



**Government of St. Lucia**

**OFFICE OF THE DIRECTOR OF AUDIT**

**PERFORMANCE AUDIT REPORT**

**ON**

**THE MAINTENANCE OF GOVERNMENT**

**BUILDINGS**

**AUGUST 2017**

The Saint Lucia Constitution Order No. 12 of 1978 and the Audit Act establishes the role, mandate and responsibilities of the Director of Audit.

The Office of the Director of Audit conducts its audits under the authority of the Revised Laws of Saint Lucia Ch. 15:19. (Audit Act)

This audit was an independent, objective, and systematic assessment the maintenance of government buildings

The Office of the Director of Audit has prepared this report for presentation to the Parliament of Saint Lucia.



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### ***OUR MISSION***

*The Office of the Director of Audit exists to assist Parliament in holding the Government to account for its management of the country's finances and Public Service. We do this by monitoring and reporting on whether monies appropriated by Parliament were applied as appropriated; whether expenditure conforms to the authority that governs it; and on the efficiency, economy, and effectiveness of Government's operations.*

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## Acknowledgements

This report presents the results of our audit on the maintenance of government owned buildings.

The Director of Audit gratefully acknowledges the kind assistance, support and cooperation of the management and staff of the various Ministries and Departments during this audit.

The Director also extends her sincere appreciation to the audit team and to other staff members who contributed towards this audit.

## 1. Executive Summary

All buildings deteriorate from the time they are constructed. The rate of deterioration depends on a number of factors, key of which is **maintenance**, which generally includes three primary interconnected activities:

**Preventative maintenance** – scheduled, routine and recurring maintenance prevent breakdowns and mitigate deterioration.

**Corrective repair** - work required to correct a non-emergency deficiency.

**Emergency Corrective repair** – work performed to immediately correct a problem that poses a threat to building security or public safety.

Over the years, the state has made significant investment in many kinds of structures. Maintenance of buildings owned by the Government of St. Lucia has become a topic of concern as there has been increasing complaints of the poor state of repair of some state buildings.

The Office of the Director of Audit carried out a performance audit to determine whether the government agency responsible for maintenance proactively and systematically maintained government buildings and whether all buildings were currently up to acceptable standards.

We developed three (3) audit criteria associated with our audit objectives as well as questions for each line of enquiry (**Appendix 1**). The suitability of our audit criteria as being reasonable standards for assessment was agreed with by management of the responsible Departments. Having conducted our audit based on these criterion we noted the following three main areas of weaknesses.

### ***The Ministry did not maintain a Facilities Management System***

We found that the lack of policies, the necessary technology, and a facilities management system capable of producing up to date information on condition, costs and backlog for the entire building stock, has made the maintenance process very weak, inefficient and ineffective. There is a heavy concentration on schools, leaving maintenance needs for other public buildings inadequate.

***Funding for maintenance was grossly inadequate and preventative maintenance could not be undertaken.***

Competing demands for funding have been the primary factors limiting efficient and effective maintenance. Every year, maintenance work was determined based on availability of funds without preparation of comprehensive plans that could have addressed the maintenance issues of the entire building stock. While the ultimate decisions on the extent of funding for major maintenance reside with the Ministry of Finance, the Ministry of Infrastructure, Ports & Energy has adopted a reactive approach to communicating maintenance needs. It has presented budget proposals sized to fit limited funding levels set by a weak planning and information process, instead of clearly communicating the size of the maintenance backlog.

Further, it has not presented the full magnitude of the maintenance backlog or communicated the impact of continuing to defer maintenance to the Ministry of Finance. Most times the budgets presented were mainly for emergency Works leading to inadequate asset management and the inevitable backlog of preventative maintenance and corrective repair.

***There was no documented communication policy or strategy to effectively identify and deal with all stakeholders on maintenance issues.***

The relationship between the Ministry of Infrastructure, Ports & Energy and other agencies is poorly defined resulting in a lack of clarity as to the responsibility of each party with regards to maintenance of public buildings and adequate communication of repairs needed or undertaken.

Because of this weak and ineffective maintenance system, Government has experienced the closure of a number of public buildings due to major occupational health and safety risks. The situation has affected productivity in a negative way and has resulted in increased costs for corrective actions.

To improve the efficiency and effectiveness of the maintenance of the building stock, management should consider the recommendations contained in this report. We recognize the costs of recommendations can impact its implementation and that a proper cost /benefit analysis must be considered. Hence, we have attempted to make recommendations that are practical to implement.

## 2. Background



The Ministry of Infrastructure, Ports & Energy is responsible for the overall maintenance of public buildings. Section 4 of the Revised Laws of St. Lucia, Chapter 8.05 (Works and Road Act) states: “The Chief Engineer shall be charged, subject to the authority, direction and control of the Governor General, with the construction, repair, and supervision of all works, buildings, wharves, public highways and bridges, the cost of which is to be defrayed from the general revenue of Saint Lucia.”

The mission of the Ministry of Infrastructure, Ports & Energy is to develop, maintain and support social and economic development through among other things the maintenance of civil infrastructure through professionalism and team work in accordance with international standards.

The Ministry's strategic priorities are for the improvement and development of high quality roads, bridges, and government buildings through reconstruction and rehabilitation of damaged infrastructure island wide.

Before 2015, the responsibility for the maintenance of all schools was that of the Ministry of Education, Innovation and Gender Relations (thereafter referred to as The Ministry of Education) while the Ministry of Infrastructure, Ports & Energy was responsible for maintenance of the rest of Government's buildings.

The Ministry of Education had a maintenance policy and manual for schools<sup>1</sup>. In 2015, the responsibility for the maintenance of schools was moved to the Ministry of Infrastructure, Ports & Energy, as a result the Ministry of Infrastructure, Ports & Energy inherited the maintenance policy and manual for schools.

The Works Division of the Ministry of Infrastructure, Ports & Energy is the unit with the specific responsibility for the effective and efficient construction and maintenance of civil/ building Works on all public buildings and grounds. Government however, is not responsible for the maintenance of buildings which are leased.

The Staff Structure of the Works Division<sup>2</sup> and positions funded for the audit period was as follows:

Position	Number of Officers
Director of Works	1
Superintendent of Works	1
Projects Officer	1
Assistant Projects Officer	1
Building Officer	6
Building Maintenance Technician	1
Engineering Assistant	3
Technician	3
Technician Assistant	0

Maintenance is one of the most significant expenses related to ownership of any building. In order to maintain buildings at an acceptable level, industry standard

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<sup>1</sup> This policy and manual was developed in March 2013 by a consultant (Profiles Antigua Inc. from Antigua) under the Basic Education Enhancement Project (BEEP). The objective of that project was to "improve the quality of learning environments in primary and secondary schools through required reconstruction and rehabilitation of buildings".

