



Warren C. Evans
Wayne County Executive

Wayne County Department of Public Services
Environmental Services Group

Downriver Sewage Disposal System
2016-17 Rates Package
Rate Effective Date July 1, 2016

HIGHLIGHTS

The proposed sewage disposal commodity rate provides for an increase of 4.04% over the current rate from \$6.88 to \$7.16.

Expenditures

Materials and Supplies

- Line items in this category include anticipated increases in bulk chemical costs and an increase in the parts and other equipment for repairs to the centrifuges.

Capital

- Capital items to be purchased include laboratory equipment, machinery, and vehicles which have reached their useful life.

County Service Chargebacks

- The Cap Agreement provides for a 0.06% increase in the chargeback line items. The 2017 rate year has been budgeted at \$1,921,500, which is approximately 57% below the maximum of \$4,453,387.

DUWA Due Diligence (Transfer Cost)

- This line item was added in the amount of \$500,000 at the request of the Joint Management Committee for the purpose of DUWA's due diligence costs for a proposed transfer of the Downriver System from the County to DUWA.

Debt Section

- The attached debt schedule includes all projects approved to date including:
 - Primary Tank Improvements (SRF#5217-01 due serially through 2026);
 - Fine Screens Project (2007 D Series due serially through 2028);
 - Emergency Generators (SRF#5217-02 due serially through 2029);
 - Solids Handling Improvements (SRF #5217-04 due serially through 2030);

- SCADA Project (SRF#5217-05 due serially through 2029);
- UV/Clarifiers (SRF#5217-03 due serially through 2030);
- Miscellaneous Smaller Projects (SRF # 5217-15 due serially through 2033);
- Solids Complex Renovation (SRF#5419-01 due serially through 2035); and
- Secondary & Headworks Systems Renovations (SRF #5420-01 due serially through 2037).

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

	2013-2014	2014-2015	2015-2016	2016-2017
Estimated Working Capital	\$ 8,194,748	\$ 8,494,228	\$ 11,808,896	\$ 13,293,532
Less: Cash Flow Requirement	\$ 2,938,678	\$ 3,041,145	\$ 4,840,769	\$ 4,862,305
Insurance Deductible Designation	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
Available Working Capital	\$ 4,756,070	\$ 4,953,083	\$ 6,468,127	\$ 7,931,227
<hr/>				
Rate Year O&M Budget	\$ 17,630,770	\$ 17,821,770	\$ 19,363,076	\$ 19,449,220
Less: Other Revenue	\$ (1,099,300)	\$ (990,900)	\$ (1,123,500)	\$ (1,188,000)
Excess Flow Revenue				
Debt Service Revenue				
Total Revenue Required	\$ 16,531,470	\$ 16,830,870	\$ 18,239,576	\$ 18,261,220
Use of O & M Fund Balance	\$ (150,000)	\$ -	\$ (240,000)	\$ -
Total Revenue Required from Rates	\$ 16,381,470	\$ 16,830,870	\$ 17,999,576	\$ 18,261,220

COMMODITY RATE				
Projected Base Flow Volume	1,614,000	1,600,000	1,550,000	1,500,000
Projected Total Flow Volume	2,599,000	2,580,000	2,650,000	2,550,000
Sewage Disposal Rate	\$ 6.30	\$ 6.52	\$ 6.88	\$ 7.16
Increase in Commodity Rate	3.50%	3.50%	5.51%	4.04%
Base Flow Rate	\$ 6.30	\$ 6.52	\$ 6.88	\$ 7.16
Base Flow Revenue	\$10,173,025	\$10,437,749	\$10,668,431	\$10,741,894
Projected Excess Flow Volume	985,000	980,000	1,100,000	1,050,000
Excess Flow Rate	\$ 6.30	\$ 6.52	\$ 6.88	\$ 7.16
Excess Flow Revenue	\$ 6,208,445	\$ 6,393,121	\$ 7,571,145	\$ 7,519,326
Total Revenue	\$16,381,470	\$16,830,870	\$18,239,576	\$18,261,220
Use of O & M Fund Balance	(\$150,000)		(\$240,000)	
Total Revenue Required from Rates	\$16,231,470	\$16,830,870	\$17,999,576	\$18,261,220
DEBT RETIREMENT RATE				
Bond / SRF Debt Retirement	\$ 5,972,840	\$ 5,972,840	\$ 4,305,593	\$ 4,414,431
Debt Retirement Rate	\$ 2.30	\$ 2.32	\$ 1.62	\$ 1.73
Increase/Decrease in Debt Retirement Rate	21.48%	0.74%	-29.82%	6.55%
Total/All Inclusive Rate	\$ 8.60	\$ 8.84	\$ 8.51	\$ 8.89
Increase in Total/All Inclusive Rate	7.76%	2.76%	-3.75%	4.52%

Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017

	Budget 2013-2014	Actual 2013-2014	Budget 2014-2015	Actual 2014-2015	Budget 2015-2016	Rate Year 2016-2017
<u>Other Revenue</u>						
Downriver Personnel Charge for Services	\$ 477,548	\$ 643,261	\$ 426,186	\$ 489,191	\$ 500,000	\$ 500,000
Misc. Revenue	\$ 45,000	\$ 68,858	\$ 85,000	\$ 82,416	\$ 68,000	\$ 68,000
Industrial Surcharge	\$ 500,000	\$ 813,649	\$ 460,000	\$ 675,417	\$ 550,000	\$ 600,000
Interest Earnings	\$ 11,000	\$ 23,552	\$ 5,500	\$ 48,125	\$ 5,500	\$ 20,000
Non-Rate Revenue	\$ 1,033,548	\$ 1,549,320	\$ 976,686	\$ 1,295,149	\$ 1,123,500	\$ 1,188,000
<u>Expenditures</u>						
Personnel	\$ 2,560,196	\$ 2,519,916	\$ 2,442,478	\$ 2,182,192	\$ 2,609,493	\$ 2,606,274
Fringes	\$ 2,160,842	\$ 2,021,884	\$ 2,066,639	\$ 2,162,117	\$ 2,270,573	\$ 2,206,093
Materials & Supplies	\$ 2,355,790	\$ 2,492,187	\$ 2,463,150	\$ 2,420,898	\$ 2,670,630	\$ 2,884,150
County Services	\$ 2,182,865	\$ 1,925,728	\$ 2,095,305	\$ 1,938,204	\$ 2,706,200	\$ 2,407,000
Contractual Services	\$ 3,784,530	\$ 3,089,525	\$ 4,189,950	\$ 3,106,082	\$ 4,573,856	\$ 3,977,800
Training & Travel	\$ 38,000	\$ 8,108	\$ 30,200	\$ 12,455	\$ 38,800	\$ 37,100
Utilities & Other	\$ 4,127,000	\$ 4,131,189	\$ 4,080,623	\$ 3,968,008	\$ 4,183,524	\$ 4,071,803
Rentals	\$ 77,000	\$ 59,016	\$ 65,000	\$ 57,318	\$ 67,000	\$ 67,000
Other Expenditures	\$ 23,000	\$ 16,223	\$ 24,000	\$ 16,770	\$ 20,000	\$ 520,000
Capital Outlay	\$ 456,000	\$ 70,050	\$ 245,500	\$ 142,936	\$ 223,000	\$ 672,000
Fund Transfers	\$ 103,270	\$ -	\$ 103,270	\$ -	\$ -	\$ -
Total Expenditures	\$ 17,868,493	\$ 16,333,826	\$ 17,806,115	\$ 16,006,980	\$ 19,363,076	\$ 19,449,220

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

	Budget 2014-2015	Actual 2014-2015	Budget 2015-2016	Budget 2016-2017
Sewage Disposal	10,431,960	9,777,881	10,668,431	10,741,894
Excess Flow	6,397,469	6,389,604	7,571,145	7,519,326
Use of O & M Fund Balance	0	0	(240,000.00)	0
Total Operations Revenue	\$ 16,829,429	\$ 16,167,485	\$ 17,999,576	\$ 18,261,220
Charge for Services	426,186	489,191	500,000	500,000
Misc. Receipts	55,000	52,416	38,000	38,000
Industrial Surcharge	460,000	675,417	550,000	600,000
Misc. Charges	30,000	30,000	30,000	30,000
Total Other Revenue	\$ 971,186	\$ 1,247,024	\$ 1,118,000	\$ 1,168,000
Interest Earnings	5,500	48,125	5,500	20,000
Use of Fund Balance	0	0	240,000	0
Total Revenue	\$ 17,806,115	\$ 17,462,634	\$ 19,363,076	\$ 19,449,220

Expenditures

Wages & Salaries	2,194,478	1,901,136	2,333,993	2,330,774
Overtime	160,000	217,593	200,000	200,000
Aft/Night Shift Premium Pay	12,000	11,197	12,000	12,000
Sat/Sun Shift Differential	5,000	4,595	5,500	5,500
Holiday Premium Pay	40,000	37,237	38,000	38,000
Leave Pay	31,000	10,434	20,000	20,000
Total Personnel	\$ 2,442,478	\$ 2,182,192	\$ 2,609,493	\$ 2,606,274
Unemployment Insurance	11,411	3,920	12,078	11,902
FICA	186,850	160,479	200,009	199,380
Hospitalization (HDHP)	960,623	842,535	992,647	992,647
Disability Insurance	9,078	7,472	9,336	10,032
OPEB	0	28,741	0	0
Workers Comp	78,650	67,993	83,650	19,279
Retirement	820,027	1,050,977	972,853	972,853
Total Fringe Benefits	\$ 2,066,639	\$ 2,162,117	\$ 2,270,573	\$ 2,206,093
Computer Software	3,000	0	3,000	1,500
Printing & Binding	1,200	669	1,200	1,200
Postage	500	179	500	400
Office Supplies	10,000	7,575	10,000	9,000
Misc. Supplies	500	0	2,000	2,000
Dues/Membership	33,000	38,823	38,000	48,900
Vehicle Supplies	8,000	2,698	5,000	5,000
Clothing & Dry Goods	1,500	218	1,500	0
Parts/Other Equipment	753,000	692,474	908,200	957,700
Clothing Allowance	13,000	9,009	23,000	23,000
Lubricants & Fuels	30,000	13,489	30,000	20,000
Bulk Chemicals	1,589,450	1,647,794	1,628,230	1,795,450
Janitorial Supplies	5,000	4,435	5,000	5,000
Misc. Repair Supplies	10,000	3,535	15,000	15,000
Total Material & Supplies	\$ 2,463,150	\$ 2,420,898	\$ 2,670,630	\$ 2,884,150
Misc. Fees	24,500	21,588	24,500	24,500
Engineering Services	150,000	12,525	600,000	240,000
Legal Contractual Services	75,000	99,949	95,000	100,000
Tuition Reimbursement	1,000	799	2,000	2,000
IPP Chargeback	0	106,933	0	90,000
FMD Admin	290,000	244,606	300,000	300,000
DOE Admin	365,000	292,071	375,000	375,000
Sewers/Meters Chargeback	126,005	127,835	180,000	150,000
Engineering Services Charges	159,000	155,522	165,000	165,000
Info Services Chargebacks	110,000	176,393	170,200	170,000
Central Services	216,600	146,696	200,000	200,000
Personnel Dept Chargeback	61,200	55,647	59,800	65,500
Indirect Cost Expense	125,000	125,000	125,000	125,000

Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017

	Budget 2014-2015	Actual 2014-2015	Budget 2015-2016	Budget 2016-2017
M&B - Finance	310,000	309,725	324,100	325,000
Corp Counsel	25,000	29,922	30,000	41,000
Local/LD Telephone	26,000	32,993	26,500	33,000
Telephone Repairs Chargeback	1,000	0	1,000	1,000
Data Circuits chargeback	30,000	0	28,100	0
Total County Services & Indirect Costs	\$ 2,095,305	\$ 1,938,204	\$ 2,706,200	\$ 2,407,000
Misc. Contractual Services	4,189,950	3,106,082	4,573,856	3,977,800
Total Contractual Services & Indirect Costs	\$ 6,285,255	\$ 5,044,286	\$ 7,280,056	\$ 6,384,800
Freight & Express	500	0	500	500
Travel, Conference	10,000	8,385	11,800	10,000
Training	19,700	4,070	26,500	26,500
Mileage	500	0	500	100
Total Travel	\$ 30,200	\$ 12,455	\$ 38,800	\$ 37,100
Insurance & Bonds	45,623	42,864	48,524	33,803
Advertising	0	3,269	0	3,000
Property & Liability Insurance	255,000	211,675	225,000	225,000
Electricity	3,100,000	3,052,242	3,200,000	3,100,000
Gas	315,000	252,503	340,000	275,000
Water & Sewage	325,000	372,932	300,000	375,000
Equip Repair & Maintenance	30,000	23,624	50,000	50,000
Vehicle Repair & Maintenance	10,000	8,899	20,000	10,000
Total Other Operating	\$ 4,080,623	\$ 3,968,008	\$ 4,183,524	\$ 4,071,803
Building Rental	55,000	54,281	55,000	55,000
Equipment Rental	5,000	1,693	7,000	7,000
Equipment Rental-Cost	5,000	1,344	5,000	5,000
Total Rentals	\$ 65,000	\$ 57,318	\$ 67,000	\$ 67,000
DUWA Due Diligence (Transfer Costs)				500,000
SEMCOG	24,000	16,770	20,000	20,000
Total Other Expenditures	\$24,000	\$16,770	\$20,000	\$520,000
Building Additions & Improvements	0	25,522	55,000	55,000
Machinery & Equipment	161,000	70,575	135,000	373,000
Automotive Equipment	61,000	45,062	0	223,000
Lab Equipment	13,500	0	0	10,000
Office Equipment/Furniture		0	23,000	3,000
Computer Equipment	10,000	1,777	10,000	8,000
Total Capital	\$ 245,500	\$ 142,936	\$ 223,000	\$ 672,000
Intrafund Transfer Out /(In)	\$ 103,270	\$ 0	\$ 0	\$ 0
Total Expenditures	\$17,806,115	\$16,006,980	\$19,363,076	\$19,449,220

Revenues Over (Under) Expenses	\$ 0	\$ 1,455,654	\$ 0	\$ 0
---------------------------------------	-------------	---------------------	-------------	-------------

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Position Title	Budgeted 2016-2017
Certified Maintenance Mechanic	\$41,773
Certified Maintenance Mechanic	\$43,237
Certified Maintenance Mechanic	\$43,237
Certified Maintenance Mechanic	\$43,573
Certified Maintenance Mechanic	\$43,237
Chemist	\$41,439
Chemist	\$41,439
Chemist	\$41,439
Clerical Specialist	\$39,773
Department Administrator 3	\$92,000
Department Manager 2	\$53,738
Department Manager 3	\$64,884
Department Manager 4	\$55,161
Department Supervisor 1	\$37,541
Department Supervisor 1	\$41,248
Department Supervisor 6/Maintenance	\$56,393
Electrician	\$68,286
Electrician	\$68,286
Electronics Technician	\$39,550
Electronics Technician	\$39,550
Engineer 3/Wastewater Treatment	\$68,243
Engineer 7	\$97,520
Engineer 1	\$43,506
Laborer	\$22,335
Laborer	\$22,335
Maintenance Mechanic	\$31,138
Maintenance Mechanic	\$31,138
Maintenance Mechanic	\$36,224
Maintenance Mechanic	\$31,138
Maintenance Mechanic	\$31,138
Plant Technician	\$55,144
Plant Technician	\$48,468
Plant Technician	\$54,940
Plant Technician	\$54,940
Plant Technician	\$50,000
Storekeeper	\$27,020
Supervisor of Computer Operations/SCADA	\$86,914
Wastewater Specialist	\$39,989
Wastewater Specialist	\$46,263
Wastewater Specialist	\$43,238
Wastewater Specialist	\$38,913
Wastewater Specialist	\$38,150
Wastewater Specialist	\$43,238
Wastewater Specialist	\$43,238
Wastewater Specialist	\$43,238
Wastewater Specialist	\$43,238
Wastewater Specialist	\$43,238
Wastewater Specialist	\$43,238
Wastewater Specialist	\$39,973
Wastewater Specialist	\$38,150
Salary	\$2,288,791
HDHP Annual Payment	\$41,983
Total Wages and Salaries	\$2,330,774

