Cost Conversion</u>   | Factors for Each Base |          |        |
|--------------------------|-----------------------|----------|--------|
| \$/Dry Ton               | 1                     | 1.052632 | 3.15   |
| \$/Processed Dry Ton     | 0.95                  | 1        | 2.9925 |
| \$/Wet Ton (Filter Cake) | 0.31746               | 0.334169 | 1      |

# 51 COST: JIWWTP

|   | Prgm.<br>Number | Total Before<br>Power Alloc. | Power Allocation<br>Weight | Amount | Total | Milorganite® | Agri-Life®<br>Dry | Total | distribution<br>check |
|---|-----------------|------------------------------|----------------------------|--------|-------|--------------|-------------------|-------|-----------------------|
| Solids Processing                           |                 |                              |                            |        |       |              |                   |       |                       |
| Thickening                                  | 2410            | 0                            | 7.2%                       | 0      | 0     | \$0          | \$0               | \$0   | 0                     |
| Mechanical dewatering                       | 2420            | 0                            | 4.3%                       | 0      | 0     | \$0          | \$0               | \$0   | 0                     |
| Drying                                      | 2430            | 0                            | 29.6%                      | 0      | 0     | \$0          | \$0               | \$0   | 0                     |
| Warehouse and shipping                      | 2460            | 0                            | 1.9%                       | 0      | 0     | \$0          | \$0               | \$0   | 0                     |
| Energy Distribution                         |                 |                              |                            |        |       |              |                   |       |                       |
| Electric generation and distribution        | 2510            | 0                            |                            | 0      | 0     |              |                   |       |                       |
| Hot water and steam generation/distribution | 2530            | 0                            |                            | 0      | 0     |              |                   |       |                       |
| Solids Manufacturing                        |                 |                              |                            |        |       |              |                   |       |                       |
| Pipeline transfers between plants           | 2455            | 0                            |                            |        | 0     | \$0          | \$0               | \$0   | 0                     |
| Chaff processing for Milorganite®           | 2660            | 0                            |                            |        | 0     | \$0          |                   | \$0   | 0                     |
| All Other Processes                         |                 |                              | 57.0%                      | 0      | 0     |              |                   |       |                       |
|   |                 | \$0                          | 100.0%                     | \$0    | \$0   | \$0          | \$0               | \$0   | 0                     |
| Tons manufactured                           |                 |                              |                            |        |       | 56,040       | 0                 |       |                       |
| Manufacturing cost/ton                      |                 |                              |                            |        |       | \$0.00       | \$0.00            |       |                       |
| Marketing                                   |                 |                              |                            |        |       |              |                   |       |                       |
| Milorganite® products                       | 75xx            | \$0                          |                            |        |       | \$0          |                   |       |                       |
| Tons sold                                   |                 |                              |                            |        |       | 49,086       |                   |       |                       |
| Marketing cost/ton                          |                 |                              |                            |        |       | \$0.00       |                   |       |                       |
| Solids Disposal                             |                 |                              |                            |        |       |              |                   |       |                       |
| Agri-Life® Dry appl. costs from SSWWTP      | 3630            | \$0                          |                            |        |       |              | \$0               |       |                       |
|   |                 |                              |                            |        |       |              | 0                 |       |                       |
|   |                 |                              |                            |        |       |              | \$0.00            |       |                       |
| Solids Utilization Costs                    |                 | 0                            |                            |        |       | 0            | 0                 |       |                       |

## NOTES:

- 1) Includes UWS fee assigned to activities as reported for user charge model..
- 2) Excludes cost allocations from cost centers 41, 43, 59, and 75.