<sup>2</sup> Source: Estimates of Expenditure



recommend budgeting for maintenance and repair at two to four percentage (2-4%) of the cost to replace the building.

Currently a maintenance process has been developed and is being used by the Works Division (**Appendix 2**). This process was developed in an effort to help the Division meet its key deliverables.

Some key deliverables for the Works Division as noted in the estimates of expenditure were as follows:

Some of the key deliverables for the Works Division as noted in the Estimates of Expenditure

Develop a maintenance programme and maintenance guide of public buildings by March 2016;

Adoption/implementing International standards to facilitate more efficient and effective maintenance of public buildings and grounds by March 2016;

Adoption / ratification of the maintenance programme guide to inform the maintenance of public buildings by March 2017.

Adoption implementing standards for maintenance of public buildings and grounds by March 2017.

Development of a catalogue or database of Structures and building components of schools in various educational districts by March 2017.

### CHAPTER ONE

#### Facilities Management



#### **Incomplete register and listings of Government's building stock**

A program of maintenance begins with an *inventory* of all buildings and relevant information including their conditions. This inventory is necessary to help building managers identify maintenance needs and quantify deferred maintenance. The inventory together with condition data, provide managers with the information needed to plan maintenance activities, set priorities among them, and estimate their costs.

*The Accountant General in the Ministry of Finance<sup>3</sup> is responsible for maintaining a Register of Buildings owned by the Government in which the following particulars shall be entered.*

- (a) the description or designation of the building;*
- (b) date of completion or purchase;*
- (c) plan reference;*
- (d) site reference;*
- (e) prime cost or purchase price; and*
- (f) cost and date of structural alterations.*

*The Chief Engineer<sup>4</sup> is charged, subject to the authority, direction and control of the Governor General, with the construction, repair, and supervision of all Works, buildings, wharves, public highways and bridges, the cost of which is to be defrayed from the general revenue of Saint Lucia.*

<sup>3</sup> Revised Laws of St. Lucia - Procurement and Stores Regulations No. 47

<sup>4</sup> Chapter 8.05 of Laws of St. Lucia (Roads and Works Act Section 4)

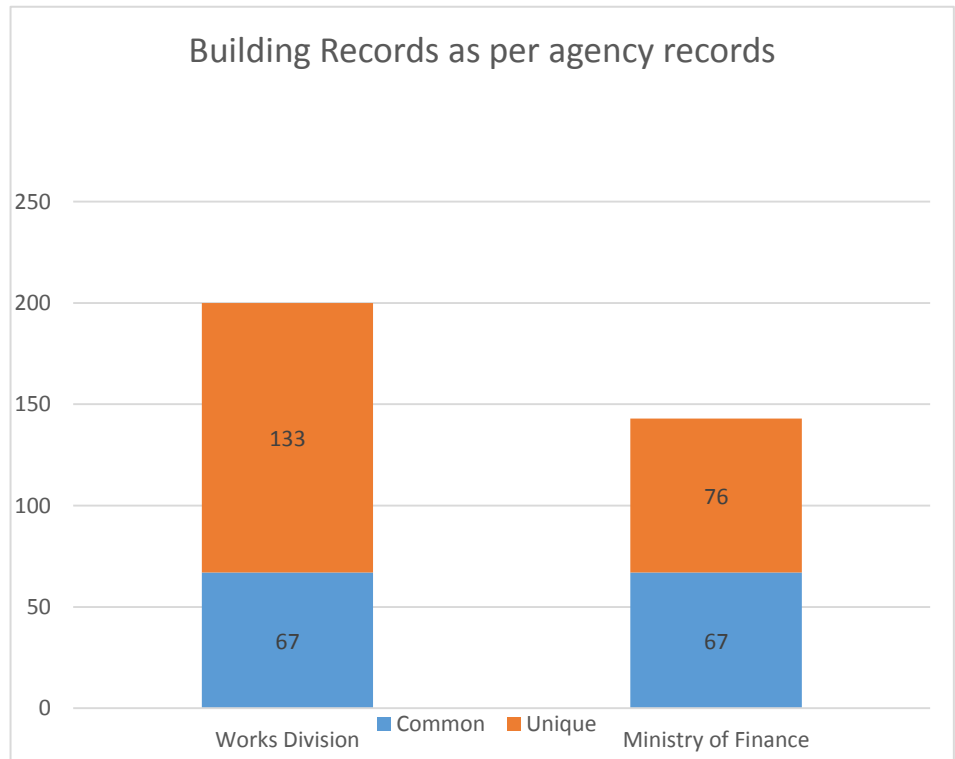
The Accountant General in the Ministry of Finance and the Chief Engineer, based on their responsibilities, are expected to have complete and updated information on all government owned buildings.

The audit team requested and obtained information on government owned buildings from both the Ministry of Finance and the Works Division in the Ministry of Infrastructure. The information from the two entities was compared.

**Information  
Obtained**

1. Records at the Works Division reflected 200 buildings owned by the Government
2. The Ministry of Finance's records reflected 148 buildings owned by the Government
3. Only sixty-seven (67) buildings were common to both entities records.

**Fig 1**



This comparison above clearly demonstrates that neither agency maintains an accurate and up to date register of all Government owned buildings.

This situation can be attributed to a lack of periodic updating of the building listings by the agencies as well as a lack of communication and involvement when new Government buildings are constructed or acquired.

**Implication and risk**

The Works Division would not be maintaining the total building stock which invariably will affect its ability to effectively provide needed inspections, sufficient budget, and implement maintenance plans. Additionally, the Works Division will be unaware of some deteriorating building conditions resulting in unplanned emergency maintenance costs. The lack of information on the complete building stock exposes government assets to a high risk of neglect and higher costs of repair or restoration.

