UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

PROJECT MANAGEMENT PLAN FOR THE REDEVELOPMENT OF THE CASTRIES MARKET, SAINT LUCIA

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DEDICATION

This research project is wholeheartedly dedicated to my beloved mother, who has been a source of inspiration and gave me strength when I thought of giving up and continually provided moral, spiritual, emotional and financial support. I also dedicate this research project to the memory of my father, who always believed in my abilities and was a constant cheerleader through every academic and personal endeavour in my life.

To my relatives, friends, colleagues, classmates and mentor who shared their words of advice and encouragement to finish this study.

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I would like to extend my sincere and heartfelt gratitude towards all the personages who have assisted me in this endeavour. Without their active guidance, help, cooperation and encouragement, I would not have been able to complete this research.

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Last, but not least, I would like to thank the Almighty God for the guidance, strength, power of mind, skills and protection.

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ABBREVIATIONS AND ACRONYMS

- Castries Constituency Council (CCC)
- Chief Executive Officer (CEO)
- Control Accounts (CA)
- Cost Performance Index (CPI)
- Cubic Feet Per Minute (CFM)
- Enterprise Environmental Factors (EEF)
- Final Graduation Project (FGP)
- Light Emitting Diode (LED)
- Master in Project Management (MPM)
- Organization of Eastern Caribbean States (OECS)
- Organizational Process Assets (OPA)
- Project Management Body of Knowledge (PMBOK)
- Project Management Institute (PMI)
- Project Management Office (PMO)
- Request for Quote (RFQ)
- Universidad para la Cooperación Internacional (UCI)
- Value Added Tax (VAT)
- Work Breakdown Structure (WBS)

EXECUTIVE SUMMARY (ABSTRACT)

The proposed Castries Market Redevelopment Project involves the redevelopment of a vendors' market to include newly built vending stalls, a state of the art food court, high-end air conditioned restaurants, a craft market, a box park, a viewing tower, an entertainment area, meat and fish depots, duty-free shopping boutiques and other amenities. There are approximately ten (10) construction companies in Saint Lucia. Fresh Start Construction, which is a locally-owned construction company in Saint Lucia with approximately ten (10) years of operational experience, was contracted to redevelop the Castries Market. The corresponding contract was signed on July 1, 2020.

The company has a diverse portfolio which encompasses civil infrastructure, residential building, commercial building and pipeline/communication infrastructure. Despite the wealth of experience, Fresh Start Construction required the application of formal project management practices to successfully execute the project.

Fresh Start Construction needed to utilize a more comprehensive project management tool such as a Project Management Plan. The purpose of the tool was to provide an all-encompassing reference point of what had to be achieved by the project, how it was to be achieved, who would be involved, how it would be reported and measured and how information would be communicated. The Project Management Plan was used as a reference for any decision that had to be made on the project and for the clarification of uncertain areas.

The general objective was to develop a Project Management Plan framed within the standards of the Project Management Institute to manage the redevelopment of a vendors' market. The specific objectives were: to create a Project Charter that described the project, its rationale, its goals, the main stakeholders and granted the project manager with the authority to assign resources to project activities; to create a Scope Management Plan that included all the work required to successfully complete the project; to create a Schedule Management Plan that defined how the project schedule would be managed throughout the project life cycle to ensure the project was completed within the specified time frame; to create a Cost Management Plan that outlined the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints; to develop a Quality Management Plan that described how quality would be managed throughout the project life cycle to ensure that results met stakeholder expectations within time, cost and scope constraints; to develop a Resource Management Plan that provided guidance on how resources would be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints; to create a Communications Management Plan that defined the communication requirements of the project and how information would be disseminated in a timely and effective manner; to create a Risk Management Plan that identified and examined specific risks and developed risk mitigation strategies that minimized the likelihood of the risks and ensured the successful completion of the project; to develop a Procurement Management Plan

that described how the goods, services or results required for the project would be obtained, and to create a Stakeholder Engagement Plan that ensured that each stakeholder was involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.

The methodology used for the research was analytical. The key sources used to collect and collate information included A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Sixth Edition and interviews which were organized with key personnel from the client and performing organization. The information was analyzed to develop each subcomponent of the subsidiary plans utilized to create the Project Management Plan for a Vendors' Market.

