MCPB Agenda #2 1/19/12

January 6, 2012

MEMORANDUM

TO:

Montgomery County Park Commission

FROM:

Mary R. Bradford, Director of Parks

Gene Giddens, Deputy Director of Park Operations John Nissel, Chief, Facilities Management Division

SUBJECT:

Briefing on the Department of Parks and Department of Planning Resource

Conservation Plan - FY13 by Richard Anderson, President of CQI Associates

A copy of the Department of Parks and Department of Planning Resource Conservation Plan is attached for your review and approval. Subject to your approval, the Plan will be submitted to Montgomery County Government for inclusion in the annual combined agency Resource Conservation Plans document prepared by the Interagency Committee on Energy and Utilities Management (ICEUM). Mr. Anderson's presentation and report reflect accomplishments as of December 2011 and plans for FY13 to conserve energy and water resources in regard to the Commission's comprehensive Resource Conservation Plan.

The Montgomery County portion of The Maryland-National Capital Park and Planning Commission established a comprehensive energy management program in July 2003 by contracting with CQI Associates as a consultant for energy, recycling, and a green parks program. Energy consumption costs have since been reduced as a result of projects and programs implemented by Commission staff with the assistance of CQI Associates. The estimated cumulative savings is \$2,491,995 for the period July 2003 to June 2011.

John Nissel and Arnold Ramsammy of our Park staff, along with Richard Anderson, CQI Associates, will be present to answer any questions you may have.

MRB:GG:dlf Attachment



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MONTGOMERY COUNTY

RESOURCE CONSERVATION PLAN

DEPARTMENT OF PLANNING

Fiscal Year 2013

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RESOURCE CONSERVATION PLAN

The Maryland-National Capital Park and Planning Commission

Montgomery County Department of Parks Department of Planning

I. INTRODUCTION

The Montgomery County Department of Parks is responsible for the acquisition, development, and management of more than 35,200 acres of parkland, providing residents and visitors with outstanding recreational opportunities, facilities, and open space for natural resources stewardship.

The Maryland-National Capital Park and Planning Commission established a comprehensive utilities management program in July 2003. Utility resources consumption and costs have been reduced as a result of the projects and programs implemented by the Commission staff.

The goal of the comprehensive <u>Resource Conservation Plan</u> is to establish programs and projects that will efficiently use energy and water resources to fulfill the mission of the Commission to serve the citizens and visitors of Montgomery County.

The <u>Resource Conservation Plan</u> strives to improve operations and maintenance practices to efficiently use electricity, natural gas, propane, and water to provide the programs offered by the parks.

This report presents the accomplishments as of December 30, 2011 and the plans for the balance of the 2012 Fiscal Year. The report establishes plans for the 2013 Fiscal Year to conserve energy and water resources as part of a comprehensive <u>Resource Conservation Plan</u>.

The Maryland-National Capital Park and Planning Commission has continued to reduce consumption based on the implementation of programs and projects in Fiscal Year 2011. The reductions in electricity and natural gas were 3% each for the year. Water use was reduced by 17% and propane use was reduced by less than 1% for the year.

Since 2004, the cumulative consumption reductions are: Electricity 20%; Natural Gas 18%; Water 24%; and Propane 46%. Energy costs peaked, due to market rate increases, in 2009 and have been reduced by 12% in Fiscal Year 2011. Water costs were reduced by 11% in Fiscal Year 2011.

II. FISCAL YEAR RESULTS - 2011

July 2010 to June 2011

The results of the programs and projects implemented in Fiscal Year 2011 are:

Usage:

Electricity: 3% reduction Natural Gas: 3% reduction

Water: 17% reduction (Largest reduction in five years)

Propane: 0.5% reduction

Utility Cost: Annual Reduction \$920,754

Cost by Utility:

Electricity: 1% increase
Natural Gas: 48% reduction

(Due to economy, natural gas market rates dropped significantly in second half

of 2010 of \$518,680)

Water: 11% reduction Propane: 11% increase

	Budget 2011	Actual Expenditure
DEPARTMENT OF PLANNING	\$250,000	\$204,779
DEPARTMENT OF PARKS	\$2,614,645	\$1,995,425
ENTERPRISE & PROPERTY MANAGEMENT	\$1,488,955	\$1,232,642
Totals	\$4,353,600	\$3,432,846
_	Reduction	\$920,754