**Recommendation:**

**The Works Division should maintain an up to date register for all Government buildings;**

**The Works Division should liaise with all other government agencies involved in the construction or acquisition of new government buildings to ensure that it has a complete list of the building stock for maintenance purposes; and**

**A strategies should be utilized to assist in creating a catalogue for all public buildings, ensuring that all information on the total building stock is accurate and complete.**

**The Works Division could more effectively use and implement the Comprehensive Maintenance Policy and Manual inherited from the Ministry of Education.**

A detailed and comprehensive maintenance policy is essential as it acts as the guiding instrument for all maintenance activities of the Division. It provides for the different types of maintenance which should be carried out by the division and the procedures which should be followed. A maintenance policy aims to:

- provide a clear statement of the department's objectives for the maintenance of its building assets
- explain how these objectives support the delivery of departmental services

- clearly specify the required activities for the economic and efficient maintenance of government buildings.
- provide a strategic focus and direction to the maintenance staff and enable them to accomplish the organizational objectives in an efficient and effective manner.
- identify, at a strategic and operational level, the officers and/or departmental units responsible for maintenance management, and outline the nature of these responsibilities

The key program strategies for the Works Division were:<sup>5</sup>

- ***To develop a maintenance programme guide for the maintenance of public buildings by March 2016***
- ***To adopt/implement international standards to facilitate more efficient and effective maintenance of public buildings and grounds by March 2016.***

In 2015, the Works Division inherited the Education Facilities Maintenance Management Policy Manual that originated from the Ministry of Education. This policy was presented when we requested the Works Division's maintenance policy and manual. We noted that the policy and manual only addressed maintenance of the school buildings and there was no policy or manual under the Ministry of Infrastructure, Ports & Energy addressing maintenance of the other public buildings.

We were left to conclude that prior to the inheritance of the Education policy and manual in 2015, the Ministry of Infrastructure did not have a documented policy or manual to guide the division when conducting maintenance on public buildings. The Director of Works indicated that the school policy and manual inherited from Ministry of Education, could be used for the other public buildings, however the audit team saw no adjustments or tweaking efforts make to the school's document in order to make it workable for all other public buildings.

Despite receiving the maintenance policy and manual from the Ministry of Education, the division did not optimize its use. As such, the Division continued its maintenance activities without consistently following the guidelines outlined in the Education Facilities Management Policy Manual.

In an interview with the Director of Works, it was explained that the main cause of the non- implementation or utilization of the policy and manual was a lack of resources. In addition, a Maintenance Management Information System (MMIS) was needed to

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<sup>5</sup> documented in the Estimates of Revenue and Expenditure for 2015/2016 and 2016/2017

complement the manual but was not yet acquired. The Director further explained that there existed a process by which maintenance activities were conducted. (Appendix 3)

We found that the process used was inefficient and ineffective as it was reactive in nature and only served to address emergency works and rarely addressed Preventative Maintenance. Thus, the process was unsustainable because it would not ensure that the total building stock would be in satisfactory condition within a reasonable time frame.

We also found that the key program strategies to develop a maintenance programme guide for the maintenance of public buildings and to adopt/implement international standards to facilitate more efficient and effective maintenance of public buildings and grounds which was to be completed by March 2016, were not met.

**Implication and risk** In the absence of a comprehensive maintenance policy, the Division would not be able to plan its maintenance activities in a prudent and systematic manner. Further, this situation can result in inefficient coordination of maintenance activities and may be playing a role in the existing inadequacies relating to maintenance of government buildings. There is a high risk that the Division would not be able to plan and execute infrastructure maintenance operations in an orderly manner. A comprehensive maintenance policy would bring consistency to activities that might otherwise be done haphazardly or not at all.

**Recommendation** **The Division should update its maintenance policy and manual to include all public buildings; and**  
**The updated policy should be used by all maintenance personnel to ensure consistent, efficient and effective maintenance of all Government Buildings.**

**The policy document and manual did not identify/recognize industry standards.**

As have previously been stated, one of the key program strategies for the Works Division was ***“To adopt/implement international standards to facilitate more efficient and effective maintenance of public buildings and grounds by March 2016”.***

The policy document presented to the auditors did not give information as to what standards of maintenance should be adhered to but instead the document recommended the creation of standards with the input from the various stakeholders. Therefore, it was left up to the stakeholders to develop the maintenance standards. At the time of this report, the Works Division had not adopted or implemented international standards into its overall maintenance activities.

According to the Director of Works, there are no standards in Saint Lucia for maintenance. The Division follows the OECS building codes and other international standards such as those developed by the International Federation of Consulting Engineers (FIDIC). The Division undertakes maintenance that would restore buildings to their original codes and standards. However, we note that these do not address the specificity of maintenance standards which are separate and distinct from building codes.

Again we note that the non-implementation and utilization of the existing policy and manual was a factor that prevented the Division from achieving the programme strategy.

**Implication and risk**

The lack of recognized maintenance standards can lead to works varying in quality and specification. Also, the technical officers supervising works may not all have the same specifications to guarantee strength and durability of the works. As a result, some works may deteriorate at a faster rate than others.

**Recommendation**

*The Works Division adopt/implement international standards to facilitate more efficient and effective maintenance of public buildings; and  
The Division should investigate all factors which prevented it from attaining its March 2016 target and put measures in place to achieve the target at the soonest. If the strategies as documented in the estimates are not attainable, those should be amended to reflect what is achievable.*

**There is no Maintenance Management Information System (MMIS)**

A MMIS is a system (manual or computerized) of information about an organization's maintenance operations. The information is intended to help maintenance managers

make decisions on maintenance activities. The MMIS should produce data on all building maintenance activities.

In the case of the Works Division, the MMIS would help in producing building information, such as:

- Physical condition and rating of the condition
- Repair history
- Maintenance costs
- Backlog

The key to a successful MMIS is the quality, accuracy and timeliness of the data collected, stored, and retrieved.

Another key program strategy documented for the Works Division was the ***“Implementation of an “Asset” Maintenance and Management System to scientifically inform and prioritize the maintenance interventions and to reduce maintenance costs for public infrastructure by March 2016.”***

Further, Industry best practices require a consistent and cost-effective process to assess and update building conditions on a regular basis.

During our audit, we noted the Division’s failure to implement the maintenance information system. According to the Director of Works, this was due in part to the Divisions’ inability to acquire the software for this system. The reason given was limited financial resources.

The evidence obtained<sup>6</sup> on the status indicates, ***“Not done. Consultation with international agency (World Bank) officials with regard to identifying requirements and specifications that meet GOSL needs. These specifications will be used to procure system.”***

In the absence of the MMIS, we tried to determine the level of ease or difficulty to obtain the necessary maintenance information on the building stock.

We were unsuccessful, as the Division could not provide comprehensive maintenance information on any one building at any one point in time without a great level of difficulty.