The Project Management Plan developed using the PMBOK® Guide Sixth Edition provided a new methodology for the project team to create a more comprehensive project management plan for a project of great significance as the Redevelopment of the Castries Market. It also helped to improve the manner in which the company would manage the project.

It is recommended that the project team at Fresh Start Construction consider the use of the planning process and the documents created during the development of the Project Management Plan for the Redevelopment of the Castries Market as a foundation for implementing a methodology for similar projects in the future. Furthermore, it is imperative that the team at Fresh Start Construction endeavour to utilize management and storage systems to organize, store and create a centralized location for project planning documents and future Organizational Process Assets.

1 INTRODUCTION

1.1. Background

Fresh Start Construction was established in 2010 and is one of the locally-owned construction companies in Saint Lucia with a high level of competence, integrity and wealth of experience. Fresh Start Construction forms part of the Hippolyte Family Group of Companies, which is a Saint Lucian company. The company employs 300 individuals and has close to 80 pieces of heavy equipment and a seemingly endless supply of quality raw material. The company is owned and operated by an experienced engineer, entrepreneur and business man. Because of the project execution model utilized by Fresh Start Construction, the company subcontracts some of its services so it has the ability to move expeditiously when managing a project and managing the quality and progress of construction. This model encompasses all phases of a project, from initiation to completion, including project management. The company is well positioned as a leader in its field and its diverse portfolio encompasses civil infrastructure, residential building, commercial building and pipeline/communication infrastructure. Despite the wealth of experience, the utilization of project management policies and standards in the company is inadequate.

Fresh Start Construction has been contracted to redevelop the Castries Market to encompass newly built vending stalls, a state of the art food court, high-end air conditioned restaurants, a craft market, a box park, a viewing tower, an entertainment area, meat and fish depots, duty-free shopping boutiques and other amenities. The forecasted cost of the project is estimated to be US$15 million dollars. It has been about two (2) months since the project's initiation. The redesign, which was done by the architectural section within the Department of Physical Planning has been approved by the Castries Constituency Council (CCC), client requirements have been gathered and the site investigation report has been finalized. Fresh Start Construction needs to create the Project Management Plan

which will provide the necessary structure to execute the project successfully. It will help to assign roles and specific tasks throughout the life cycle of the project while also communicating important milestones to keep the Project Management Team on track during the executing, monitoring and controlling and closing processes.

Fresh Start Construction has a high percentage of repeat clients and has been involved in major projects in its ten (10) years of existence. The Castries Market Redevelopment Project is one of the major projects the company has acquired and with the creation of the Project Management Plan, it is expected that project performance will be improved and project success will be increased significantly.

There are approximately ten (10) construction companies in Saint Lucia. The combination of proficient project management techniques and construction principles will result in the expansion of business opportunities for Fresh Start Construction and the company will gain a competitive advantage as well as improve its productivity and the quality of work delivered to its clients.

1.2. Statement of the Problem

Fresh Start Construction prides itself on its timely delivery of projects which comply with international standards and are aesthetically pleasing, whilst maintaining superior quality standards and managing clients' expectations. To achieve this outcome, the company utilizes a few project management techniques but this is not adequate to deliver a project with a magnitude and of such importance as the Castries Market Redevelopment Project. The company will need to use a more all-encompassing project management tool such as a Project Management Plan.

The purpose of this tool will be to provide a comprehensive baseline of what has to be achieved by the project, how it is to be achieved, who will be involved, how it will be reported and measured and how information will be communicated. The Project Management Plan will be used as a reference for any decision that is made

on the project and for the clarification of uncertain areas. It should be used by Fresh Start Construction as a reference throughout the project to ensure that the management of the project is carried out consistently and in line with policy and procedures.

1.3. Purpose

The Project Management Plan will help to increase the likelihood of the successful completion of the redevelopment of the Castries Market. This document will help in the overall planning, monitoring and implementation of the project. It will detail how the Project Management Team will manage the project. The Project Management Plan will be composed of subsidiary planning documents which will provide guidance and direction for specific management, planning and control activities such as scope, schedule, cost, quality, resource, communications, risk, procurement and stakeholder management. The Project Management Institute's (PMI) guidance to efficiently produce a Project Management Plan is explored throughout this research proposal.

