

# Introduction

Dynamic Environmental Management Limited (DEML) has received licences from the Office of Utilities Regulation (OUR) for the operation of Water & Sewerage Service at Vineyards Estate, Caribbean Estates, Portmore Country Club and Morris Meadows.

DEML is applying to the OUR for a tariff review consistent with the terms of its licences as follows:

Vineyards Estate	-	\$118.78
Caribbean Estate	-	\$110.50
Portmore Country Club	-	\$110.57
Morris Meadows	-	\$110.93

DEML is also applying for the application of a Price Adjustment Mechanism (PAM) which will safeguard the company from future increase in consumer price index, foreign exchange and electricity.

DEML proposes to complete several capital projects which will not increase the revenue base for the company and is proposing that the K- Factor be applied to compensate for this. The capital project items would however have to be removed from the base rate development.

# **Business Overview**

## **Business Description**

Dynamic Environmental Management Limited (DEML) is a limited liability company incorporated in April 2005. DEML has received licences from the Office of Utilities Regulations (OUR) for the extraction, treatment and distribution of domestic water supply and the collection and treatment of sewage and the discharge of effluent in accordance with NEPA and WHO standards for the Vineyards Housing Development, Caribbean Estate Housing Development, Portmore Country Club and Morris Meadows Housing Development.

## **Ownership and Management**

The principal owners of DEML are Carl Tucker, Donovan Hayden, Lloyd Thomas and Peter Baker and the company is headed by a Board of Directors with over 51 years combined experience in utility services and engineering, operations management and customer service.

Carl Tucker spent 13 years with Goodyear Jamaica Limited rising to the position of Quality and Technology Manager before leaving for the Ministry of Housing where he worked as the Joint Venture Housing Coordinator for 7 years and 5 years at New Era Homes 2000 Limited as Vice President in charge of Operations. He is now providing consultancy service in the area of housing development.

Donovan Hayden has spent over 25 years with the Land Valuation Department working in various capacities, his last being Assistant Commissioner of Land Valuations. He is now working with the National Land Agency as Director Estate Management.

Lloyd Thomas spent 10 years with the Jamaica Public Service Company Limited where he rose to the position of District Manager. Since 1991 he has been Managing Director of Pro-Tech Enterprise Company Limited, an Electrical Engineering Consulting Company.

Peter Baker spent over 10 years with the Land Valuation Department working in various capacities with the last being Valuation Surveyor. He is now employed with the National Land Agency as Manager Property Services with portfolio responsibility for the management of crown lands.

## **Vision and Mission Statement**

DEML is committed to providing efficient, reliable and quality service in the extraction, treatment and distribution of domestic water supply and the collection and treatment of sewage and discharge of the effluent to National Environmental Planning Agency (NEPA) and WHO standards at the facilities it operates, whilst adding value to the community and maintaining a healthy environment.

# Scope of DEML's Services

## DEML Customers

DEML provides potable water to 2,180 customers and sewerage services to 2,131 customers in the parish of St. Catherine as follows:

Name of Housing Development	Number of Accounts	
	Water	Sewerage
Vineyards Estate	426	419
Caribbean Estates	980	980
Portmore Country Club	274	274
Morris Meadows	500	458

## Potable Water Services

Potable water services are provided to the customers of DEML via in house taps. DEML produces approximately 12,700,000 liters of water per month through a network of pipelines in the various housing developments.

Name of Housing Development	Water Produced Per Month (Gallons)
Vineyards Estate	3,622,600
Caribbean Estates	5,450,333
Portmore Country Club	1,395,817
Morris Meadows	2,188,292

The sources of water for the Vineyards and Portmore Country Club housing developments are from wells located on the sites which have been handed over to DEML. The sources of water for the Caribbean Estate Housing Development and the Morris Meadows Housing Development are from (1), the Cookson Number 4 well and from (2), a well located on the site of the Morris Meadows Development respectively. DEML purchases water from The National Irrigation Commission (NIC) and NF Barnes Construction Company Limited, the owners of the wells. The extracted water is transmitted through 6 inch lines from the wells to the respective sites. Water is then treated via gas chlorination systems and stored in steel bolted water tanks and then distributed to the residents via duplex pump pressure systems maintaining 40-45 psi at source. The distribution trunk lines are SCH. 40 PVC with laterals of 1/2 inch.

DEML provides water that consistently meets the water quality standard of the Ministry of Health.

## **Sewerage Services**

DEML provides sewerage services to all its customers.

The sewerage treatment systems consist of lift stations equipped with submersible pumps and standby generators, treatment ponds and discharge points. Sewerage is collected from individual houses through 100mm laterals and connected to a 200mm sewer main along the roads. The sewage flows by gravity through a network of manholes and 200 mm lines and is discharged through 300 mm trunk main to the various lift stations.

## **DEML Facilities**

### **Potable Water Facilities**

DEML operates four water supply systems comprising of wells, steel bolted tanks, chlorinators, booster pumps, trunk mains and standby generators. The Vineyards Housing Development is without a standby generator.

### **Sewerage Treatment Facilities**

The Vineyards and Morris Meadows Housing Developments have its own wastewater treatment plants while the Portmore Country Club sewerage terminates into the Caribbean Estate wastewater treatment plant. All the wastewater treatment plants are located at the respective housing development except for the Caribbean Estates wastewater treatment plant which is located in Greater Portmore.

All the treatment plants are fairly well maintained and inspected regularly by NEPA and the Ministry of Health. The Vineyards Estate wastewater treatment plant is however in need of repairs.

# Industry Overview

## Size of the Industry

The National Water Commission produces more than 90 % of Jamaica's total potable water supply from a network of more than 160 underground wells, over 116 river sources (via water treatment plants) and 147 springs. The other 10% is provided by private companies, while The National Irrigation Commission provides irrigation services. Approximately 30% of the water abstracted in Jamaica is used to meet the demand for potable water and the remaining 70% is used for irrigation.