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<sup>6</sup> Estimates 2016/2017 page 215 (Achievements/Progress)



Since the Division had not established a consistent and reliable mechanism to assess building conditions over time, it was not possible to know if building conditions have improved, worsened, or remained the same. Further, the Division did not have a timely process in place to assess the buildings under its control or regularly and consistently update the data.

The Director of Works lamented that in order for him to provide any historical information concerning public buildings he would have to follow building information from the estimates prepared by the building officer, then to the work plans then trace to work orders then to quarterly reports. In effect, the information laid scattered in several different areas. The Director also noted that condition assessments were conducted annually, but only in preparation for budgeting and the work plan and only for the buildings scheduled for maintenance work. He went on to explain that the Division was not able to categorize works based on the type of maintenance required (preventative, routine and emergency) due to the absence of the MMIS and was only able to carry out emergency works.

We examined the policy and manual, which the Division had inherited from the Ministry of Education and noted that none of the prescribed forms were used to collect the required information on maintenance. These could have helped to generate data on which more scientific decisions for each building could be made. Some of the forms included:

- Custodial Services Inspection form
- School inspection matrix form
- School facility inventory form
- School emergency request slip
- School completed request form
- School repair and renovation inspection report

**Implication and risk**

This situation did not allow to (1) obtain a comprehensive picture of the current maintenance needs for all public buildings, (2) determine condition ratings (3) prioritize works in a scientific manner and (4) determine and quantify the backlog. As a result, the Division was unable to forecast and budget for maintenance activities in an efficient and effective manner. This may also have a negative effect on the building stock, as deterioration could occur without the knowledge of the Division.

## Recommendation

*In the absence of the computerized MMIS, the Division should at the least have a consistent and reliable process for assessing and updating current building condition data using a cost-effective methodology with the capability of giving up to date information on:*

- *Physical condition and rating of the condition*
- *Repair history*
- *Maintenance costs*
- *Preventative, routine and emergency maintenance*
- *Backlog of work*

*The Division needs to conduct an inspection of all buildings in its portfolio and identify major maintenance needs and the cost of maintenance.*

*The Division should reassess and expedite consultation with the international agency (World Bank) officials with regard to identifying requirements and specifications for the computer software and pursue the appropriate recommendations which includes acquisition of the computerized MMIS*

## **The Division's work plan was not developed from a structured facilities management system.**

Planning is an essential activity in any system and should be done prior to scheduling activities. It identifies what, how and when actions should be undertaken and their associated estimated costs. The activities in a department's work plan should therefore be based on prior data compiled and documented.

Hence, the Division should plan its maintenance work in a scientific and efficient manner using information documented in a maintenance management system.

We requested the annual work plans for the three years under review to verify the origin of the Works identified to be undertaken. We were presented with the work plan for only 2015/2016, as the Division could not produce information for prior years.

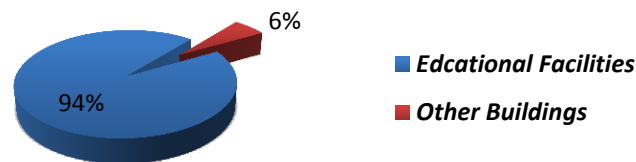
We found that the Division prepared its work plan in April, however, this did not emanate from a structured Facilities Management System. This work plan came out of

an assessment done to prepare the budget estimates, and from reports from public buildings with requests for maintenance.

An analysis of works done by the Division for the period 2015/2016 revealed that 94% of the Works completed were on school facilities compared to 6% on public buildings. See Fig 2.

**Fig 2**

***Percentage of work carried out  
on School Facilities vs Other  
Buildings 2015/2016***



We enquired on the criteria or basis used for identifying work to be included in the plan in the absence of a maintenance policy and information system. We found that the Division recorded information from complain reports of stakeholders on maintenance issues. We analysed the stakeholder reports documented by the Division against the prepared work plan and found that only a small percentage of those reports were documented on the plan.

**Implication and risk**

Without a functioning maintenance management system, the Works Divisions' ability to identify the entire scope of Works and the degree of maintenance required, may be marred; thus running the risk of overlooking more critical Works in the generation of the work plan.

**Recommendation**

***In order to have plans that are efficient, systematic and coherent the Division should move swiftly to implement an appropriate the Facilities Maintenance System with the necessary policy.***

## ***The Division does not report on the gap between maintenance required for entire building stock with actual maintenance done (deferred maintenance)***

A growing backlog, building failures and service disruptions become more likely as building components age beyond their expected lifespans. It is important that the Division report on gaps between maintenance required with actual maintenance done for the entire building stock in order to critically assess and monitor its performance.

We noted that the Division regularly produces reports on its maintenance activities and achievements. We reviewed reports for the year 2015/2016 to determine whether they include the following information:

- The number of buildings and components repaired
- Building condition ratings after repair
- Total cost of repairs for each buildings
- Building activities planned but deferred
- A plan for managing deferred maintenance projects

We found that the reports contained information on actual work done and deferred maintenance for only the year 2015/2016 and only for educational facilities. The reports did not contain any information for other government buildings or deferred maintenance for previous years.

We therefore could not determine the cumulative work done or deferred in relation to the total stock of buildings. The reports did not provide information regarding the total cost of repairs for any one building, the building condition after repair or a plan for the deferred maintenance projects. The lack of the MMIS was the reason given for the non-generation of such information.

### **Implication and risk**

The lack of adequate reporting places the Division at risk of not having sufficient information to make sound decisions with regards to building repairs. The Division could incur major repair costs on buildings from lack of appropriate monitoring of deferred repairs. This can also lead to major disruptions to the occupants of these buildings if they become uninhabitable from lack of maintenance.

Some potential impacts from not reporting maintenance backlogs include:

- equipment failure or building shut downs
- health and safety issues

- obvious deteriorations of facilities physical appearance
- low morale, productivity and increased down time from tenants inhabiting buildings with poor maintenance.
- inability to provide effective scheduled maintenance due to the frequency and cost of emergency repairs.

We noted that some buildings had indeed suffered from some of the impacts mentioned above and had to be closed to human activity<sup>7</sup>.

According to the Director of Works, that situation has resulted because of underfunding, which has contributed to the maintenance backlog increasing each year.