1.4. General Objective

To develop a Project Management Plan framed within the standards of the Project Management Institute to manage the redevelopment of a vendors' market.

1.5. Specific Objectives

1. To create a Project Charter to describe the project, its rationale, its goals, the main stakeholders and grant the project manager with the authority to assign resources to project activities.

2. To create a Scope Management Plan to ensure that it includes all the work required to successfully complete the project.

3. To create a Schedule Management Plan to define how the project schedule will be managed throughout the project life cycle to ensure the project is completed within a specified time frame.

4. To create a Cost Management Plan to outline the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints.

5. To develop a Quality Management Plan to describe how quality will be managed throughout the project life cycle to ensure that results meet stakeholder expectations within time, cost and scope constraints.

6. To develop a Resource Management Plan to provide guidance on how resources should be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints.

7. To create a Communications Management Plan to define the communication requirements of the project and how information will be disseminated in a timely and effective manner.

8. To create a Risk Management Plan to identify and examine specific risks and develop risk mitigation strategies to minimize the likelihood of the risks and ensure the successful completion of the project.

9. To develop a Procurement Management Plan to describe how the goods, services or results required for the project will be obtained.

10. To create a Stakeholder Engagement Plan to ensure each stakeholder is involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.

2 THEORETICAL FRAMEWORK

2.1 Company/Enterprise Framework

2.1.1 Company/Enterprise Background

Fresh Start Construction is a locally-owned construction company in Saint Lucia. The company currently has projects in different locations in Saint Lucia but the Castries Market Redevelopment is one of the largest contracts the company has attained since its ten (10) years of existence. Construction has driven Fresh Start Construction's rapid growth in the past decade and is a starting point for the company's diversification into its other business lines such as civil infrastructure, residential building, commercial building and pipeline/communication infrastructure. With its firm roots in its local market in Saint Lucia, the company is aiming to be a significant player in the Caribbean market for major projects in coming years.

Effectiveness and efficiency has led Fresh Start Construction to rapid and continued growth over the past decade and has made the company well positioned to meet the industry's demands. The company has adopted some of the best processes and technologies in the construction industry to assure quality results while meeting tight schedules on the most challenging projects. Despite this, a more inclusive and complete strategy for project execution is required in order to successfully complete the Castries Market Redevelopment Project.

Fresh Start Construction was selected to work on the improvement and revitalizing of the Castries Market because it delivers projects on time and within budget (Alexander, 2019). In addition, Fresh Start Construction is experienced in helping to form public-private partnerships that bring together the resources of government and the private sector for new projects.

2.1.2 Mission and Vision Statements

Mission

Fresh Start Construction's mission is to be the most professional, innovative and dynamic construction group in St. Lucia and the Caribbean.

The company's Chief Executive Officer has maintained an open and quality relationship with the Castries Constituency Council as the company has been contracted before for other construction projects. Fresh Start Construction has maintained its professionalism whilst being inventive and meeting its clients' needs.

Vision

Fresh Start Construction's vision is to build organizational and institutional capacity, create wealth and employment, encourage innovation, develop professional capabilities, foster relationships locally and regionally, deliver best quality products and services and constantly ensure service beyond expectation.

2.1.3 Organizational Structure

Fresh Start Construction currently has 300 full time employees and 150 part time employees. The company is headed by Mr. Anderson Lake who is the Chief Executive Officer, engineer and project manager. There are six main departments: Finance Department which consists of ten (10) persons; Human Resource Department which consists of eight (8) persons; Purchasing Department which consists of seven (7) persons; Project Management Department which consists of six (6) persons; Engineering Department which consists of five (5) persons and the Marketing Department which consists of four (4) persons. Consultants are hired on a needs basis.

The company's organizational structure is depicted below in **Figure 1**.