## Other Entities Providing Water and Sewerage Services Other than NWC

<b>Name of Entity</b>	<b>Category of Service</b>	<b>Area Served</b>
Can Cara Development Limited	Water & Sewerage	Western Spanish Town
Central Waste Water	Sewerage	Kingston & St. Andrew
Dairy Spring Limited	Water	Shaw Park, St Ann
Four Rivers Development Company Limited	Water	Shaw Park St. Ann
Hampstead Citizens Association Benevolent Society	Water	Hampstead District
Runaway Bay Water Company	Water	Cardiff Hall, Runaway Bay
Rose Hall Development	Sewerage	Rose Hall, Montego Bay
<i>Dynamic Environmental Management Limited</i>	<i>Water &amp; Sewerage</i>	<i>Vineyards Estate, Bushy Park, Caribbean Estates, Morris Meadows, St Catherine</i>

The NWC operates more than 1,000 water supplies and over 100 sewerage facilities island wide. These vary from large raw water storage reservoirs at Hermitage and Mona in St. Andrew and the Great River treatment plant in St. James, to medium sized and small diesel-driven pumping installations serving rural towns and villages across Jamaica.

It is estimated that approximately 70% of Jamaica's population is supplied via house connections and the remaining 30% obtains water from standpipes, water trucks, wayside tanks, community catchment tanks and direct access to rivers and streams.

Approximately 25% of Jamaica's population is served by sewerage facilities operated by the NWC. The Commission also has responsibility for some small sewerage systems, utilizing package plants, which are associated with housing developments in various locations throughout the country. The disposal of the sewage generated in the remainder of the population is done through various types of on-site systems such as septic tanks, soak-away pits, and pit latrines.

## **Industry Trends**

The National Water Sector Policy (NWSP) was intended in particular to provide a framework to encourage private participation in the sector by large investors as well as community based organizations devoted to delivering potable water and sewerage treatment facilities to discrete communities.

Private participation should therefore be in the country's best interest, improve economic efficiency in the sector in terms of operational performance and the use of capital investment, and achieve productivity achievements in the sector by the use of technical and managerial expertise and new technology. It should also insulate the sector from political intervention and powerful interest groups; transfer the risks and responsibilities from government over the long term and deliver a reliable and efficient service to communities throughout the island.

Approximately 70% of the private water and sewerage companies were granted licences by the Office of Utilities Regulations (OUR) during the last five years under this policy.

## **Industry Outlook**

Private participation in the sector has been stifled over the last two years and no new licences have been granted.

The OUR has since advised that application for new licences will not be accepted because the minister with responsibility for water has suspended the issuing of water licences to private providers pending the review of the National Water Sector Policy.

# **Policy, Legal and Regulatory Framework**

## **Policy Framework**

The NWSP sets out the framework for the water and sewerage services. It sets out the government objectives for the sector as well as institutional responsibilities and strategies to achieve them. It also sets out the principles for the establishment of tariffs for water and sewerage.

## **Ownership and Private Participation**

A key aspect of the NWSP is the encouragement of private participation in the provision of water and sewerage. It is expected that private investment in new infrastructure and private operation will relieve the Government of the burden of financing the sector and provide economic benefits for Jamaica. It is therefore expected to bring improvements in the availability, quality and cost effectiveness of the service being delivered.

## **Institutional Responsibilities**

The OUR will have responsibility for the approval of fees and tariffs based on prescribed/agreed water quality and service standards, minimum standards of sewerage services and other appropriate parameters.

The Environmental Control Division of the Ministry of Health will have responsibility for the monitoring water quality standards according to WHO standards and the Jamaica Interim Guidelines.

NEPA will have responsibility for monitoring and enforcing compliance to environmental standards.

## **Tariff Regulation**

The OUR is responsible for setting tariffs at a level which allows service providers to fully recover efficient costs levels. The service provider will be responsible for increasing efficiency of operations, thus reducing costs to the lowest efficient levels.

In setting tariffs, the OUR will take into account the need for additional funds for system improvements where exceptional circumstances dictate.

The service providers and the OUR will implement a public awareness campaign whenever tariffs are adjusted.



## Tariff Structure

The rate for the supply of services shall be set such that it provides a reasonable opportunity to make a reasonable return on capital employed after taking into account all reasonable costs incurred in the provision of the services.

Revenue requirement = operating costs + taxes + return on investments

## Legal Framework

### OUR Act

The OUR has the responsibility to regulate the provision of prescribe utility services including water and sewerage services pursuant to the Section 4 (1) (a) of the OUR Act.

### Water Act

A new Water Supply and Sewerage Service Act is being drafted and among other things will apply to all water service providers including the NWC and privately owned utility companies.

### The Public Utility Protection Act

Section 3 of the Public Utility Protection Act makes it an offence for any person to trespass on the works or property of a public utility provider.

## Regulatory Framework

### General

DEML was granted 20 year licences for the operation of water and sewerage services by the OUR for the following housing developments:

### Housing Developments Operated by DEML

No	Housing Developments	Licences	Year
1	Vineyards Estate, Bushy Park, St. Catherine	Dynamic Environmental Management Limited Water Supply Licence, 2005  Dynamic Environmental Management Limited Sewerage Services Licence, 2005	2005
2	Morris Meadows,	Dynamic Environmental Management	2007

	Portmore , St. Catherine	Limited Water Supply Licence (Morris Park) 2007  Dynamic Environmental Management Limited Sewerage Services Licence, (Morris Park) 2007	
3	Caribbean Estates, Portmore, St. Catherine	Dynamic Environmental Management Limited Water Supply Licence (Caribbean Estates) 2007  Dynamic Environmental Management Limited Sewerage Services Licence, (Caribbean Estates) 2007	2007
4	Portmore Country Club, Portmore, St. Catherine	Dynamic Environmental Management Limited Water Supply Licence (Caribbean Estates and Portmore Country Club) 2008  Dynamic Environmental Management Limited Sewerage Services Licence, (Caribbean Estates and Portmore Country Club) 2008	2008

The licences speak to the following provisions;

- The statutory role of the OUR to regulate DEML
- Performance standards and benchmarks with regard to water and sewerage
- Reporting relationships and requirements
- Billing
- Prescribed services to other utilities.