***Recommendation*** ***The Ministry put in place an adequate maintenance system to be able to gather sufficient and appropriate information and critically assess the data in order to make more informed decisions. The information in the reports should be guided by industry standards.***

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<sup>7</sup> Examples: Soufriere Police Station, Beausejour Agricultural Station (Vieux Fort), Sir Arthur Lewis Community College – (Division of Arts), General Post Office, Ministry of Physical Planning and Development, Choiseul Police Station, Ministry of Youth and Sports – Blue Coral Mall, Part of the Accountant General’s Department.

## CHAPTER TWO

### Financial Resources

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#### **The Division of Works prepares budgets only for Emergency and Routine maintenance of schools**

Budgeting is the process of creating a plan to spend money. The entity can use this planning process to prioritize its spending and focus its money on the things that are most important.

We expect the Division of Works to prepare their budget<sup>8</sup> for the year showing a complete listing of work needed to be done to bring all public buildings up to their optimum operational levels with prioritization of emergency and routine maintenance works. Industry standards recommend that maintenance and repair expenses to be set at two to four percent (2-4%) of the total replacement cost of facilities.

We examined the records from the Works Division and noted the following:

- The Division plans its maintenance budgets by going through the schools to find out what were the urgent maintenance issues. (These emergency and routine maintenance issues principally formed the budget.)
- The Director of Works meets with either the Permanent Secretary or the Deputy Permanent Secretary, and the Financial Analyst to finalize the details of the budget
- Maintenance of other public buildings is done through a buffer that the Division allocates from the yearly budget, and that maintenance is done on a needs basis.
- Some maintenance work is done outside of the Ministry's budget i.e. external projects for example Basic Education Enhancement Project (BEEP)

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<sup>8</sup> Part V, Section 26 of the Financial Regulations of Saint Lucia stipulate that accounting officers shall, each year, submit to the Director of Finance estimates of the sums required for recurrent and capital expenditure to be incurred by their departments during the following financial year, that is the year's budget.

We found that the process above did not consider a complete plan of work required to bring all public buildings up to their optimum operational levels. The budget process placed more emphasis on emergency works and schools.

It was explained that the yearly approved funds for maintenance was insufficient and only enough to complete emergency works and routine maintenance of schools and was forced to focus less on maintenance of other public buildings due to the lack of adequate funding.

### **Implication and risk**

The lack of adequate funding and the current approach to maintenance has led the Division to focus more on schools. This could lead to a situation of ***“fixing after it is broken”*** resulting in several problems including:

- A large part of required maintenance being left undone.
- The erosion of the value of public infrastructure as maintenance issues reach a state of emergency before being considered, when they could have been detected and managed from early.
- The loss of use of public infrastructure at important times as have happened on several occasions during the past year.
- An increasing backlog of works to be carried out.
- Large amounts of public expenditure have to be diverted to fix what may have started out as a minor situation, which if it had been detected earlier, may have cost a fraction of that amount.

### **Recommendations**

***The Division should prepare budget proposals that comprise the description of the current condition of the entire building stock, including total costs to address all major maintenance needs.***

***Priority-related information should be provided that separates maintenance needs into two important categories: (1) critical needs that carry an unacceptable level of risk for compounding costs; and (2) non-critical needs that may be postponed without substantial additional cost or operational risk.***

***Quantitative financial implications of on time or deferred maintenance should also be provided.***

## The financial resources approved for maintenance of Public Buildings were much less than the amounts requested

The objective of the maintenance programme documented for Public Buildings and Grounds in the Estimates of Expenditure was “*to effectively and efficiently construct and maintain Works on all public buildings and grounds*”.

Given this objective, we expect that the financial resources required for execution of this mandate would be made available to the Division.

We compared the work-plan with the accompanying budget to determine whether it was prepared based on the activities in the work-plan. As noted earlier, the work plan was not comprehensive but the maintenance activities documented were costed and included in the proposed budget.

We obtained the most recent records and compared the funding requested for maintenance with what was actually approved by the Ministry of Finance. We found that there was a wide disparity between the figures that the Division proposed and those approved in the estimates for the capital expenditures particularly for capital Works.

A review of the Division’s budget proposal to the Ministry of Finance indicate that while the Division provides detailed explanations for proposed maintenance Works, it does not provide three types of key information recommended by best practices:

### Key recommended information

A description of the current condition of the **entire** building stock, including total costs to address all major maintenance needs.

Priority-related information that separates maintenance needs into two important categories: critical needs that carry an unacceptable level of risk for compounding costs; and non-critical needs that may be postponed without substantial additional cost or operational risk.

Quantitative financial implications of on time or deferred maintenance.

All three types of information, provided on a consistent basis, would help make the Division’s budget proposals more salient and defensible.

### Implication and risk

Where comprehensive information and financial resources are not provided to ensure a robust system of maintenance, there is the likelihood of a future increase in



costs for maintenance activities as building components are ignored and ultimately have to be replaced, often at inconvenient times. The costs of emergency maintenance and replacement are higher (some experts place it at up to six times) than the costs involved in a preventative maintenance scheme.

Further, based on actual spending, the Division would constantly be overspending and would have to transfer funds from other activities in order to meet the additional expenditure.

## **Recommendations**

***Preparation of budgets based on the maintenance needs of the entire building stock.***

***Development of performance measures to demonstrate the impact of inadequate maintenance funding***

## **The Ministry is unable to quantify the backlog of maintenance activities**

Given the key strategies for the Works Division were to develop a maintenance programme and guide of public buildings and the adoption/implementation of international standards to facilitate more efficient and effective maintenance of public buildings and grounds by March 2016, we expect the Division to have information to assist in the planning of maintenance Works for example:

- maintenance work done for each year under consideration,
- the work left undone - backlog of works to date
- reasons for backlog
- how the backlog would be subsequently dealt with.

We found that there was no qualitative data or records to adequately inform on the above process and determine the backlog of maintenance work. We could not identify a scientific and logical approach to obtaining and recording building information. This made the audit trail of quantifying the maintenance backlog impossible.

## **Implication and risk**

The current approach will negatively affect works, as the majority remain unassessed and undone. Different components and parts of a building deteriorate at different rates; the Division may find that several emergencies may appear in one building or across several buildings at a point in time. At that time, more funding will be required within a shorter time span in order to resolve or alleviate those problems.

Without information on the full extent of the maintenance challenge, the Division will not be able to identify the most effective and efficient way to proceed in solving maintenance problems, which may lead to more delays and more quick fixes.