Projects and Programs Implemented in Fiscal Year 2011

- Water Conservation Program with a focus on the reduction of irrigation water use
- Olney Manor Recreational Park
 - Installed LED parking lot lighting
- <u>Saddlebrook Park Police Headquarters</u>
 - Upgraded lighting to applicable T-8 fixtures
 - Added lighting controls where applicable in assembly areas and workrooms
 - Replaced the aging HVAC Roof Top Units with new state-of-the-art units to improve operating efficiency by 30%
- Parkside Headquarters
 - Installed additional programmable energy management temperature controls
 - Installed lighting occupancy controls where applicable
 - Replaced the aging HVAC Roof Top Units with new state-of-the-art units to improve operating efficiency by 30%

Budgeted Program and Project Funding for Fiscal Year 2011:

Programs Energy Management:	\$35,000.00
Projects Local:	\$45,000.00
Projects Non-local:	\$35,000.00
Total in FY 2011:	\$115,000.00

<u>Total for Fiscal Year 2011</u>: \$115,000.00

III. RESULTS TO DATE - FISCAL YEAR 2012 July 2011 to June 2012

The results of the programs and projects implemented as of December 30, 2011 are:

<u>Usage Projection as of December 30, 2011 for the year:</u>

Electricity: 1% reduction Natural Gas: 1% reduction Water: 1% reduction Propane: 2% reduction

Utility Costs to date:

	Projection July 2011 to June 2012	Budget 2012	Projected Difference
DEPARTMENT OF PLANNING	\$247,500	\$250,000	\$2,500
DEPARTMENT OF PARKS	\$2,259,200	\$2,420,400	\$161,200
ENTERPRISE & PROPERTY MANAGEMENT	\$1,253,860	\$1,347,850	\$93,990
TOTALS	\$3,760,560	\$4,018,250	\$257,690

<u>Projects and Programs being implemented in Fiscal Year 2012</u>

- Developing a <u>Comprehensive Energy Management and Green Parks Program Plan</u> for the <u>Brookside Gardens</u> and <u>Wheaton Regional Park</u> as a program model for use throughout the parks. Model will be used to implement similar programs and projects in upcoming years.
- Developing <u>Updated</u> Assessment Reports for potential Grant Opportunities.
- Implementing projects identified in the <u>Utility Management Plan</u> and the <u>Department of Energy Grant</u>.
- Implementing the recommendations of the <u>County Executive: Cross-Agency Resource-Sharing Committee (CARS)</u>.

Department of Energy Block Grant Received in Fiscal Year 2012:

Projects and Status:

Location	<u>Project</u>	<u>Investment</u>	Savings	Payback Period
Brookside Gardens	HID to T-8 Lighting			
Conservatory Lighting	<u>IN PROGRESS</u>	\$30,000	\$10,500	2.9
	HVAC			
Black Hill Visitor Center	COMPLETED	\$11,000	\$3,050	3.6
	HVAC			
Brookside Sycamore	COMPLETED	\$4,000	\$1,100	3.6
	HVAC			
Brookside Visitor Center	<u>PENDING</u>	\$25,000	\$7,000	3.6
Little Bennett Camp Ground	HVAC			
Office	<u>COMPLETED</u>	\$4,000	\$1,100	3.6
	HID to T-8 Lighting			
Black Hill Maintenance Yard	COMPLETED	\$15,000	\$6,800	2.2
South Germantown	HID to T-8 Lighting			
Maintenance Yard	<u>COMPLETED</u>	\$10,000	\$4,500	2.2
	Street Lighting to			
Park Maintenance Yards	LED - <u>PENDING</u>	\$12,000	\$3,900	3.1
	Totals	\$111,000	\$37,950	2.9

County Executive: Cross-Agency Resource- Sharing Committee (CARS)

The Commission participated in the development of CARS programs and projects for implementation in Fiscal Year 2012.

The Commission staff is implementing the recommendations in accordance with the programs supported by the <u>Inter-County Committee on Energy and Utility Management</u> and as funding is allocated by the County for the projects proposed.

The following project and program recommendations have been proposed by the Utilities Workgroup and adopted by the Executive Committee for implementation in Fiscal Year 2012.