### **Tariff Application**

The licences speak to DEML making an application for a tariff review no more than once every two years. The application must be supported with data and information as the OUR will determine.

### **Rate Review Process**

In an application for rate review, DEML shall file with the OUR, proposed rate schedules and shall demonstrate that the rates proposed for the various rate categories will generate the revenue requirement for the test year. The Office shall accept such filings and if found in order shall initiate a rate proceeding and conduct its review of the proposed rates. The licence also speaks to the right of the DEML to appeal the decision of the Office.

## Previous Rate Determination

Determination Notices was granted by the OUR to DEML as follows:

<b>Category</b>	<b>Vineyards Estate</b>	<b>Caribbean Estates and Portmore Country Club</b>	<b>Morris Meadows</b>
Volumetric Rate for water & sewerage	\$51.40 (per 1000 liters)	\$71.10 (per 1000 liters)	\$83.78 (per 1000 liters)
Service Charge	\$250.00	\$300.00	\$300.00
Connection Fee	\$1500.00	\$2000.00	\$2000.00
Reconnection Fee	\$1000.00	\$1000.00	\$1000.00
Price Adjustment Mechanism (PAM)	NO	NO	YES
Determination Notice Document No.	WAT 2006/01	WAT 2007/05	WAT 2009/01
Date of Notice	July 31, 2006	December 21, 2007	January 23, 2009
Effective Date of Rates	August 1, 2006	January 1, 2008	February 1, 2009

Overall and guaranteed standards were also developed and imposed by the Office to regulate the general service delivered by DEML. The Overall Standards are general in nature and the performance of DEML against these standards is taken into account during a tariff review. The Guaranteed Standards on the other hand address specific areas of service delivery in relationship between the company and its customers. A compensatory payment of four (40 times the service charge must be credited to the customer's account if any of these standards are breached.

DEML must also submit at least one year of audited financial statement to the Office prior to the next review of the rates and bi-annual reports on its performance against the Standards to the Office.

### Reporting Requirements

As part of the monitoring process the OUR specified a number of reports to be presented by DEML on a quarterly basis with monthly breakout:

- Quality of Service Standards
- Statistical information on operations and customer service
- Financial reports
- Price Adjustment Mechanism (PAM)

DEML also submitted monthly reports to the Ministry of Health, National Environmental Planning Agency (NEPA) and the Water Resources Authority (WRA) as part of the monitoring process.

# **DEML Performance Review 2006 – 2010**

## **General**

DEML initially started operations with the Vineyards Housing Scheme in 2006 with the licences granted in November 2005. The other schemes (Caribbean Estate & Morris Meadows) were delayed due the lengthy application processing time to acquire the licences.

DEML's performance throughout the period has been creditable despite the many challenges faced in collections, theft and the steep increases in electricity rates.

DEML's rate structure approved by the Office of Utility Regulations for the Vineyards Housing Scheme and Caribbean Estate/Portmore Country Club has no recovery factor to offset for increases in input costs such as electricity rates and declining foreign exchange rates. These costs had therefore to be absorbed, thus negatively affecting the Company's bottom line.

## **Customer Service**

DEML established two sub-offices in addition to its Head Office at 139 Maxfield Avenue to provide convenient locations for bill payment and to address customer queries. These were at Oak Park Plaza, Portmore and at the Vineyards. Unfortunately, the Vineyards office was closed in 2010 after two robberies at gun-point in 2009 and 2010.

Convenient bill payment means were established through JN Money Shop and on-line banking in 2010.

Of a customer base of 2,180 customers, DEMML receives an average of 6 complaints per month, 52 percent relating to billing, 6 percent to the quality of service and 42 percent to the operational matters.

Of the 72 complaints received in 2010, 96 percent were addressed within 48 hours

## **Management and Staffing**

DEML is led by a Board of Directors comprising four persons with each assigned specific responsibility for Human Resource, Facilities Management, Quality Control and New Business and Commercial Operations and Accounts (See Figure 1 for DEML Functional Chart). The General Manager is responsible for the day to day operations of the company. The number of employees has grown from four (4) in 2006 to twenty two (22) in 2010 including 4 vacant posts to be filled (See figure 2 for Staffing Chart).

DEML believes that the quality of the product it provides the customers is paramount and has conducted several training programs for its operations staff in potable water management and waste water treatment.

## **Challenges**

Since the commencement of operations in 2006, DEML has not applied for a rate increase as is allowed due under its licences. This has been primarily as a result of delays in completing the requisite audited statements.

Additionally, the existing rate structure, with the exception of that at Morris Meadows, does not provide for a price adjustment mechanism to offset any increases in expenses. The direct impact of this is that while the operating expenses were increasing, the company had no ability to recover. The major increase in expenses occurred in electricity rates as the price of a barrel of oil soared to just over US\$140 per barrel in 2008 from a relatively moderate US\$65 per barrel in 2006.

At Caribbean Estates, water is purchased from the National Irrigation Commission (NIC) which is extracted from the Cookson 4 Well located at Bernard Lodge before treated by DEML. The rate of the water purchased from NIC was increased by 100% in 2010. Further increases are guaranteed to NIC of 50% in 2011 and 25% in 2012. Water purchases from NIC represent approximately 48% of the operational expenses at Caribbean Estates.