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Bulk Chemicals

ITEM	Unit	Projected Quantity	Unit Cost	Budget FY 2017
Ferric Chloride	Lbs.	1,500,000	\$ 0.181	\$ 270,750
Polymer, Liquid Mannich	Lbs.	2,300,000	\$ 0.110	\$ 253,000
Polymer, Liquid Emulsion	Lbs.	400,000	\$ 0.910	\$ 364,000
Polymer, dry	Lbs	18,000	\$ 1.500	\$ 27,000
Boiler Chemical	Month	6	\$ 200.00	\$ 1,200
Pipeline Oxygen - Base	Cu. Ft.	2,500,000	\$ 0.215	\$ 537,500
Pipeline Oxygen - Supplement	Cu. Ft.	150,000	\$ 1.188	\$ 178,200
Pipeline Oxygen - Maint. Fees	Month	12	\$ 1,500.00	\$ 18,000
Sodium Permanganate	Lbs.	180,000	\$ 0.810	\$ 145,800
	Total			\$ 1,795,450

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Engineering Services

Projects	Budget FY 2017
As-Needed Engineering	\$150,000
As-Needed Technical	\$50,000
Planned/Emergency Sewer Repair	\$40,000
TOTAL	\$240,000

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Capital Items

Description	Budget FY 2017
Office Furniture/Equipment	
Misc. Office Furniture	\$ 3,000
Total	\$ 3,000
Computer Equipment	
Desktop Computers	\$ 8,000
Total	\$ 8,000
Laboratory Equipment	
Atomic Absorption Spectrometer	\$ 10,000
Total	\$ 10,000
Machinery & Equipment	
<u>Primary</u>	
Raw Sewage Pump #1 Impeller	\$ 35,000
Primary Tank Sludge Pumps (4)	\$ 48,000
Spare KSP Pump for Tunnel Pump Station	\$ 120,000
<u>Secondary</u>	
Belt Filter Press Polymer Pump Rehab	\$ 20,000
Belt Filter Press Rehabilitation	\$ 150,000
Total	\$ 373,000
Cars & Trucks	
Small Pickup	\$ 23,000
Scum Truck	\$ 200,000
Total	\$ 223,000
Bldgs Additions & Improvement	
HV Exhaust Fans	\$ 5,000
Make-Up Air Unit (Maintenance Building)	\$ 50,000
Total	\$ 55,000
Equipment Repair & Maintenance	
Copier, HVAC, Tanks, Pumps, Railings, Conveyors, etc.	\$ 50,000
Total	\$ 50,000

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

PARTS/OTHER EQUIPMENT

Item Description	Budget FY 2017
Solids Handling	\$ 105,000
Secondary Process	\$ 50,000
Preliminary Treatment	\$ 30,000
Primary Treatment	\$ 157,500
UV Disinfection	\$ 357,000
Maintenance Building	\$ 5,000
Admin/Lab Building	\$ 5,000
General Plant & Roofs	\$ 20,000
HVAC for Misc. Buildings	\$ 10,000
Gas Detector Parts	\$ 20,000
Misc. Lab Supplies & Parts	\$ 20,000
Safety Equipment & Supplies	\$ 18,200
SCADA	\$ 80,000
Clarifiers	\$ 10,000
Centrifuges	\$ 70,000
Total	\$ 957,700

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Miscellaneous Contractual Services

	Budget FY 2017
Grass Cutting Service	\$ 25,000
Misc. Pump and Equipment Rental	\$ 15,750
Snow Plowing Service & Salting	\$ 23,100
Mats/Mops/Towels	\$ 5,250
Vactor/Sweeping Service	\$ 21,000
Lab Contractual Analysis Service	\$ 14,700
Air Compressor Service	\$ 5,250
Service Agreement for Centrifuges	\$ 25,000
Recycling of Oil, Light Bulbs, Batteries & Chemicals	\$ 10,000
20 Cu. Yd. Trash Container Disposal	\$ 3,150
Misc. Crane & Hoist Service Contract	\$ 12,600
Pest Control	\$ 2,100
Biosolids, Rags & Grit Disposal	\$ 2,453,000
Machine Shop Repairs	\$ 21,000
Dynamic Balancing & Vibration Analysis	\$ 2,625
Interior & Exterior Door Repairs	\$ 5,250
Wyandotte Nuisance Fee	\$ 33,000
Landscaping Service/Sprinklers	\$ 10,500
Meeting Refreshments	\$ 600
Carpet & Chairs Cleaning/Floor Waxing	\$ 4,200
Safety Inspection (SCBAs & Fire Extinguishers)	\$ 12,600
Maintenance Service of SCADA	\$ 100,000
Crane Inspection	\$ 7,875
Repair Misc. Sidewalks & Roads	\$ 5,250
Electrical Equipment Maintenance	\$ 42,000
Gates & Parameter Fencing	\$ 21,000
Elevator Maintenance & Testing	\$ 26,250
Locks & Keys	\$ 2,100
Annual Service Agreement for HVAC	\$ 42,000
ASI Meter Maintenance & Data Reporting	\$ 550,000
Service Contract for Lab Equipment	\$ 7,350
LED Lighting Replacement	\$ 10,500
Piedmont Service Contract for UV	\$ 42,000
Sewer Inspection/Televising	\$ 80,000
Planned Emergency Sewer Repair	\$ 200,000
Sgt/Wyn-- Outfall Usage Agreement - Reserve for Replacement	\$ 32,530
Sgt/Wyn-- Outfall Usage Agreement - O&M	\$ 103,270
Total	\$ 3,977,800