CARS Program and Projects

(R1) Establish an Interagency Energy Technical Service Organization

 Recommitment to Inter-County Committee on Energy and Utility Management -UNDERWAY

(R2) Develop a Multi-Agency Energy Service Contract for Energy-Efficiency and Renewable Energy Retrofits

- Alternative project funding strategy pending County Request for Proposal –
- Expansion of energy management control and lighting control capability at major facilities:

Park Maintenance Facilities (Five)
Parkside Office Headquarters
Saddlebrook - Office/Auditorium Facility
Montgomery County Regional Office

 <u>Request for Proposal</u> Issued by County and Selection Pending – May be deferred to Fiscal Year 2013

(R4) Launch and Interagency Energy Conservation Campaign

Employee Participation Program - UNDERWAY Spring 2012

(R5) Retrofit T-8 32Watt Fluorescent Lamps with 28 Watt Replacements

UNDERWAY - Being implemented as inventories of 32 watt bulbs are depleted

(R6) Provide Building Operator Certification (BOC) Training to Facilities Staff

 One MNCPPC Staff to attend – Program announced and funding allocated, registration for one Commission staff member submitted.

The budgeted expenditures for Fiscal Year 2012:

Programs Energy Management:	\$ 35,000.00
Projects Local:	\$108,000.00
Projects Non-local:	\$ 69,000.00
Total in FY 2012:	\$212,000.00

Grant Received in Fiscal Year 2012:

DOE Block Grant: \$111,000.00

<u>Total for Fiscal Year 2012:</u> \$323,000.00

IV. PLANNED RESOURCE CONSERVATION PLAN – FISCAL YEAR 2013 July 2012 to June 2013

Goals:

- > Reduce consumption overall by up to 2%.
- ➤ Reduce costs, with the support of the Central Purchasing Office staff, to lower the unit cost of the energy supply component on the utility bills by 12% effective July 1, 2013.
- ➤ Implement projects and programs focused on heating and air conditioning system replacements for equipment in operation for over 20 years. Heating and air conditioning systems manufactured in 2012 are over 35% more efficient for the same unit size and types installed 10 years ago.
- Increase staff participation in the overall program plan.

<u>Planned Projects and Programs for Fiscal Year 2013</u>

- Develop a comprehensive energy management and green parks program plan for:
 - o Cabin John Regional Park
 - South Germantown Regional Park
- Seek additional project grant opportunities
- Implement projects identified in the <u>Inter-County Committee on Energy and Utility</u>
 <u>Management Plan</u>
- Expand opportunities based on the recommendations of the <u>County Executive: Cross-Agency Resource- Sharing Committee (CARS)</u>

Budget projection for Fiscal Year 2013 is:

	Proposed Budget 2013
DEPARTMENT OF PLANNING	\$234,830
DEPARTMENT OF PARKS	\$2,324,700
ENTERPRISE & PROPERTY MANAGEMENT	\$1,270,770
TOTALS	\$3,830,300

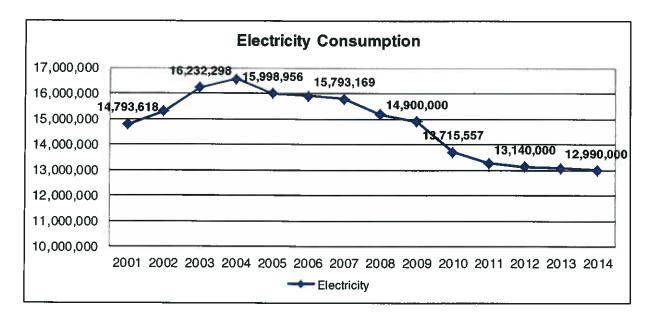
The proposed budgeted expenditures for Fiscal Year 2013:

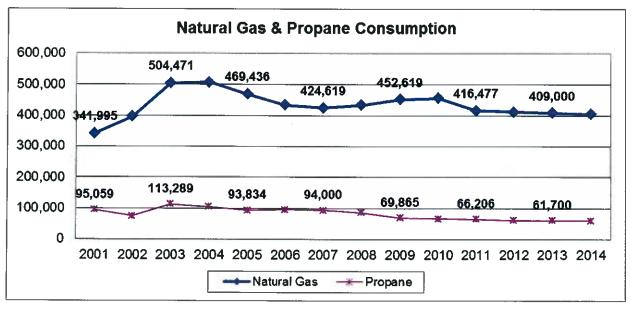
Programs Energy Management:	\$35,000.00
Projects Local:	\$45,000.00
Projects Non-local:	\$35,000.00
Total in FY 2013:	\$115,000.00