A survey done in 2010 established that a significant percentage (61%) of the water treated at the Vineyards Housing Scheme is unaccounted for, a combination of leaks and theft. An audit conducted determined that a high percentage of bypass and diversion exists. DEML has embarked on a concentrated program at the Vineyards to reduce these losses as much as is practicable.

One of the clay lined ponds of the sewage treatment system at the Vineyards Housing Scheme has been determined to be leaking. Flows into it have been diverted, but the company will have to incur significant expense to have it relined with clay.

Figure 1 DEML Functional Chart

# Dynamic Environmental Management Ltd.

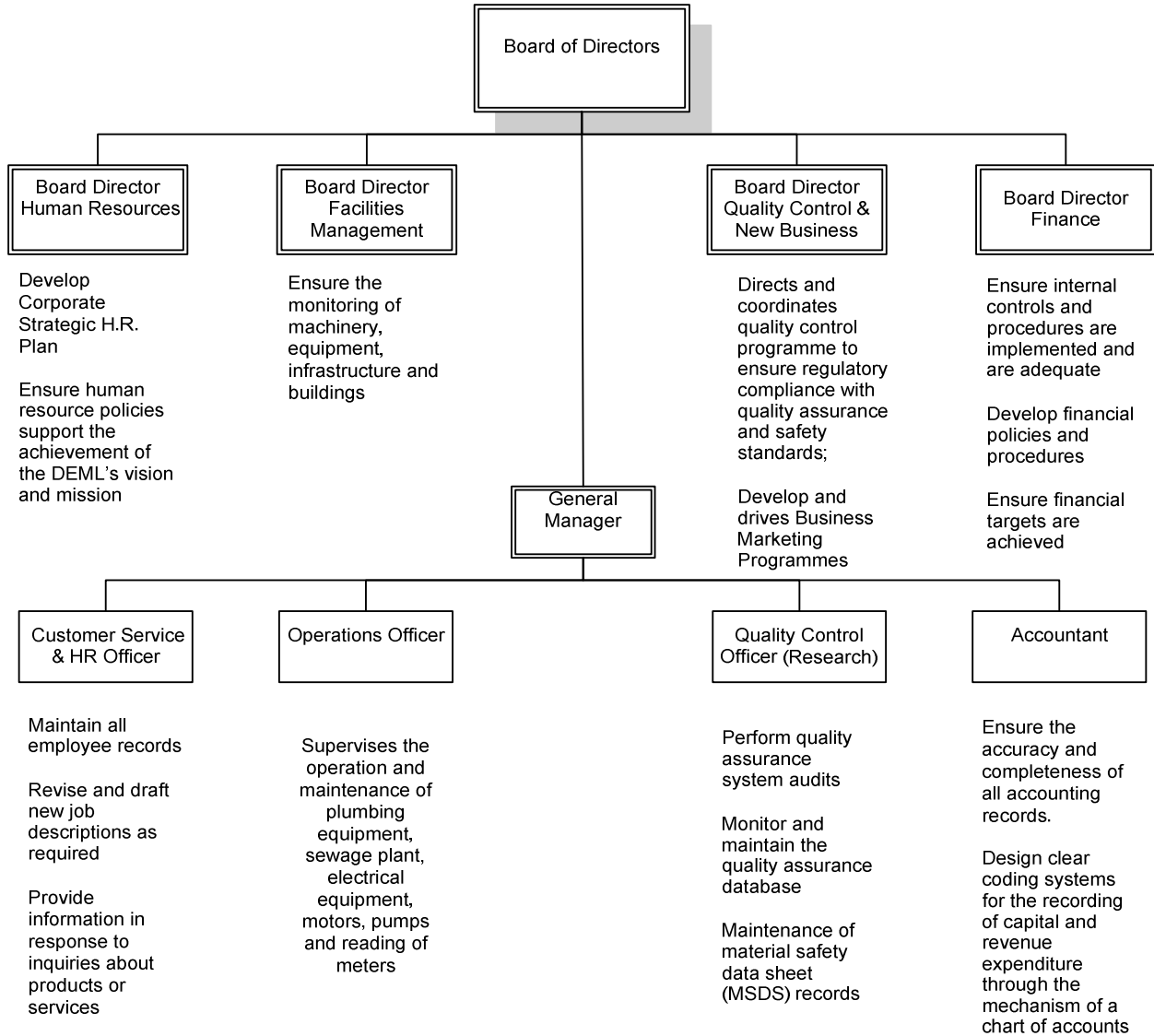
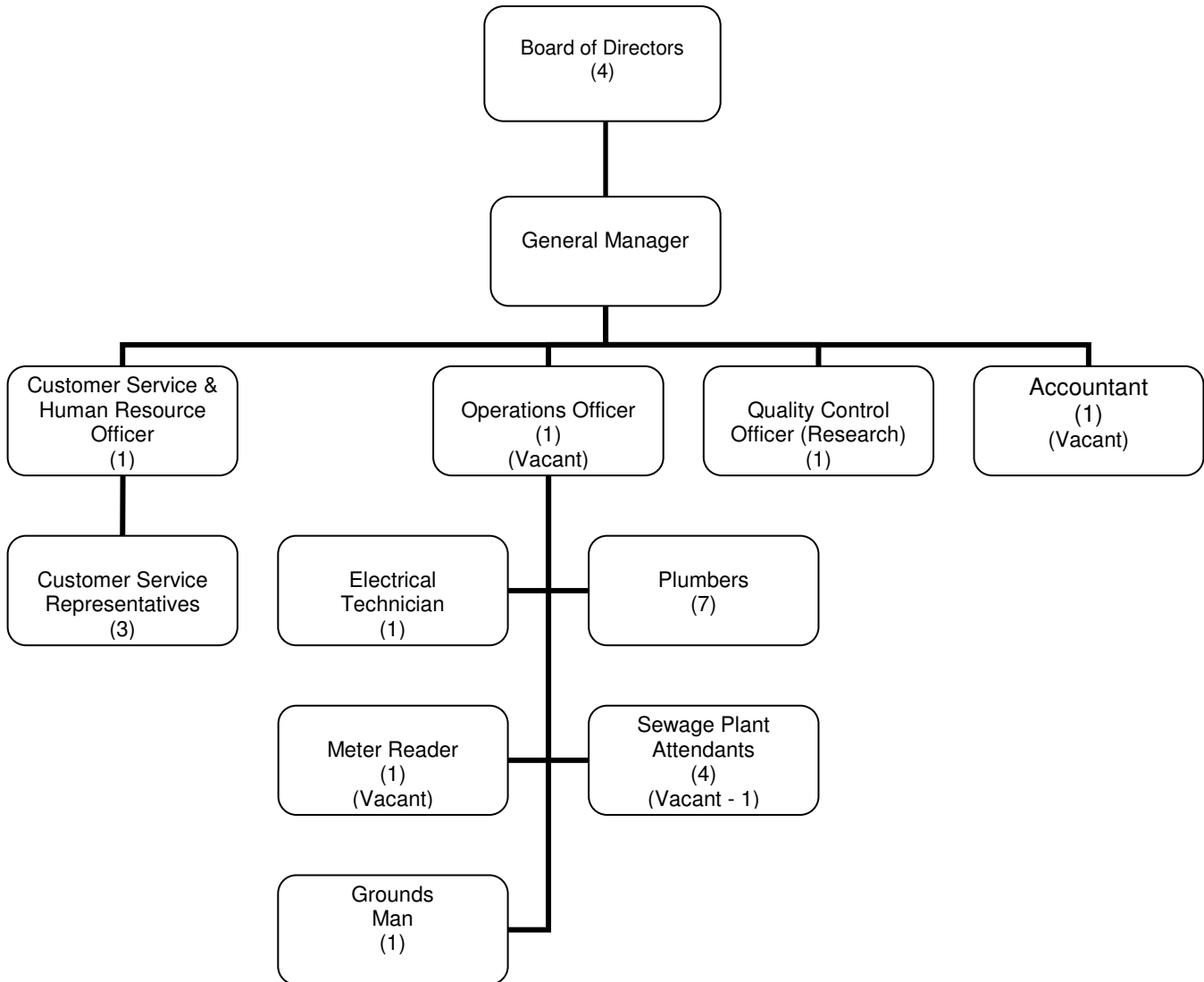