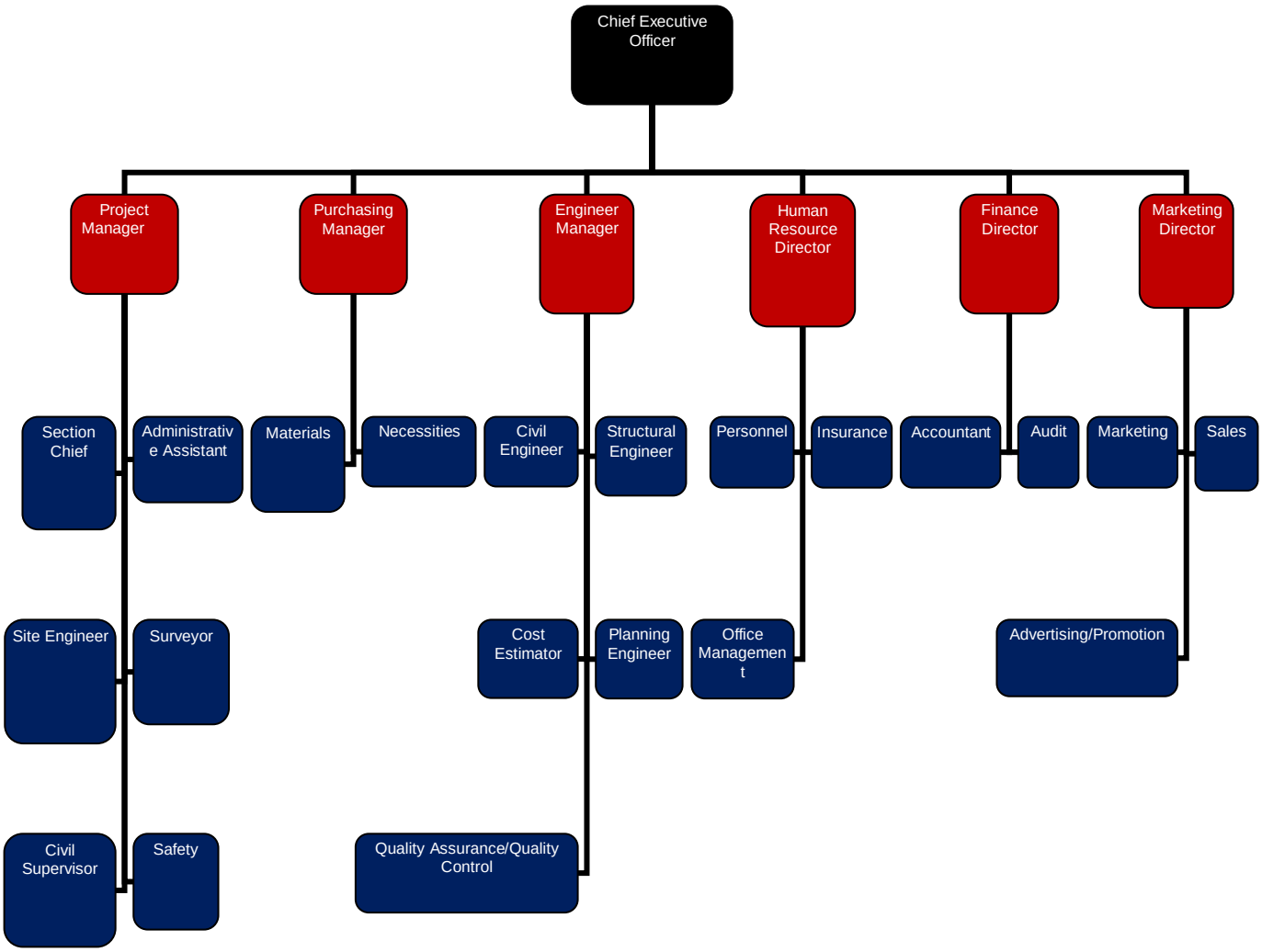

Figure 1 Organizational Structure (Source: Fresh Start Construction, 9 March, 2020)

2.1.4 Products Offered

Fresh Start Construction offers several services including general construction, project management, civil infrastructure, residential building, commercial building and pipeline/communication infrastructure. The company also has a concrete plant that offers concrete specialization services, a superb equipment rental service, a full range of superior building materials and interior design materials. The company also manufactures sand, asphalt and aggregates.

2.2 Project Management Concepts

2.2.1 Project

Project Management Institute (2017) defines a project as “a temporary endeavor undertaken to create a unique product, service or result”. A project has to be undertaken and completed within a set time, budget, resources and performance specifications to meet the needs of stakeholders.