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Training / In-Service			
No. of Employees	Description	Cost Per Employee	Budget FY 2017
25	Confined Space Rescue Team Training	\$250	\$6,250
20	MWEA Assorted Trainings for CECs	\$200	\$4,000
3	Updated Electrical Safety Course-Electricians	\$1,000	\$3,000
35	Crane Training	\$200	\$7,000
35	Safety Training FA/CPR/AED	\$150	\$5,250
	Safety Training Materials/ FA/CPR/AED		\$1,000
	Total		\$26,500

Dues and Memberships (License Renewals)	
Memberships & Staff License Renewals	\$3,500
Water Environment Research Foundation	\$25,650
National Association of Clean Water Agencies	\$19,750
Total	\$48,900

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

DOWNRIVER CHARGEBACK CAP CALCULATION

	MAX FY 2015	BUDGET FY 2015	ACTUAL FY 2015	MAX FY 2016	BUDGET FY 2016	MAX FY 2017	BUDGET FY 2017
County Chargebacks							
Buildings	\$ 21,978			\$ 22,659		\$ 22,795	
DoT	\$ 123,474	\$ 110,000	\$ 176,393	\$ 127,302	\$ 170,200	\$ 128,066	\$ 170,000
Central Services	\$ 454,435	\$ 216,600	\$ 135,366	\$ 468,523	\$ 200,000	\$ 471,334	\$ 200,000
Personnel Dept.	\$ 148,649	\$ 61,200	\$ 66,976	\$ 153,257	\$ 59,800	\$ 154,177	\$ 65,500
Indirect Costs	\$ 198,188	\$ 125,000	\$ 125,000	\$ 204,331	\$ 125,000	\$ 205,557	\$ 125,000
MB/DOE	\$ 721,493	\$ 310,000	\$ 309,725	\$ 743,859	\$ 324,100	\$ 748,322	\$ 325,000
Data Circuits	\$ 120,954	\$ 30,000	\$ 29,922	\$ 124,704	\$ 28,100	\$ 125,452	\$ -
DPS Chargebacks	\$ 77,579	\$ -	\$ -	\$ 79,984	\$ -	\$ 80,464	\$ -
Subtotal County	\$ 1,866,750	\$ 852,800	\$ 843,383	\$ 1,924,619	\$ 907,200	\$ 1,936,167	\$ 885,500
DOE Chargebacks							
Local/Long Distance	\$ 96,570	\$ 26,000	\$ 32,993	\$ 99,563	\$ 26,500	\$ 100,161	\$ 33,000
Phone Repair	\$ 4,447	\$ 1,000		\$ 4,585	\$ 1,000	\$ 4,612	\$ 1,000
FMD Chargeback	\$ 366,180	\$ 290,000	\$ 244,606	\$ 377,532	\$ 300,000	\$ 379,797	\$ 300,000
DOE Chargeback	\$ 691,656	\$ 365,000	\$ 292,071	\$ 713,097	\$ 375,000	\$ 717,376	\$ 375,000
Sewers/Meters Chargeback	\$ 494,751	\$ 126,005	\$ 127,835	\$ 510,088	\$ 180,000	\$ 513,149	\$ 150,000
Engineering Chargeback	\$ 706,824	\$ 159,000	\$ 155,522	\$ 728,736	\$ 165,000	\$ 733,108	\$ 165,000
Equip Rentals	\$ 66,543	\$ 10,000	\$ 3,037	\$ 68,606	\$ 12,000	\$ 69,017	\$ 12,000
Subtotal DOE	\$ 2,426,971	\$ 977,005	\$ 856,064	\$ 2,502,207	\$ 1,059,500	\$ 2,517,220	\$ 1,036,000
Total	\$ 4,293,721	\$ 1,829,805	\$ 1,699,447	\$ 4,426,826	\$ 1,966,700	\$ 4,453,387	\$ 1,921,500
Increase	3.60%			3.10%		0.60%	

FY 2015 was set at the FY 2014 level plus Detroit CPI of 1.60% plus 2%. This increased the CAP levels 3.6%.

FY 2016 is set at the FY 2015 level plus Detroit CPI of 1.10% plus 2%. This increased the CAP levels 3.10%.

FY 2017 will be set at the FY 2016 level plus Detroit CPI of (1.4%) plus 2%. This will increase the CAP levels 0.6%.