Figure 2 DEML Staffing Chart

## Dynamic Environmental Management Limited





## Financial Performance

After a significant decline in profitability between 2006 and 2007, DEML has shown an improvement in the subsequent periods (see table 1). The decline was due to a number of factors:

- The occupancy level was lower than expected at the time the rates were introduced at Caribbean Estate,
- Pilferage at Morris Meadows and Vineyards Estate
- Faulty meters that are at Vineyards Estate
- The late introduction of the rates for Morris Meadows.
- NWC was selling DEML's water to the residents of Vineyards Phase 1, and not compensating DEML.

As shown in table 1, the recovery is mainly due to the increase in the revenue. The revenue position improved because customers had functioning meters and were being billed based on actual consumption.

**Table 1**

### *Profit/(Loss) before taxation*

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Vineyards Estate	(3,607,564.00)	(4,875,384.00)	(3,575,871.00)	(2,163,480.00)
Morris Meadows	-	(2,963,572.00)	(2,789,796.00)	(1,846,874.00)
Caribbean Estate	-	(14,916.00)	(2,808,062.00)	7,614,923.00
Portmore Country Club	-	-	454,333.00	2,765,688.00
Miscellaneous	-	-	794,510.00	-
Combined	(3,607,564.00)	(7,853,872.00)	(7,924,886.00)	6,370,257.00

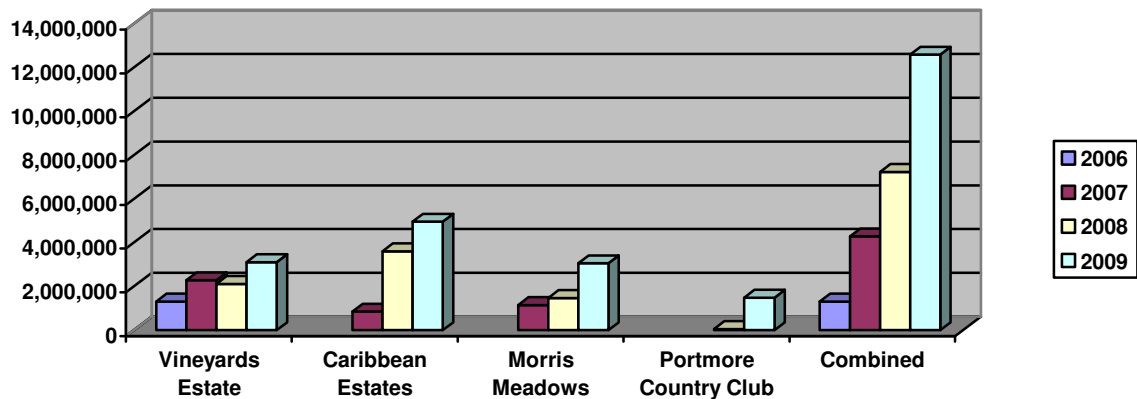
### *Revenue*

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Vineyards Estate	1,379,041.00	3,566,514.00	5,566,879.00	7,812,444.00
Morris Meadows	-	590,100.00	2,288,970.00	6,943,286.00
Caribbean Estate	-	2,336,500.00	10,142,918.00	22,187,687.00
Portmore Country Club	-	-	530,200.00	7,522,291.00
Miscellaneous	-	-	794,510.00	-
Combined	1,379,041.00	6,493,114.00	19,323,477.00	44,465,708.00