Many projects are completed using either project management or construction management or a combination of both. Project management is essentially about managing a project from its conception to its completion. Construction management on the other hand is the essential link between the expression of a client’s wishes and the acceptance or occupation of a completed project. It involves ensuring a smooth and uninterrupted transfer from the design process to the end of construction.

A project could be viewed as a system that is dynamic and ever changing from one stage to another in a life cycle, considering a generic project, its status changes from that of an idea or a concept through to feasibility studies, execution and finally completion (Peters, 2016).

2.2.2 Project Management

Project management is a distinct area of management that helps in handling projects. It has three key features to distinguish it from other forms of management and they include a project manager, the project team and the project management system. The project management system comprises organizational structure, information processing and decision-making and the procedures that facilitate integration of horizontal and vertical elements of the project organization.

Project Management Institute (2017) defines Project Management as “the application of knowledge, skills, tools and techniques to project activities to meet project requirements”. This definition stresses the achievements of predetermined

project objectives which normally refer to scope, quality, time, cost and stakeholder satisfaction and directly links them to the project life cycle.

Project management has three essential requirements: thinking ahead, communicating and evaluation. According to Peters (2016) some of the value of project planning is to provide the opportunity and motivation to get people to *think ahead* about the project that they are undertaking. This process tends to reveal problems, which helps to find solutions at early stages of a project.

Communication, on the other hand, deals with producing, issuing and transmitting reports/documents and holding occasional meetings, among project participants so that the proposed timing, method and strategy for the project are made available and are understood. In essence, the collaboration of the various participants in a project is measured by how effectively the communication channels are managed.

Evaluation of the outcomes is critical to improve current practices. Communication to the project team is also essential to the achievement of the project goals. Thus, the effectiveness of the project manager to communicate with, evaluate and provide feedback to the rest of the project team during each stage of the project life cycle determines how effectively the project's goals will be achieved.

Traditional project management practices have evolved over time as the requirements for managing and controlling construction projects have unfolded. Nonetheless, with the advances of management techniques and information and communication technology, traditional practices have proven to be insufficient in meeting the new project requirements.

Although project management practices have developed over time, every project management life cycle has five steps which are initiating, planning, executing, monitoring, controlling and closure. After the initiation stage, Picariello (2015) states that planning is the all-important second step of any successful project

management life cycle. Watt (2015) further states that the result of the planning phase is the creation of a project plan that contains a fully developed project solution which outlines the steps necessary to meet the project's objectives.

Thomas, *et al*. (2016) state "the most effective team cannot overcome a poor project plan" and projects started down the wrong path can lead to the most spectacular project failures. Morris (2018) similarly argued that "the decisions made at the early definition stages set the strategic framework…. get it wrong here and the project will be wrong for a long time". Munns and Bjeirmi (2015) state that for a project that is flawed from the start, successful execution may matter only to the project team, while the wider organization will see the project as a failure.

Blomquist, Hällgren, Nilsson, and Söderholm (2016) state "Plans are a cornerstone of any project; consequently, planning is a dominant activity within a project context". Thus, planning is inherently important to project success.

Project Management Institute's PMBOK ® Guide is a flagship publication and is a fundamental resource for effective project management in any industry. It is valuable because it standardizes practices, helps project managers to work with a standardized system and it outlines what works and does not work which prevents failure of projects. The PMBOK ® Guide describes how to initiate, plan, execute, monitor, and control and close a project. Therefore, the PMBOK ® Guide will be used as the principal point of reference to coordinate the formation of the Project Management Plan for the Castries Market Redevelopment Project and successively its construction.

The Final Graduation Project (FGP) will contain the Project Management Plan for the redevelopment of the Castries Market and will be treated as a project. Subsequently, the Castries Market Redevelopment Project will be treated as another project which will be broken down into six (6) phases. These phases are the Initiation Phase, the Design Phase, the Pre-Construction Phase, the

Construction Phase, the Post-Construction Phase and Termination Phase/Project Closure.

The creation of the project charter will be the first document produced during the initiation phase of the Final Graduation Project to produce the Project Management Plan for the redevelopment of the Castries Market. Subsequent to the review, acceptance and formal authorization by the project sponsor, the Project Manager's formal identity will be revealed. According to the Project Management Institute (2017), this will authorize her to "apply organization resources to project activities".