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

SCHEDULE OF RESERVE FUND BALANCES

Reserve for Capital Improvement

Balance as of 4/30/16 \$5,664,357

Undesignated Balance \$5,664,357

Reserve for Industrial Pretreatment Program

Balance as of 4/30/16 \$4,680,216

Undesignated Balance \$4,680,216

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

O & M Fund Balance

Balance as of 4/30/16 \$ 13,293,532

DESIGNATIONS:

Contingency Reserve (25% of FY17 Budget) \$ (4,737,305)

Insurance Deductible Designation \$ (500,000)

Net Working Capital \$ 8,056,227

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Calculation of Excess or Credit Waste Water Flows to Analyze the Rate for the Base Flow and Excess Flow and the Percentage by Community

Calendar Year Base Flow Data for 2015 (Rates are Based Upon 5-Year Average Including this Year)

MUNICIPALITY	METERED	SEWAGE WATER USAGE	D	E	F	G	H	I	J	AC	L	M	EXCESS FLOW N	EXCESS FLOW (Incl. WC Interceptor)
ALLEN PARK	0	107,609	0	0	107,609	0	0	0	39,624	107,609	0.07704958	52,682	92,306	96,429
BELLEVILLE	0	12,820	0	0	8,333	4,487	0	0	3,481	12,371	0.00885803	6,057	9,538	10,012
BROWNSTOWN	0	58,142	0	0	9,070	49,072	0	0	7,857	53,235	0.03811689	26,062	33,919	35,959
DEARBORN HTS	0	72,532	0	0	32,784	39,748	0	0	15,731	68,557	0.04908797	33,564	49,295	51,921
ECORSE	0	158,829	0	0	133,639	25,190	0	0	51,527	156,310	0.11192017	76,525	128,052	134,041
LINCOLN PARK	0	159,102	0	0	143,192	15,910	0	0	54,191	157,511	0.11278011	77,113	131,304	137,339
RIVER ROUGE	1	47,766	47,766	0	0	0	121,133	0	0	0	0	0	73,367	73,367
RIVERVIEW	0	46,817	0	0	19,195	27,622	0	0	9,611	44,055	0.03154386	21,568	31,179	32,867
ROMULUS	0	208,809	0	0	61,189	119,898	0	0	33,568	169,097	0.12107601	82,785	116,354	122,833
SOUTHGATE	0	123,374	33,743	16,569	72,556	506	0	0	21,126	131,759	0.09434141	64,506	85,632	90,680
TAYLOR	0	282,029	0	0	83,678	198,351	0	0	49,071	262,194	0.18773458	128,363	177,434	187,480
VAN BUREN TWP	0	27,321	0	0	0	27,321	0	0	2,515	24,589	0.017606	12,038	14,553	15,495
WYANDOTTE	0	170,536	155,188	8,527	6,821	0	0	0	0	209,333	0.14988538	102,484	102,484	110,504
W.C. INTER. INFLOW		0	0	0	0	0	53,512	0	0	0	0	53,512	53,512	
TOTALS		1,475,686	236,697	25,096	678,067	508,105	174,645	0	288,302	1,396,620	1.00	737,259	1,098,928	1,098,928

METERED = METERED COMMUNITY : 1=YES, 0=NO

SWU = SEWERED WATER TOTAL, (WATER PURCH),MCF

J = INFLOW, STORM WATER CONTRIBUTION TO EXCESS FLOW, MCF

TMETP (METERED EFFLUENT)

2,585,004

D = SEWERED WATER TO COMBINED SEWER AREAS, MCF

= GA * GB / 365

TWUT (WATER USED FOR TRT OF EFF)

10,390

E = SEWERED WATER TO SEPARATED SEWER AREAS CONNECTED TO A COMBINED SEWER SYSTEM, MCF

WHERE GA = NO. OF DAYS RAINFALL > OR = TO 0.1 INCH

SUME (SUM OF ALL H INCL W.C. INT. INF)

174,645

F = SEWERED WATER TO SEPARATE SEWER AREAS, MCF

GB = 2.25 * (D+E) + 1.6 * F + 0.4 * G

SUMF (SUM OF ALL I)

0

G = SEWERED WATER TO SEPARATE SEWER AREAS WITHOUT FOOTING DRAINS, MCF

AC = ALFA FOR COMMUNITY

TWPT (TOTAL WATER PURCHASED)

1,475,686

H = METERED SEWAGE AND INTERCEPTOR INFILTRATION, MCF

= 0 FOR MET = 1

SWMET (SUM OF ALL SWU FOR METERED = 1)

47,766

I = CORRECTIONS FOR ILLEGAL CONNECTIONS, ETC., MCF

= 1.25 * D+E+F+ 0.9 * G FOR MET = 0 AND QTY +VALUE

SUMG (SUM OF ALL J)

288,302

= D+E+F+G FOR MET = 0 AND QTY -VALUE

QTY = TMETP-TWUT-SME-SUMF-TWPT+SWMET-SUMG (ALL IN MCFT)

INFILTRATION QTY = 683,747

L = % OF DISTRIBUTION OF INFILTRATION QTY

= AC / SUM OF AC FOR ALL COMMUNITIES

INPUT **2015**

TOTAL METERED EFFLUENT AT THE PLANT **2,585,004** MCF

TOTAL WATER PURCH. FOR TREATMENT OF EFF **10,390** MCF

TOTAL DAYS IN BILLING PERIOD **365**

NO. OF DAYS RAIN > OR = 0.1 INCH **84**

M = INFILTRATION = L * QTY (IN MCF)