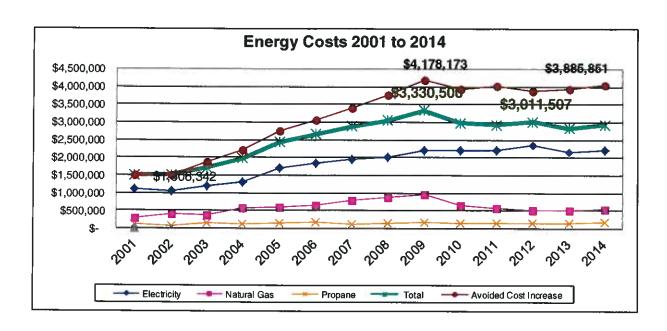
Total for Fiscal Year 2013: \$115,000.00

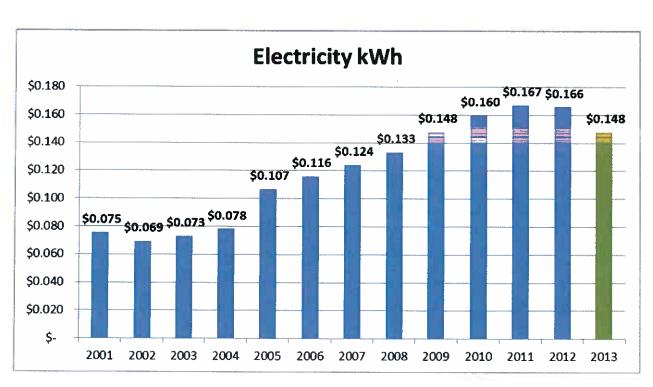
V. <u>Program Summary & Projections</u>

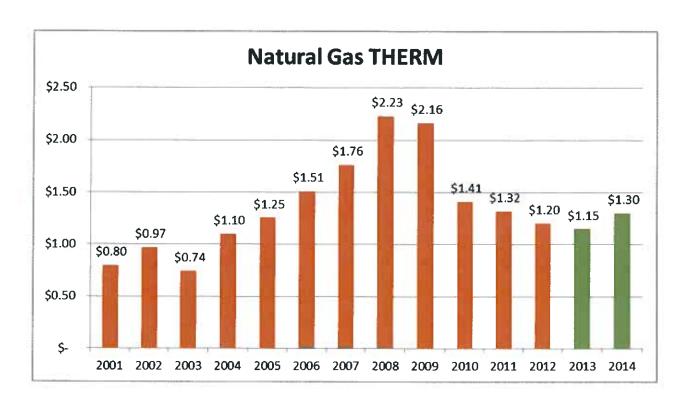
The program results since the 2001 are shown on the following charts:

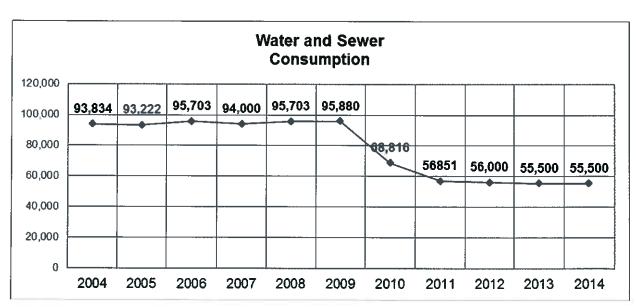


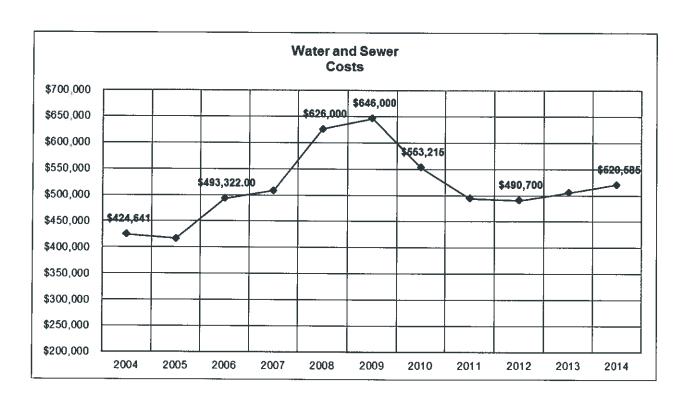


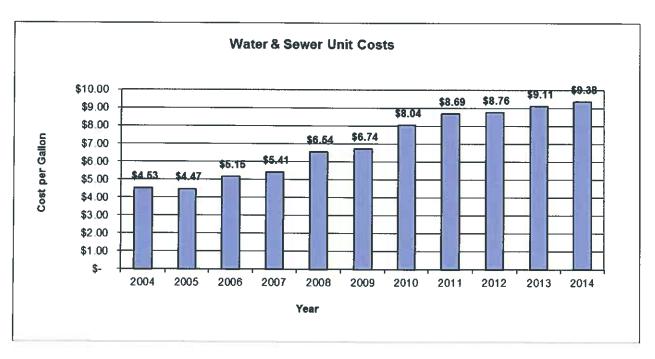












Summary

Agency		Maryland-National Cap	ital Park and Planning	g Commission	
Number of Facilities		398 Facilities that have utilities	Change in number of facilities in 2011		0
	Total square feet	1,205,420	Change ir	total ft² in 2011	0
Average	e operating hrs/year	Varies	Change in avg. op	perating hrs./year in 2011	None
Oth	er changes effecting energy consumption	The implementation of conservation program for Divisions: Northern Park	Change in avg. operating hrs./year in 2011 Ta a comprehensive energy management and wat for the Department of Parks by the three operatives, Southern Parks, and Enterprise Operations and consumption reductions at the following part of the part of Parks by the three operatives, Southern Parks, and Enterprise Operations and consumption reductions at the following part of the p		nd water operating ations ing park Course: 1 13 Indoor: 2 05 98 50 s: 207 Stand Alone): 1 1 ers: 6 as: 133
		Playgrounds: 291 Dog Parks: 5 Maintenance Facilities: 1	0	Carousel: 1 Splash Playgrour Skate Parks: 2	

Existing Measures Programs and Projects Completed - Fiscal Years 2000 to June 2011

Measures - Existing: (implemented from FY 98 to FY 09)	date implemented (mo/yr)	initial cost (\$)	annual net impact on maintenance cost (\$)	fuel type(s) effected and units	units saved per year	annual cost savings (\$)
Capital Improvement Projects:						
Equipment Replacement Project	FY 2000 to FY 2011	\$231,000 est.	\$80,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	459,000 kWh, 17,600 therms & 3,900 Pounds	\$83,100 est. Annual Cost Avoidance
Equipment Retrofit Projects	FY 2000 to FY 2011	\$65,000 est.	\$10,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	170,200 kWh, 5,500 therms & 600 Pounds	\$29,600 est. Annual Cost Avoidance
Controls Improvements	FY 2000 to FY 2011	\$50,000 est.	NA	Electricity	112,000 kWh & 9,600 therms	\$35,000 est. Annual Cost Avoidance
Lighting Projects – Includes MEA Grant in 2010 - \$72,000	FY 2000 to FY 2011	\$265,200 est.	NA	Electricity	224,000 kWh	\$112,900 est. Annual Cost Avoidance
CIP Project Sub-total		\$611,200			965,200 kWh, 32,700 therms & 4,500 Pounds	\$260,600 est. Annual Cost Avoidance
Operations and Maintenance:						
Operations and Maintenance Best Management Practice and Programs	FY 2000 to FY 2011	\$272,500	\$5,000 annual	Electricity, Natural Gas, and Propane	522,000 kWh, 24,700 therms & 5,000 Pounds	\$115,000 est. Annual Cost Avoidance
Total		\$883,700			1,487,200 kWh, 57,400 therms & 9,500 pounds	\$375,600 est. Annual Cost Avoidance 2.4 yrs. ROI

New Measures Fiscal Year 2012

Resource Conservation Measures Being Implemented July 1, 2011 through June 30, 2012

Measures - Planned: (for FY06)	projected completion date (mo/yr)	projected initial cost (\$)	projected annual net impact on maintenance cost (\$)	fuel type(s) effected and units	estimated units saved per year	projected annual cost savings (\$)
Capital Improvement Projects: 2012						
Equipment Replacement Project Local & Non-Local	Entire Year	\$110,000 est.	\$35,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	35,000 kWh, 4,000 therms & 200 Pounds	\$25,000 est. Annual Cost Avoidance
Lighting Projects Local & Non-Local	Entire Year	\$67,000 est.	NA	Electricity	30,000 kWh	\$30,000 est. Annual Cost Avoidance
Department of Energy Grant Projects Grant \$111,000	Entire Year	\$111,000 est.	\$15,000 on Annual Service Costs & Labor	Electricity, and Natural Gas	38,000 kWh, 6,000 therms	\$37,950 est. Annual Cost Avoidance
CIP Project Sub-total		\$288,000	\$50,000			\$92,950
Operations and Maintenance:						
Best Management Practices Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	23,000 kWh, 900 therms & 200 Pounds	\$4,000 Annual Cost Avoidance
Employee Training and Participation Programs	Entire Year	\$5,000	NA	Electricity, Natural Gas, and Propane	14,000 kWh, 400 therms & 100 Pounds	\$1,000 Annual Cost Avoidance
Operations and Maintenance Improvement Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	25,000 kWh, 900 therms & 200 Pounds	\$5,000 est. Annual Cost Avoidance