During the creation of the Final Graduation Project, the initiating, planning, executing, monitoring, controlling and closing phases for the development of the Project Management Plan will occur. This will be in accordance with the successive advancement of each stage in the Project Life Cycle as depicted in **Figure 2**.

2.2.3 Project Life Cycle

Project Management Institute (2017) defines a project life cycle as "a series of phases that a project passes through from its initiation to its closure". De Cos (2015) purports that there are four different phases in a project life cycle which are conception and approval, planning and preparation, execution and termination. The PMBOK ® Guide indicates that there are five process groups within each phase of a project life cycle that interacts with one another and "could be conducted within a phase" (Project Management Institute, 2017). This is depicted in **Figure 3**.

At Fresh Start Construction, the activities within each phase are quite distinct, requiring different levels of management attention and different skill sets. Depending on the size, complexity, risk and sensitivity of the projects undertaken by the company, the phases may be broken down into sub-phases, and a variety of different stages or iterations depending on the project and its type. These will be specific to the project and will depend on the overall accomplishment strategy.

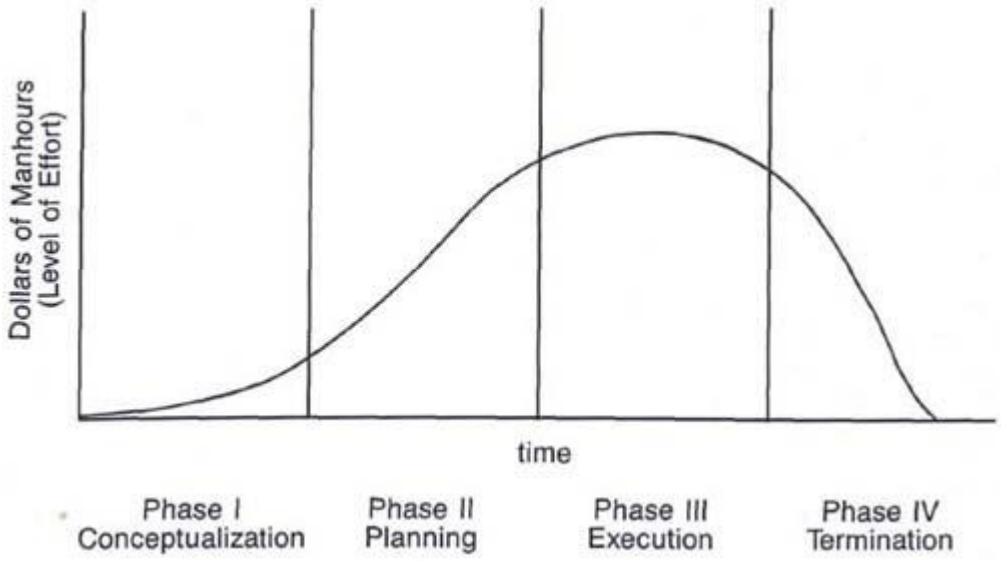

Figure 2 Project Life Cycle Phases. Reprinted from *What is the Project Life Cycle and How to Use It Better?*, by E. Cohen, 2018. Copyright 2020 by Creative Manager Inc.