**Recommendations**

***At the least, have a consistent and reliable process for assessing and updating current building condition data with the capability of giving up to date information on the maintenance backlog of work.***

**Reports provided by the Division did not capture all pertinent information.**

Reporting is an integral part of managing any entity. Management uses reports to track progress toward its various goals, control expenditures and increase revenue. Reports help to predict trends, and make timely decisions. Managers who review reports on a regular basis can quickly make adjustments for abnormalities.

We expect that the Division would prepare reports that would give detailed information on the following:

1. Maintenance work planned and completed based on plan
2. Maintenance work planned and completed but had to be modified due to additional costs
3. Maintenance work completed and categorised as preventive, routine emergency
4. The effect of emergency work on approved and additional funding
5. Maintenance in a period deferred or modified based on available funding.

We enquired as to whether the Division produces reports on its maintenance activities, whether feedback was received from the recipients of those reports and whether any of the above information was disclosed and contributed to improved resources

We found that the Director of Works produced monthly, quarterly and annual reports that were addressed to the Chief Engineer on the status of work. We examined the monthly reports for 2015/16. The reports were administrative in nature and format and gave information on the following:

- staffing
- vacation leave
- sick leave
- meetings attended

- problems reported
- correspondence received
- Works done

These reports lacked the following information:

- performance measurements /targets set and achieved
- the condition and rating of buildings
- Recommendations for optimizing future major maintenance funding and spending decisions

In addition, there was no evidence of feedback from the Chief Engineer on the information produced by the Works Division in its reports to indicate what decisions or approaches would be required or proposals to be undertaken.

**Implication and risk**

The absence of important information such as performance measures to provide feedback on the effectiveness of maintenance works, could cause an inability to evaluate performance of the major maintenance activities on building conditions and identify future funding needs to achieve target condition levels. The main reason for reporting is to provide information that would allow feedback and make strategic decisions. The absence of feedback may lead to the continuation of the same approach, which may be flawed.

**Recommendation**

*The Division should measure and report on the performance of the major maintenance activities by comparing Facilities' conditions based on current data to established targets.*

*The report should include recommendations for optimizing future major maintenance funding and spending decisions.*

*Feedback on the reports should be documented to indicate what decisions or approaches would be required or taken going forward.*

## CHAPTER THREE

### Communication

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**There was no documented communication policy or strategy to effectively identify and deal with all stakeholders on maintenance issues.**

Effective communication is important for the development of an organization. It helps managers perform the basic functions of management i.e. planning, organizing, and controlling. Thus, effective communication is one of the building blocks of an organization.

The Division's ability to communicate and collaborate with stakeholders is of key importance in planning the efficient use of the Ministry's limited resources. Therefore, the Division is obligated to establish effective communication links with stakeholders.

By virtue of its mandate, the Division should have a documented communication strategy/policy that identifies and set out relationships with all stakeholders in the maintenance process. This communication policy or strategy should state mechanisms that ensure:

- the roles and responsibilities of the Division and all its stakeholders are clearly defined and all parties informed.
- all official concerns regarding health and safety and building conditions are communicated to the Works Division.
- all issues relating to the maintenance of all buildings under its responsibility are received.

- all maintenance work done on public buildings are directed through the Division.

We found that there was no documented communication policy or strategy to effectively identify and deal with all stakeholders on maintenance issues. We also noted that the Division had not documented and identified the stakeholder universe. We saw no documented goals and plan of actions geared towards establishing a communication link with stakeholders. This lack of a policy or strategy has led to a number of inefficiencies.

**Implication and risk** In the absence of a communication strategy, the roles and responsibility of each player in addressing maintenance issues is not clearly defined thus causing confusion. In addition, the Division may be deprived of pertinent information on maintenance issues from other agencies, due to a lack of a formal mechanism to disseminate and share information.

**Recommendation** *The Division should establish a documented communication policy or strategy to effectively identify and deal with all stakeholders on maintenance issues. This would foster a communication link with all key stakeholder agencies that participate in the maintenance of public buildings.*

### **The Division did not receive all official reports/concerns regarding health and safety issues in public buildings**

The Department of Labour has the mandate under the Revised Laws of Saint Lucia, Part 4 of the Labour Act No.37 of 2006 to investigate issues of occupational health and safety at all government owned buildings. We expect that the reports from the Department of Labour would be forwarded to the Works Division particularly in instances where the health and safety issues could be linked to a lack of maintenance. We interviewed the Labour Commissioner and the Occupational Health and Safety Officer at the Department of Labour. The officers confirmed that indeed some of the occupational health and safety issues reported in government buildings were because of the poor or lack of maintenance.

We found that the Department of Labour is not required to provide the Ministry of Infrastructure, Ports & Energy with reports on the health and safety issues at public buildings. The reports are usually sent to the management of the affected ministry/department who would be responsible for taking the necessary corrective

action. However, the Labour Commissioner has acknowledged the need and importance of submitting information to the Ministry of Infrastructure, Ports & Energy.

When the Division does not receive reports from the Department of Labour, there is the risk that issues of health and safety, which may arise because of the lack of maintenance, may not be addressed in a timely manner.

We reviewed a sample of reports from the Department of Labour that contained issues of maintenance for the period 2015/2016 to determine the time lag from Labour Report to Ministry of Infrastructure, Ports & Energy and actual corrective work done based on the report.

We found that fourteen (14) buildings with maintenance issues were investigated by the Department of Labour. The Department of Labour prepared reports for all of the buildings. However, only one building, the Micoud Secondary School, was included in the Ministry of Infrastructure's quarterly reports for works to be executed. We noted that works executed by the Ministry, for the Micoud Secondary Schools were in line with the recommendations of the Health and Safety Specialist.

Other buildings from the Labour reports were not registered as a complaint nor did they form part of the works plan and executed works report at the Ministry of Infrastructure, Ports and Energy. In the absence of any documented information on the other thirteen (13) buildings, one may conclude that the works were not done. If in fact the works were addressed, they were not documented.

**Implication and risk**

If pertinent information from the Department of Labour does not reach the Ministry of Infrastructure, buildings in dire need of maintenance will not form part of the Ministry's work plan. There is a risk that the unaddressed thirteen (13) buildings will undergo further deterioration and result in higher repair costs. This may further compound the situation resulting in unsuitable and unsafe environments for staff and patrons of the buildings leading to further shut downs and loss of productivity.