Sub-Total	\$35,000	NA	\$10,000
Total	\$323,000	\$50,000	\$102,950 3.2 yr. ROI

Planned Measures Fiscal Year 2013

Resource Conservation Measures Planned July 1, 2012 through June 30, 2013

Measures - Planned: (for FY08)	projected completion date (mo/yr)	projected initial cost (\$)	projected annual net impact on maintenance cost (\$)	fuel type(s) effected and units	estimated units saved per year	projected annual cost savings (\$)
Capital Improvement Projects: 2013						
Equipment Replacement Project Local & Non-Local	Entire Year	\$50,000 est.	\$20,000 on Annual Service Costs	Electricity, Natural Gas, and Propane	100,000 kWh, 10,000 therms & 1000 Pounds	\$16,000 est. Annual Cost Avoidance
Controls Improvements Local & Non-Local	Entire Year	\$10,000 est.	NA	Electricity	15,000 kWh & 1,000 therms	\$4,000 est. Annual Cost Avoidance
Lighting Projects Local & Non-Local	Entire Year	\$20,000 est.	NA	Electricity	30,000 kWh	\$12,000 est. Annual Cost Avoidance
CIP Project Sub-total		\$80,000	\$20,000	!		\$32,000
Operations and Maintenance: 2013						
Best Management Practices Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	23,000 kWh, 900 therms & 200 Pounds	\$4,000 Annual Cost Avoidance
Employee Training and Participation Programs	Entire Year	\$5,000 Additional CARS Funding TBD	NA	Electricity, Natural Gas, and Propane	14,000 kWh, 400 therms & 100 Pounds	\$1,000 Annual Cost Avoidance

Operations and Maintenance Improvement Programs	Entire Year	\$15,000	NA	Electricity, Natural Gas, and Propane	25,000 kWh, 900 therms & 200 Pounds	\$5,000 est. Annual Cost Avoidance
O&M Total		\$35,000	NA			\$10,000
Total		\$115,000	\$20,000			\$42,000 2.7 yrs. ROI

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Utility Budget Projection by Fund /Cost

	(July 1 to June 30)	2012 Budget	2013 Budget
PLAN	NING		
2220	Electricity	\$205,000	\$195,100
2210	Natural Gas	\$34,610	\$31,200
2230	Water and Sewer	\$6,350	\$6,990
1903	Propane	\$0	\$0
	Tax Increase	\$2,500	\$0
	Wind Energy Fee	\$1,540	\$1,540
	Sub Total	\$250,000	\$234,830
PARK	S		
2220	Electricity	\$1,333,330	\$1,273,600
2210	Natural Gas	\$418,930	\$397,100
2230	Water and Sewer	\$526,540	\$531,800
1903	Propane	\$110,000	\$113,400
	Tax Increase	\$22,800	\$0
	Wind Energy Fee	\$8,800	\$8,800
	Sub Total	\$2,420,400	\$2,324,700
	RPRISE		
2220	Electricity	\$885,200	\$847,120
2210		\$358,300	\$332,470
2230	Water and Sewer	\$37,900	\$38,280
1903	Propane	\$35,400	\$36,500
	Tax Increase	\$12,850	\$0
	Wind Energy Fee	\$6,100	\$6,100
	Sub Total	\$1,335,750	\$1,260,470
PROP	ERTY MANAGEMENT		
2220	Electricity	\$7,800	\$7,400
2210	Natural Gas	\$3,200	\$2,900

2230	Water and Sewer	\$0	\$0
1903	Propane	\$0	\$0
•	Tax Increase	\$1,100	\$0
_	Wind Energy Fee	\$0	\$0
	Sub Total	\$12,100	\$10,300

Overall Totals	\$4.018.250	\$3,830,300		
Overall Totals	φ4,010,200	\$3,030,300		