**51 COST: SSWWTP**

|   | Activity Number | Total Before Power Alloc. | Power Allocation Weight | Power Allocation Amount | Total | Distribution of Solids Utilization Costs to: |        |            |             |        | distribution check |
|---|-----------------|---------------------------|-------------------------|-------------------------|-------|--|--------|------------|-------------|--------|--------------------|
|   |                 |                           |                         |                         |       | Agri-Life®                                   |        |            |             |        |                    |
|   |                 |                           |                         |                         |       | Milorganite®                                 | Dry    | Agri-Life® | Filter Cake | Total  |                    |
| Solids Processing                       |                 |                           |                         |                         |       |  |        |            |             |        |                    |
| Thickening                              | 3410            | 0                         | 8.8%                    | 0                       | 0     | 0  | 0      | 0          | 0           | 0      | 0                  |
| Centrifuge thickening                   | 3420            | 0                         | 15.6%                   | 0                       | 0     | 0  | 0      | 0          | 0           | 0      | 0                  |
| Digestion                               | 3440            | 0                         | 16.2%                   | 0                       | 0     | 0  | 0      | 0          | 0           | 0      | 0                  |
| Agri-Life® storage                      | 3450            | 0                         | 0.6%                    | 0                       | 0     |  |        | 0          |             | 0      | 0                  |
| Plate and frame press dewatering        | 3460            | 0                         | 3.2%                    | 0                       | 0     |  |        |            | 0           | 0      | 0                  |
| Pipeline transfer                       | 3455            | 0                         | 7.8%                    | 0                       | 0     | 0  | 0      |            |             | 0      | 0                  |
|   |                 |                           |                         |                         |       | \$0  | \$0    | \$0        | \$0         | \$0    |                    |
| Energy Distribution                     |                 |                           |                         |                         |       |  |        |            |             |        |                    |
| Electric generation                     |                 | 0                         |                         | 0                       |       |  |        |            |             |        |                    |
| Electric distribution                   |                 | 0                         |                         | 0                       |       |  |        |            |             |        |                    |
| Hot water distribution                  |                 | 0                         |                         | 0                       |       |  |        |            |             |        |                    |
| Digester gas system                     |                 | 0                         |                         | 0                       |       |  |        |            |             |        |                    |
| Tons processed from digesters           |                 |                           |                         |                         |       | 14,140                                       | 0      | 3,582      | 1,734       | 19,456 |                    |
| Add: digestion removal credit           |                 |                           |                         |                         |       | 8,750  | 0      | 1,783      | 829         | 11,362 |                    |
| Tons processed (digestion basis)        |                 |                           |                         |                         |       | 22,890                                       | 0      | 5,365      | 2,563       | 30,818 |                    |
| Processing cost/ton                     |                 |                           |                         |                         |       | \$0.00                                       | \$0.00 | \$0.00     | \$0.00      |        |                    |
| Solids Disposal                         |                 |                           |                         |                         |       |  |        |            |             |        |                    |
| Agriculture utilization of Agri-Life®   | 3630            | 0                         |                         |                         | 0     |  | 0      | 0          |             | 0      |                    |
| Polymer filter cake to Ag/WEPCO         | 3631/60         | 0                         |                         |                         | 0     |  |        |            | 0           | 0      |                    |
| Lime filter cake to WEPCO               | 3661            | 0                         |                         |                         | 0     |  |        |            | 0           | 0      |                    |
| Polymer filter cake to landfill         | 3662            | 0                         |                         |                         | 0     |  |        |            | 0           | 0      |                    |
|   |                 |                           |                         |                         |       | \$0  | \$0    | \$0        | \$0         | \$0    |                    |
| Tons applied or disposed                |                 |                           |                         |                         |       |  | 0      | 3,582      | 1,734       | 5,316  |                    |
| Add: digestion removal credit           |                 |                           |                         |                         |       |  | 0      | 1,891      | 915         | 2,806  |                    |
| Tons applied/disposed (digestion basis) |                 |                           |                         |                         |       |  | 0      | 5,473      | 2,649       | 8,122  |                    |
| Application or disposal cost/ton        |                 |                           |                         |                         |       |  | \$0.00 | \$0.00     | \$0.00      |        |                    |
| Solids Utilization Costs                |                 |                           |                         |                         |       |  |        |            |             |        |                    |
|   |                 | 0                         | 52.2%                   | 0                       | 0     | \$0  | \$0    | \$0        | \$0         | \$0    | 0                  |

**NOTES:**

- 1) Includes UWS fee assigned to activities as reported for user charge model..
- 2) Excludes cost allocations from cost centers 41, 43, 59, and 75.

| ID           | TYPE | DESCRIPTION                                | DATE      | ASSIGNED TO | COST<br>ESTIMATE   | UWS<br>PORTION | MMSD<br>PORTION | STATUS | DATE<br>CLOSED | P.O. NUMBER |
|--------------|------|--|-----------|-------------|--------------------|----------------|-----------------|--------|----------------|-------------|
| 163          | CRR  | REPLACE TURBINE GAS COMPRESSORS AT JIWWTP  | 3-Jan-01  | MN          | \$963,000          | \$10,000       | \$953,000       | CLOSED | 20-Aug-02      | J032GX010   |
| 193          | CRR  | JI GAS TURBINE #1 HOT GAS PATH OVERHAUL    | 21-Aug-02 | MN          | \$124,785          | \$42,100       | \$82,685        | CLOSED | 29-Jun-04      | 56634       |
| 268          | CRR  | JI TURBINE 2 HOT GAS & OIL DEFLECTOR       | 15-Oct-04 | MN          | \$85,850           | \$44,984       | \$40,866        | CLOSED | 20-Apr-06      |             |
| 275          | CRR  | JI TURBINE #1 BORESCOPE / PEDESTAL BEARING | 15-Mar-05 | MN          | \$26,444           | \$8,396        | \$18,049        | CLOSED | 20-Apr-06      | 2597        |
| 276          | CRR  | JI TURBINE #1 CRACK REPAIR                 | 18-Nov-04 | MN          | \$452,221          | \$25,000       | \$427,221       | OPEN   |                |             |
| 303          | CRR  | JI TURBINE #2 CRACK REPAIR                 | 15-Mar-05 | MN          | \$340,661          | \$12,291       | \$328,369       | CLOSED | 27-Feb-06      | 2577        |
| 320          | CRR  | JI REPAIR TURBINE #2 GENERATOR             | 12-Jul-05 | MN          | \$199,600          | \$13,725       | \$185,874       | CLOSED | 16-Dec-05      | 2714        |
| <b>TOTAL</b> |      |  |           |             | <b>\$2,192,561</b> |                |                 |        |                |             |

CRR = Capital Repair and Replacement

JI = Jones Island Wastewater Treatment Plant

JIWWTP = Jones Island Wastewater Treatment Plant

**NOTE:**

1) Data included in: John Jankowski, MMSD, e-mail correspondence to Alan Scrivner, 2020 Facilities Plan team, subject: JIWWTP Turbines (15 January 2007)



TABLE 9C-2  
**JIWWTP TURBINE GENERATOR  
CAPITOL REPAIR AND REPLACEMENT SUMMARY**  
2020 TREATMENT REPORT  
6/2/07

TR\_9C.T002.07.06.02.cdr