**Recommendation**

*Health and Safety Inspection Reports from the Department of Labour that identifies maintenance issues should be forwarded to the Ministry of Infrastructure, Ports & Energy for corrective action. The Ministry of Infrastructure, Ports & Energy should make every effort to collaborate with partners who are involved in the inspection of government owned*

*buildings to ensure that all required information is available when planning its maintenance programme.*

### **There are other agencies involved in the maintenance of public buildings**

Although Ministry of Infrastructure is the primary agency tasked with the maintenance of all government buildings, there were other agencies within government, performing similar tasks. This was of serious concern since the ultimate legal responsibility and perhaps liability was that of Ministry of Infrastructure. We were further informed that some of these agencies did not understand the role of the Ministry and thus there was very little involvement by the Ministry when those agencies performed building maintenance work.

The Ministry of Education continues to provide schools with yearly amounts to carry out small maintenance Works i.e. \$3,000.00 (primary schools) and \$5,000.00 (secondary schools).

The Director of Works cited cases of duplication of efforts where the Works Division allocated resources and assigned technical officers to schools to carry out the work from their work-plan, only to find that the planned works are already completed from the funds given to the Principals by the Ministry of Education. Activities undertaken at the schools were not communicated to the Works Division. This highlights the need to implement a communication strategy with the stakeholders, as the Ministry of Infrastructure, Ports & Energy was unable to keep track of all maintenance activities outside of its work plan.

Another area of concern was that agencies were receiving funding under various government projects to do maintenance work or in some instances construct new buildings with little or no involvement of the Ministry of Infrastructure, Ports & Energy Works Division. The Works Director sites this as one of the reasons the Ministry would not have a complete stock of government owned buildings. It was only when issues of payment to contractors, settlement of disputes or maintenance requests, would the Ministry of Infrastructure become aware or be involved.

Although attempts have been made to inform stakeholders of the need for the Ministry to be informed of all new construction, the issue still persists.

#### **Implication and risk**

This situation results in a the inefficient use of resources and maintenance not being done to the required standards and not properly monitored by the Ministry of Infrastructure which is the technically appropriate agency.

**Recommendation**

*The Ministry of Infrastructure should approach the Ministry of Finance and any other agency which has responsibility for maintenance, upgrading or constructing new public buildings with a view to:*

- *Transferring allocations to its correct agency*
- *Ensuring that all agencies are aware of the Ministry of Infrastructure’s legal responsibility for maintenance of all public buildings*
- *Strengthening the relationship between the Ministry of Infrastructure, Ports & Energy and all stakeholders.*

**Not all complaints received from other agencies were reflected in the Ministry of Infrastructure’s work plan and completed works were reported in executed works reports**

During the period 2015/2016, the Ministry of Infrastructure received several complaints regarding maintenance issues. We found that in most cases, action was taken to investigate the complaint, however, we saw no evidence of the report from the investigation or how it was dealt with thereafter. Further, most of the cases or complaints recorded did not appear on the works programme but they were listed on the completed works listing for that period.

For example, during the 2nd quarter nineteen (19) issues were reported to Works Division of which eleven (11) were recorded in the work plan. However, fourteen (14) issues were documented as executed works i.e. three were not in the work plan but were actually executed.

During the 3rd quarter twelve (12) issues were reported to Works Division of which two (2) were recorded to the work plan. However, four (4) issues were documented as executed works. In this case, the Works Division did not report on the majority of complaints received by the Ministry.

Period 2015/16					
	No. of maintenance issues reported	No. recorded in work plan	No. documented in reports as executed works	No. executed but not documented in the work plan	Issues reported but no action recorded
<b>Second Quarter</b>	<b>19</b>	<b>11</b>	<b>14</b>	<b>3</b>	<b>5</b>
<b>Third Quarter</b>	<b>12</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>8</b>



While we noted that activities were reported when costing estimates were necessary and the possibility exists that some minor works were executed without requiring a costing, we note that if the works were executed, these should be reflected in the executed works report.

**Implication and risk**

When all works done are not included the executed works reports, records do not reflect the true picture of works planned and executed. This would therefore hinder the Ministry's ability to rely on these reports for accurate data especially when assessing the need for future funding.

***Recommendation***

***All Works planned and executed should be clearly documented in the plan and subsequent reports.***

## 4. Conclusion

We conclude that the Ministry of Infrastructure, Ports & Energy did not proactively and systematically maintain government buildings and that all buildings were currently not up to acceptable standards.

We base our conclusion on the following:

1. **The Ministry did not have a facilities management system with adequate tools for planning, assessing, documenting, data storing, retrieving, tracking and reporting of maintenance activities.**
  - *The Works Division did not follow or fully implement a Comprehensive Maintenance policy and manual.*
  - *Governments' register and listings of its building stock is not complete.*
  - *The policy document and manual did not identify recognized/ industry standards.*
  - *There is no computerized or manual maintenance management information system.*
  - *The Division work plan does not come out of a structured facilities management system.*
  - *The Division produces reports but does not report on the gap between maintenance required for entire building stock with actual maintenance done (deferred maintenance).*
  
2. **The Ministry did not have adequate financial resources, to ensure that all required maintenance work assessed and planned were successfully completed.**
  - *The financial resources approved for maintenance of Public Buildings were much less than the amounts requested. The Division of Works prepares budgets only for Emergency and Routine maintenance of schools.*
  - *The Ministry is unable to quantify the backlog of maintenance activities.*
  - *There was reporting by the Division on maintenance activities that it carried out.*
  
3. **The Ministry of Infrastructure, Ports & Energy did not have a clear, documented and established Communication system that set out relationships with all stakeholders in the maintenance process.**
  - *There was no documented communication policy or strategy to effectively identify and deal with all stakeholders on maintenance issues.*

- *The Division did not receive all official reports/concerns regarding health and safety issues in public buildings*
- *There are other agencies involved in the maintenance of public buildings.*
- *Not all complaints received from other agencies were reflected in the Ministry of Infrastructure's work plan and completed works were reported in executed works reports.*

## 5. Management's Response

We wish to commend on the diligent and insightful work of the Audit Department through the publication of a Performance Audit Report on the Maintenance of Government Buildings dated August 2017.

Therein contains in summary an auditors perspective indicating on page 6 “We found that the lack of policies, the necessary technology, and a facilities management system capable of producing up to date information on condition, costs and backlog for the entire building stock, has made the maintenance process very weak inefficient and ineffective.”

This suggests that the Department of Infrastructure, Ports and Energy (DIPE) requires greater focus on the enabling environment for building maintenance, more emphasis on planning and scheduling and prioritizing interventions in a proactive manner.