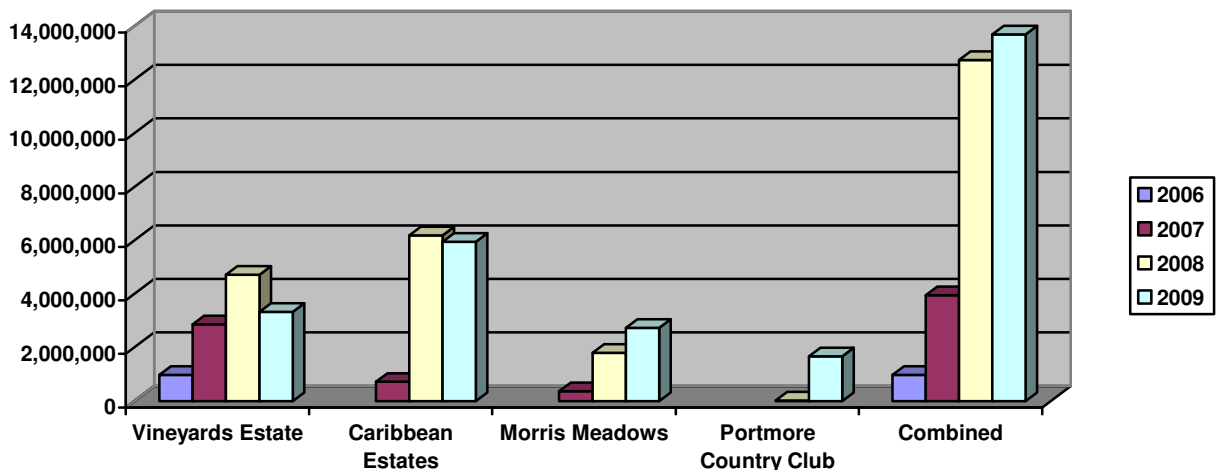
Direct operating expenditure increased between 2006 and 2007 by 253.54% and a further 187.89% between 2007 and 2008. Wages and Salaries increased by 226.62% in 2007, 69.12% in 2008 and 74.05% in 2009 as more personnel were

employed to deal with the increased customer base. An increase in the customer base also lead to an increase in the direct expenditure. As seen in figure 4, the direct expense for Caribbean Estate increased by 759.92% in 2008 and by 394.70% for Morris Meadows as more customers started occupying their premises which increased the water and the chlorine purchased. In 2008 there was also a drastic increase in the cost of electricity. These values are based on actual audited statements for the years ending 2006, 2007, 2008 and 2009. See Appendix 5, 6, 7 and 8.

**Figure 3: Salaries, Wages & Related Expenses**



**Figure 4: Direct Expenses**



DEML's ability to meet its short term obligation has increased from 0.2 in 2006 to 0.5 in 2007. This is due to the fact that the receivables, cash invested and payables all increased. The current ratio was sustained in 2008 but was reduced to 0.4 in 2009

as the increase in accounts receivables (110.45%) was greater than the increase in accounts payables (29.12%).

Caribbean Estate's current ratio shows that that estate was able to meet its obligations by 3.1 in 2007, 0.9 in 2008 and 1.2 in 2009. The reduction in 2008 was due to a significant increase in the payables over the receivables. The minimal increase was due to an increase in the cash.

Since 2006, the current ratio for Vineyards Estate has been low. In 2006 it showed a 0.2 ratio but increased in 2007 & 2008 to 0.3 & 0.4 respectively. It declined in 2009 to 0.2. This is because there was an increase in the payables from \$1.9M in 2006 to \$3.7M in 2007 and to \$10.8M in 2008. The reduction in 2009 was because the deferred tax was reduced in 2009.

The current ratio for Morris Meadows fluctuated from 0.9 in 2007 to 0.3 in 2008 to 0.6 in 2009. The decline in 2008 is because the accounts payables increased from \$1.7M to \$5.1M. The ratio increased in 2009 as the payables remained relatively constant while the receivables increased by 91.87%.

In 2008 the current ratio for Portmore Country Club was 9.7 as the estate was new and only income was being generated for the one month period. The ratio was reduced to 0.8 as the payables were increased.

Despite the fluctuation in the current ratio of the individual estates, the short term obligations of DEML were met. A rigorous collection drive has been engaged to ensure that the liabilities are met in a timely manner.

**Table 2 – Current Ratio**

	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Vineyards Estate	0.2	0.3	0.4	0.2
Caribbean Estate	-	3.1	0.9	1.2
Morris Meadows	-	0.9	0.3	0.6
Portmore Country Club	-	-	9.7	0.8
Combined	0.2	0.5	0.5	0.4

# DEML's 2011 Tariff Application

## General

This application is being submitted based on the regulatory framework specified by the OUR and consistent with previous Determination Notices granted. DEML will be making tariff applications for the following housing developments:

- Vineyards Estate
- Caribbean Estates
- Morris Park
- Portmore Country Club

## Tariff Methodology

The OUR has applied the Rate of Return methodology to the determination of rates for DEML. The rates for the supply of services shall be set such that it provides a reasonable opportunity to make a reasonable return on capital employed after taking account of all reasonable costs incurred in the provision of the services.