Interceptor Excess: 53,512 Manually enter into H25

Constant value based on gallons per inch-mile

N = TOTAL EXCESS FLOW = J + M (IN MCF) FOR MET = 0

= H - SWU (IN MCF) FOR MET = 1

COST = COMMUNITY SHARE FOR EXCESS INFILTRATION AND INFLOW

COST = N * EXCESS FLOW RATE

Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017

Five Years Average Flow Analysis

Community	For 2013 Rates				For 2014 Rates				For 2015 Rates				For 2016 Rates				For 2017 Rates				2017 Rate Year 5 Years Average 2010-2015		
	2010				2011				2012				2014				2015				Base	Excess	Total
	Base	Excess	Interceptor	Total Excess	Base	Excess	Interceptor	Total Excess	Base	Excess	Interceptor	Total Excess	Base	Excess	Interceptor	Total Excess	Base	Excess	Interceptor	Total Excess			
Allen Park	183,535	87,422	6,287	93,709	468,209	335,387	13,279	348,666	123,242	138,122	4,299	142,421	126,009	111,924	4,755	116,680	107,609	92,306	4,123	96,429	201,721	153,857	355,578
Belleville	17,719	7,533	592	8,125	18,071	10,978	495	11,472	17,106	17,067	576	17,643	17,213	13,552	627	14,179	12,820	9,538	474	10,012	16,586	11,829	28,414
Brownstown	54,264	17,378	1,721	19,098	52,782	23,955	1,371	25,326	61,061	50,323	1,950	52,273	49,830	32,136	1,722	33,858	58,142	33,919	2,040	35,959	55,216	31,950	87,166
Dearborn Hts	99,729	37,888	3,259	41,148	76,554	41,791	2,052	43,843	78,322	72,696	2,582	75,278	75,246	54,948	2,684	57,632	72,532	49,295	2,627	51,921	80,477	51,849	132,326
Ecorse	136,343	63,508	4,647	68,154	144,361	96,289	4,029	100,318	144,061	153,426	4,945	158,371	155,543	131,046	5,777	136,822	158,829	128,052	5,989	134,041	147,827	115,662	263,489
Lincoln Park	173,585	83,015	5,951	88,966	165,434	113,359	4,645	118,004	151,629	164,608	5,236	169,845	144,182	123,909	5,387	129,296	159,102	131,304	6,035	137,339	158,786	124,446	283,232
River Rouge	71,033	51,911	-	51,911	65,616	61,754	-	61,754	53,512	73,858	-	73,858	64,664	54,553	-	54,553	47,766	73,367	-	73,367	60,518	63,089	123,607
Riverview	59,840	20,943	1,926	22,869	54,703	29,148	1,460	30,608	53,263	48,651	1,748	50,399	46,149	33,142	1,639	34,780	46,817	31,179	1,688	32,867	52,154	32,950	85,104
Romulus	166,228	51,500	5,242	56,742	235,583	123,258	6,266	129,524	203,084	183,286	6,644	189,930	214,209	126,282	6,381	132,664	208,809	116,354	6,479	122,833	205,583	121,432	327,014
Southgate	132,665	50,780	4,906	55,687	131,067	71,169	3,970	75,138	133,319	129,973	4,966	134,940	126,146	96,323	5,084	101,407	123,374	85,632	5,048	90,680	129,314	87,785	217,099
Taylor	304,150	106,489	9,792	116,281	312,550	155,528	8,241	163,769	306,557	267,805	9,941	277,746	273,584	187,536	9,598	197,135	282,029	177,434	10,046	187,480	295,774	180,968	476,742
Van Buren	30,506	8,759	951	9,709	31,710	12,853	809	13,663	35,009	26,933	1,099	28,032	28,747	17,247	976	18,223	27,321	14,553	942	15,495	30,659	16,257	46,916
Wyandotte	193,791	59,377	8,238	67,614	198,075	84,636	6,896	91,532	222,437	205,470	9,524	214,994	191,729	136,825	8,882	145,706	170,536	102,484	8,021	110,504	195,314	119,362	314,676
	1,623,387	646,502	53,512	700,014	1,954,715	1,160,106	53,512	1,213,618	1,582,602	1,532,219	53,512	1,585,731	1,513,251	1,119,424	53,512	1,172,936	1,475,686	1,045,416	53,512	1,098,928	1,629,928	1,111,436	2,741,364

Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017

Summary Flow Data

Year	Base	Excess	Total
2001	1,853,086	768,923	2,622,009
2002	1,953,686	1,400,193	3,353,879
2003	1,976,451	889,902	2,866,353
2004	1,813,680	1,054,188	2,867,868
2005	1,742,292	1,355,875	3,098,167
2006	1,920,882	650,822	2,571,704
2007	1,789,149	998,535	2,787,684
2008	1,788,551	762,757	2,551,308
2009	1,771,375	913,150	2,684,525
2010	1,642,031	993,590	2,635,621
2011	1,623,387	700,014	2,323,401
2012	1,954,715	1,213,618	3,168,333
2013	1,582,602	1,585,731	3,168,333
2014	1,570,034	1,116,153	2,686,187
2015	1,475,686	1,098,928	2,574,614
TOTAL AVG.	1,763,840	1,033,492	2,797,332
2006-2007 Rate Year (5yr avg) 00-04	1,867,839	1,093,816	2,961,655
2007-2008 Rate Year (5yr avg) 01-05	1,881,398	1,070,196	2,951,594
2008-2009 Rate Year (5yr avg) 02-06	1,848,491	989,864	2,838,355
2009-2010 Rate Year (5yr avg) 03-07	1,810,911	964,435	2,775,346
2010-2011 Rate Year (5yr avg) 04-08	1,802,450	936,228	2,738,678
2011-2012 Rate Year (5yr avg) 05-09	1,782,398	863,771	2,646,168
2012-2013 Rate Year (5yr avg) 06-10	1,722,899	873,609	2,596,508
2013-2014 Rate Year (5yr avg) 07-11	1,756,012	916,626	2,672,638
2014-2015 Rate Year (5yr avg) 08-12	1,714,822	1,081,221	2,796,043
2015-2016 Rate Year (5yr avg) 09-14	1,664,276	1,110,368	2,774,644
2016-2017 Rate Year (5yr avg) 10-15	1,629,928	1,111,436	2,741,364
Actual Flow Number for 2014 minus 1% Flow Rate Used for 2016 Rates	1,554,334	1,104,991	2,659,325
	1,550,000	1,100,000	2,650,000
Actual Flow Number for 2015 minus 1% Flow Rate Used for 2017 Rates	1,460,929	1,087,939	2,548,868
	1,500,000	1,050,000	2,550,000

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

COMMUNITY	% of Excess Flow	Projected Excess Flow Volume	Annual 5 Yr. Avg. Excess Flow Volume	Annual Fixed Excess Flow Revenue	Monthly Fixed Charge Excess Flow
Allen Park	13.84%	145,352	153,857	\$ 1,040,907	\$ 86,742
Belleville	1.06%	11,175	11,829	\$ 80,025	\$ 6,669
Brownstown	2.87%	30,184	31,950	\$ 216,157	\$ 18,013
Dearborn Hts	4.67%	48,983	51,849	\$ 350,780	\$ 29,232
Ecorse	10.41%	109,269	115,662	\$ 782,501	\$ 65,208
Lincoln Park	11.20%	117,567	124,446	\$ 841,929	\$ 70,161
River Rouge	5.68%	59,601	63,089	\$ 426,820	\$ 35,568
Riverview	2.96%	31,129	50,166	\$ 222,920	\$ 18,577
Romulus	10.93%	114,719	121,432	\$ 821,536	\$ 68,461
Southgate	7.90%	82,933	87,785	\$ 593,902	\$ 49,492
Taylor	16.28%	170,965	180,968	\$ 1,224,323	\$ 102,027
Van Buren	1.46%	15,359	16,257	\$ 109,989	\$ 9,166
Wyandotte	10.74%	112,764	119,362	\$ 807,536	\$ 67,295
	100.00%	1,050,000	1,111,436	\$ 7,519,326	\$ 626,611

EF Rate
\$ 7.16

**Wayne County Department of Public Services/Environmental Services Group
Downriver Sewage Disposal System
Rate Year 2017**

Revenue Bonds Debt Cost Analysis (Based on Five Years Average Total Flow Volume)

COMMUNITY	Annual 5 Yrs. Avg. Total Flow Volume	% of Total Flow 5 Years Average	Actual Annual Debt Fixed Charge
Allen Park	355,578	12.97%	\$ 572,589
Belleville	28,414	1.04%	\$ 45,756
Brownstown	87,166	3.18%	\$ 140,364
Dearborn Hts	132,326	4.83%	\$ 213,084
Ecorse	263,489	9.61%	\$ 424,298
Lincoln Park	283,232	10.33%	\$ 456,090
River Rouge	123,607	4.51%	\$ 199,044
Riverview	85,104	3.10%	\$ 137,044
Romulus	327,014	11.93%	\$ 526,592
Southgate	217,099	7.92%	\$ 349,596
Taylor	476,742	17.39%	\$ 767,700
Van Buren	46,916	1.71%	\$ 75,549
Wyandotte	314,676	11.48%	\$ 506,724
Total	2,741,364	100.00%	\$ 4,414,431

Actual Debt Payments Analysis

Bond/SRF	Project Description	Principal	Interest (Spring)	Interest (Fall)	Actual Payments for Existing Debt
					FY 2017 TOTAL
#5217-01	Primary Tank	\$ 235,000	\$ 20,556	\$ 20,556	\$ 276,113
#2007-D	Fine Screens	\$ 195,000	\$ 67,253	\$ 61,988	\$ 324,240
2008 - A (5217-03)	Clarifiers	\$ 480,000	\$ 99,401	\$ 99,401	\$ 678,801
2008 - B (5217-04)	Solids Handling Improvements	\$ 550,000	\$ 113,563	\$ 106,688	\$ 770,250
2008 - C (5217-05)	SCADA System	\$ 200,000	\$ 38,125	\$ 35,625	\$ 273,750
2008 - D (5217-02)	Emergency Generators	\$ 200,000	\$ 38,239	\$ 38,239	\$ 276,477
#5217-15	2011 Misc	\$ 580,000	\$ 151,200	\$ 143,950	\$ 875,150
#5419-01	Solids Complex Renovation	\$ 500,000	\$ 97,325	\$ 92,325	\$ 689,650
#5420-01 (estimated)	Secondary & Headworks Systems Improvements	\$ -	\$ 100,000	\$ 150,000	\$ 250,000
					\$ 4,414,431