Specifically, management has begun reviewing and discussing the key facts presented and can indicate that [a] the list and register of building stock will be verified with the Department of the Public Service, Accountant General etc. and updated as necessary, [b] Submission has been made in the 2018/2019 budget for thirty-three (33) million dollars to undertake maintenance over a five year period, to overcome financing hurdles and ensure scheduled maintenance and preventative maintenance, [c] In the 2018/2019 Budget, consideration has been given to separating the Schools budget from the Public Buildings budget to counter the disproportionate attention on schools and [d] we have requested a proposal/concept note to be prepared to facilitate the financing of a holistic public building assessment.

Management will undertake to action all the recommendations made as it relates to register, the computerized maintenance management system, updating the policy, adopting other international standards beyond the OECS Building Code and the FIDIC Guide, implement facilities policy and management and preparation of inclusive and holistic budgets for building maintenance.

On the issue of communication, key strategies to engage stakeholders will be identified and the nextus between the Department of Labour and the Department of Infrastructure, Ports and Energy will be galvanized as it relates to Occupational Health and Safety.

We really must emphasize our sincere thanks at raising the awareness on our performance and look forward to a symbiotic relationship that enable the Ministry of Infrastructure, Ports, Energy and Labour to be “a flagship Ministry”.

# APPENDIX 1

## Audit Criteria and Questions

### OBJECTIVE :

To determine whether the Ministry of Infrastructure Ports & Energy proactively and systematically maintained government buildings and whether all buildings were currently up to acceptable standards.

**Scope - Year 2014/15 - 2016/17**

### Criteria

The Executing agency should have:

- A facilities management system that ensures all buildings and their conditions are documented. The system should include adequate maintenance activities for planning, assessing, documenting, data storing, retrieving, tracking and reporting.
- Adequate financial resources i.e. Budget allocation, and other sources of funding to ensure that all required maintenance work assessed and planned can be successfully completed with the set timeframe.
- A clear, documented and established Communication system that sets out relationships with all stakeholders in the maintenance process to ensure that the process is handled \*efficiently.

### (1) Facilities management programme

#### Main question 1

- Does the Ministry have a facilities management system with adequate tools for planning, assessing, documenting, data storing, retrieving, tracking and reporting of maintenance activities?

#### Sub-questions 1 :

- Does the Ministry have a listing of all buildings owned by the Government of St. Lucia?
- Does the Ministry have a Facilities Maintenance Policy? Is the policy approved by the Ministry and based on recognized, accepted standards and is it followed?
- Is there a maintenance information system (either computerized or manual) that documents the maintenance information for all buildings?
- Does the system capture information for each building such as:
  - Physical condition and rating of the condition
  - Repair history
  - Maintenance costs
  - Backlog
- Does the system categorize or identifies activities as:
  - Preventative
  - Routine
  - Emergency

- Is that system up to date?
- Does the Unit prepare a maintenance work program / plan for the financial year and does the work plan come out of information from the Facilities management system?
  - Does the Unit produce reports on its maintenance activity i.e.? Status of work and the gap between maintenance required with actual maintenance done to the appropriate authority?

## **(2) Financial Resources**

### **Main question 2**

Did the executing agencies have adequate financial resources, to ensure that all required maintenance work assessed and planned were successfully completed within the set timeframe?

### **Sub-questions 2 :**

- Does the Ministry prepare a budget for maintenance activities for the financial year and was it based on information reported from the maintenance information system and work programme?
- What strategy did the Ministry use to ensure successful completion of those planned activities with the resources provided and was the Ministry able to undertake all maintenance?
- Was there reporting on the use of resources to the appropriate authority?

## **(3) Communication**

### **Main question 3:**

- Did the Ministry of Infrastructure Ports & Energy have a clear, documented and established communication system that set out relationships with all stakeholders in the maintenance process?

### **Sub-questions 3 :**

- Does the Ministry have a documented communication strategy/ policy to identify and deal with all stakeholders on maintenance issues?
- Are all official concerns regarding health and safety and building conditions forwarded to the Building Maintenance Unit?
- Does the Ministry ensure that all issues relating to the maintenance of buildings under its responsibility are communicated to the Works Division?
- Are all maintenance work directed through the Building Maintenance Unit?

## **APPENDIX 2**

### **APPENDIX- OBJECTIVE, METHODOLOGY AND SCOPE**

#### **Audit Objective and Methodology**

The objective of our performance audit was to determine whether the government agency responsible for maintenance proactively and systematically maintained government buildings and whether all buildings were currently up to acceptable standards.

In achieving the objective, we gathered sufficient, competent and appropriate evidence, reported findings, concluded against the established audit objectives and where appropriate, made recommendations for improvement where significant deficiencies were identified.

The methodology involved:

- Documentation review including policies, procedures guidelines and internal reports
- Interviews with senior management of the Ministry of Infrastructure Ports and Energy.

#### **Audit Scope**

The audit focused on the following for the past three years 2014/15 - 2016/17

The key lines of enquiry were:

1. Facilities Management Programme
2. Financial Resources
3. Communication



## APPENDIX 3

### Documentation of System

The system as documented by the Audit Office was as follows:

- A team of ten (10) officers undertakes all building assessments with responsibility for eight (8) educational districts, which includes ninety-nine (99) buildings. Three (3) of these officers are assigned to the south and seven (7) assigned to the north. In addition, two (2) officers have responsibility for other government buildings apart from schools. Those officers produce reports of their activities.
- Most maintenance work is undertaken during the summer when the bulk of the allocation is spent. The Ministry keeps a small amount from the allocation as a buffer during the year to take care of plumbing and electrical works.
- The technical officers go out and conduct condition assessments of buildings and a schedule for maintenance is prepared. That schedule is discussed with the stakeholders e.g. Ministry of Education, Innovation and Gender Relations. Based on the availability of funds, the work is prioritized and cost estimates prepared. The Ministry of Education, Innovation and Gender Relations also signs off on the agreed work schedule for schools. Schedules are also prepared for other public buildings and grounds. The Works include capital, plumbing, electrical etc. for the selected schools.
- The Works are implemented through the contract/ work order process.
- Contractors are chosen based on a pre-qualified list maintained at the Ministry.
- The Works are supervised and monitored by the technical personnel in the Works Division.
- The Director of Works prepares monthly reports of work and spending; funds are spread between necessary plumbing and electrical works for schools.
- The Ministry of Education, Innovation and Gender Relations provides each primary and secondary school with a yearly amount \$3,000.00 and \$5,000.00 respectively to assist with minor maintenance activities.