The methodology is specified as follows:

$$\text{Revenue requirement} = \text{Costs of Service}$$
$$R = O + D + T + kB$$

Where R = Revenue Requirement  
O = Operational Expenses  
D = Depreciation allowance  
T = Taxes  
k = a fair rate of return  
B = rate base

$$\text{Price/Tariff} = \frac{\text{Revenue Requirement}}{\text{Quantity Demanded}}$$

Operational expenses includes all prudently incurred costs not directly associated with investment in capital plant, salaries and other related costs, operating costs, rents and leases, taxes other than income tax and other costs reasonably incurred.

Depreciation is the annual depreciation rates agreed by the OUR.

Taxes are calculated based on the net income and payable to the Government of Jamaica.

Rate of return is calculated based on the rate base and the required rate of return which allows the opportunity to earn a return sufficient to provide for the requirements of the consumers and acquire new investments at competitive costs.

## Test year

The test year is based on the year for which the last audited financial statements are available with adjustments made for such changes in revenues and costs as are known and measurable with reasonable accuracy. The effective test year is 2009.

## Capital Expenditure

The following capital expenditure projects are projected to be completed. These include the construction of changing and bathroom facilities at Vineyards Estate, Morris Meadows and Caribbean Estates sewerage ponds as required by the Ministry of Health, retiling and perimeter fencing at the Caribbean Estates sewerage ponds, relining of the Vineyards Estate sewerage ponds, vehicle procurement. Standby generators will also be procured for the Vineyards Estate well site and the Cookson 4 well site at Bernard Lodge operated by NIC. The water meters at the Vineyard Estate Phase 1 will also be replaced (See Table 5 for full details).

**Table 5 - Capital Expenditure Projects**

<i>Projects</i>	<i>Vineyards Estate</i>	<i>Caribbean Estate</i>	<i>Morris Meadows</i>	<i>Portmore Country Club</i>	<i>Total</i>
Sewage Pond Re-Tiling	\$ -	\$ 1,572,000.00	\$ -	\$ 428,000.00	\$ 2,000,000.00
Re-Lining of Sewage Pond	\$ 4,760,330.06		\$ -	\$ -	\$ 4,760,330.06
Installation of changing room	\$ 233,968.00	\$ 567,936.00	\$ 233,968.00	\$ -	\$ 1,035,872.00
Perimeter Fencing	\$ -	\$ 1,504,404.00	\$ -	\$ 409,596.00	\$ 1,914,000.00
Generators	\$ 1,741,520.00	\$ 1,491,520.00	\$ -	\$ -	\$ 3,233,040.00
Changing of the meters	\$ 600,000.00	\$ -	\$ -	\$ -	\$ 600,000.00
Pick-up	\$ 285,000.00	\$ 675,000.00	\$ 330,000.00	\$ 210,000.00	\$ 1,500,000.00
Water Truck	\$ 950,000.00	\$ 2,250,000.00	\$ 1,100,000.00	\$ 700,000.00	\$ 5,000,000.00
Motor Car	\$ 190,000.00	\$ 450,000.00	\$ 220,000.00	\$ 140,000.00	\$ 1,000,000.00
Office Furniture	\$ 26,430.52	\$ 62,598.60	\$ 30,603.76	\$ 19,476.12	\$ 139,109.00
UG Valve Lock - Off	\$ -	\$ 940,800.00	\$ -	\$ -	\$ 940,800.00
Computer	\$ 11,400.00	\$ 27,000.00	\$ 13,200.00	\$ 8,400.00	\$ 60,000.00
Security Camera	\$ 39,531.80	\$ 93,627.95	\$ 45,773.66	\$ 29,128.70	\$ 208,062.11
<b>Total</b>	<b>\$ 8,838,180.38</b>	<b>\$ 9,634,886.55</b>	<b>\$ 1,973,545.42</b>	<b>\$ 1,944,600.82</b>	<b>\$ 22,391,213.17</b>

## **Expenses**

### **General**

DEML has been incurring operational expenses such as: administrative, cost of sales, banking and financial and maintenance. These costs form the basis for determining the appropriate rates to be charged as they represent actual costs adjusted to reflect normal operating conditions and such changes that are known and measurable. See Appendix 1, 2, 3 and 4.

### **Operating Expenses**

It is projected that operating expenses of \$76,359,199 will be spent across all the housing developments with the Vineyards Estates, Caribbean Estates, Morris Meadows and Portmore Country Club contributing \$17,241,626, \$34,077,935, \$15,527,836, and \$9,511,802, respectively (See Table 6).

### **Administrative Costs**

These costs include salaries and statutory payments, management fees, health insurance, uniform and training. The Vineyards Estates, Caribbean Estates, Morris Meadows and Portmore Country Club will be contributing \$3,755,552, \$7,411,912, \$3,953,322, and \$2,726,675, respectively with the total costs being \$17,847,461.

### **Sales and Marketing Costs**

The total cost for this category is \$1,120,000. The figure includes costs associated with public relations. The Vineyards Estates, Caribbean Estates, Morris Meadows and Portmore Country Club contribute \$359,000, \$312,240, \$362,000, and \$86,760, respectively.

### **Property and Utility Costs**

The majority of costs in this category is property rental costs and utility expenses incurred at the office. Utility expenses include telephone, water and electricity costs associated with the general operation of the office. The Vineyards Estates, Caribbean Estates, Morris Meadows and Portmore Country Club contribute \$686,998, \$1,294,084, \$641,719, and \$401,698, respectively to these costs. The total of these costs is \$3,024,499.

### **Operations Costs**

A provision of \$10,738,095 is made for total operating costs. This cost covers maintenance and repairs of the water and sewerage facilities as well as conducting regular testing of the water and sewerage to ensure that quality standards are met. The Vineyards Estates, Caribbean Estates, Morris Meadows and Portmore Country Club contribute \$1,946,543, \$4,100,581, \$2,601,455, and \$2,089,516, respectively towards this cost.

### **Banking and Other**

There is a provision of \$2,904,807 for this cost item. This is attributed to insurance

expense, audit and legal fees as well as bank charges. The Vineyards Estates, Caribbean Estates, Morris Meadows and Portmore Country Club contribute \$522,354, \$1,353,830, \$546,482, and \$482,141, respectively to this activity.

**Table 6 - Operating Expenses**

<b>Operating Expense</b>	<b>Vineyards Estate</b>	<b>Caribbean Estate</b>	<b>Morris Meadows</b>	<b>Portmore Country Club</b>
<b>Direct Cost of Sales</b>				
Prod. Wages	\$ 2,881,850	\$ 4,544,790	\$ 2,491,929	\$ 2,094,782
Goods and services	\$ 2,342,700	\$ 612,000	\$ 123,900	\$ 81,300
Utility and services	\$ 4,531,158	\$ 5,267,260	\$ 2,065,917	\$ 1,412,633
Water Purchase	\$ -	\$ 8,208,249	\$ 2,560,783	\$ -
Chlorine	\$ 62,857	\$ 140,340	\$ 52,323	\$ 52,323
<b>Sales And Marketing</b>	\$ 359,000	\$ 312,240	\$ 362,000	\$ 86,760
<b>Property &amp; Utilities</b>				
Rental Cost	\$ 324,880	\$ 484,295	\$ 240,767	\$ 150,270
Office Utility expenses	\$ 128,790	\$ 187,943	\$ 92,956	\$ 58,364
Telephone	\$ 108,721	\$ 252,573	\$ 125,965	\$ 78,330
Repairs & Maintenance	\$ 101,625	\$ 240,690	\$ 117,671	\$ 74,881
Stationary & Supplies	\$ 22,982	\$ 128,582	\$ 64,360	\$ 39,853
<b>Operating Expense</b>	\$ 1,946,543	\$ 4,100,581	\$ 2,601,455	\$ 2,089,516
<b>Banking &amp; Other</b>				
Bank Charges	\$ 245,681	\$ 861,412	\$ 256,202	\$ 228,146
Audit & legal	\$ 42,800	\$ 74,000	\$ 46,400	\$ 36,800
Finance Charge	\$ 63,377	\$ 150,104	\$ 73,384	\$ 46,699
Insurance	\$ 170,496	\$ 268,314	\$ 170,496	\$ 170,496
<b>Administrative Cost</b>				
Salaries	\$ 1,679,572	\$ 3,977,933	\$ 1,944,767	\$ 1,237,579
Health Insurance	\$ 227,959	\$ 413,141	\$ 183,233	\$ 131,251
Uniform	\$ 94,458	\$ 163,725	\$ 83,102	\$ 50,624
Management Fees	\$ 1,200,000	\$ 1,800,000	\$ 1,200,000	\$ 900,000
Training	\$ 29,000	\$ 77,000	\$ 32,000	\$ 24,000
Statutory	\$ 524,563	\$ 980,113	\$ 510,220	\$ 383,221
<b>Depreciation</b>	\$ 152,616	\$ 832,649	\$ 128,005	\$ 83,973
<b>Total</b>	<b>\$ 17,241,626</b>	<b>\$ 34,077,935</b>	<b>\$ 15,527,836</b>	<b>\$ 9,511,802</b>

## Rate Increase Required

Based on the analysis, the rate increase DEML will require for the delivery of reliable potable and sewerage service is shown in Table 7. DEML will be seeking tariff increases of \$118.78, \$110.50, \$110.93 and \$110.57 for the Vineyards Estate, Caribbean Estates, Morris Meadows and Portmore Country Club respectively. A service charge of \$478.62 and reconnection fee of \$3000.00 across all sites is required.

**Table 7 - Rate Increase Required**

<b>Name of Housing Development</b>	<b>Water Charges</b>	<b>Sewerage Charges</b>	<b>Service Charge</b>	<b>Reconnection Fee</b>
Vineyards Estate	\$ 118.78	\$ 118.78	\$ 478.62	\$ 3,000.00
Caribbean Estate	\$ 110.50	\$ 110.50	\$ 478.62	\$ 3,000.00
Morris Meadows	\$ 110.93	\$ 110.93	\$ 478.62	\$ 3,000.00
Portmore Country Club	\$ 110.57	\$ 110.57	\$ 478.62	\$ 3,000.00

## Price Adjustments

### General

DEML is applying for the inclusion of the Price Adjustment Mechanism (PAM) to its rate structure across all housing development. The PAM is now only applied to the rates of Morris Meadows. The company will also be applying for the introduction of the K-Factor.

### Price Adjustment Mechanism

The PAM is an indexation mechanism that is applied to the base rate for water and sewerage to preserve the real revenue of the company. The PAM captures changes in foreign exchange, consumer price index and electricity.

The formula used to calculate a PAM is specified as

$$\text{PAM} = [W_{fe} \cdot \Delta FE + W_{cpi} \cdot \Delta CPI + W_{ec} \cdot \Delta kwh] \cdot 100$$

Where  $W_{fe}$  is the weight for foreign exchange,  $W_{cpi}$  is the weight for CPI and  $W_{ec}$ , the weight for the average price of electricity per kwh and  $\Delta$  is the percentage change in the respective variables, that is, current value of each variable less the base value.



The weights will be derived by from the proportion of total operating cost that is affected by the three variables. DEML accepts this concept and believes that the current mechanism (applied to Morris Meadows) serves the intended purpose.

### **K – Factor**

DEML intend to spend approximately \$22.39 million on capital projects and none of these projects will result in any revenue increase. DEML proposes that a K-Factor be used to compensate for this for the various housing developments and appreciate that these would not be included in the base rate.