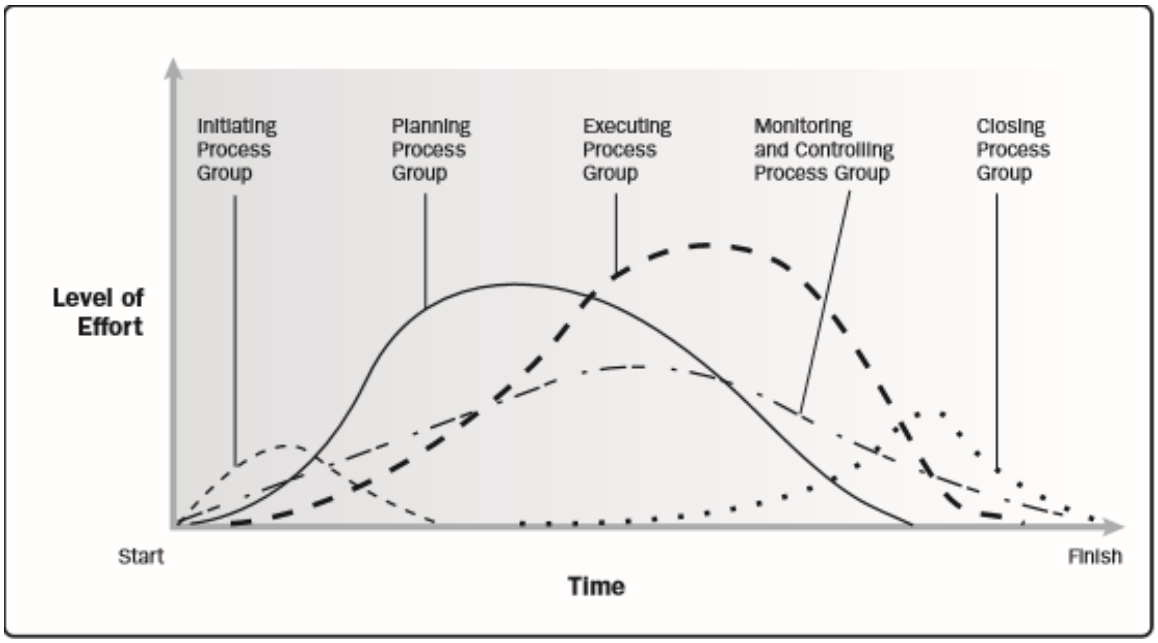

Figure 3 Process Group Interactions Within a Project or Phase. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 555), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

2.2.4 Project Management Processes

The initiation and planning process groups will be the only processes used to create the Project Management Plan for the redevelopment of the Castries Market. Each initiation and planning process activity will result in the creation of the Project Management Plan which will be a compilation of subsidiary documents. **Figure 4** and **Figure 5** depicts the processes which will be utilized during this project.

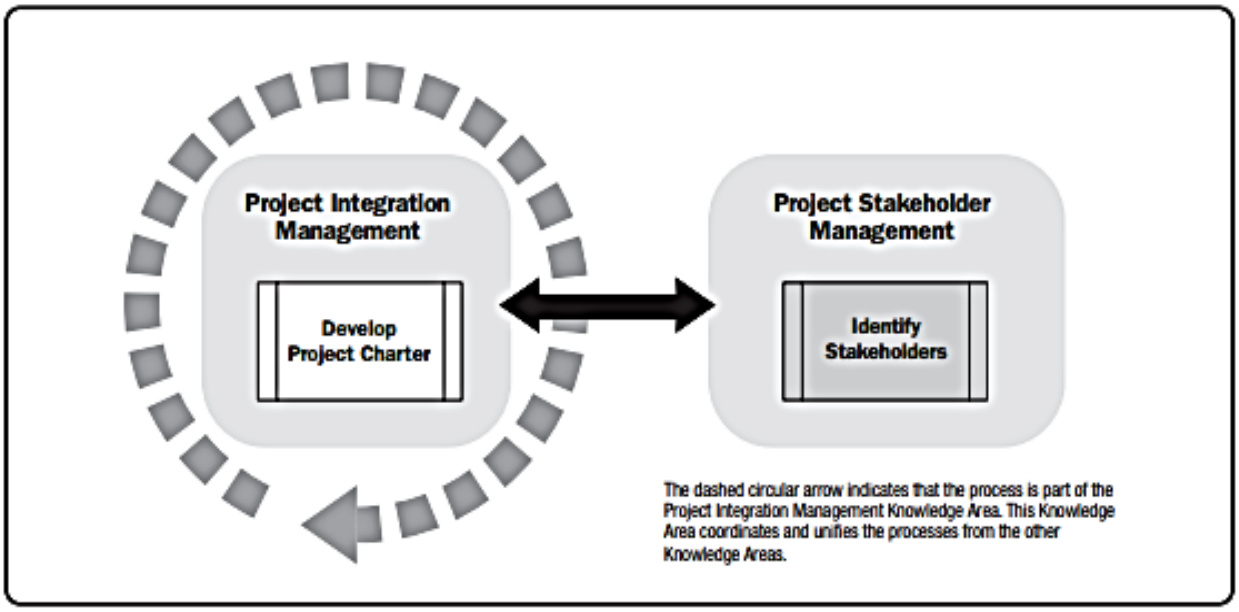

Figure 4 Initiating Process Group. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 562), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

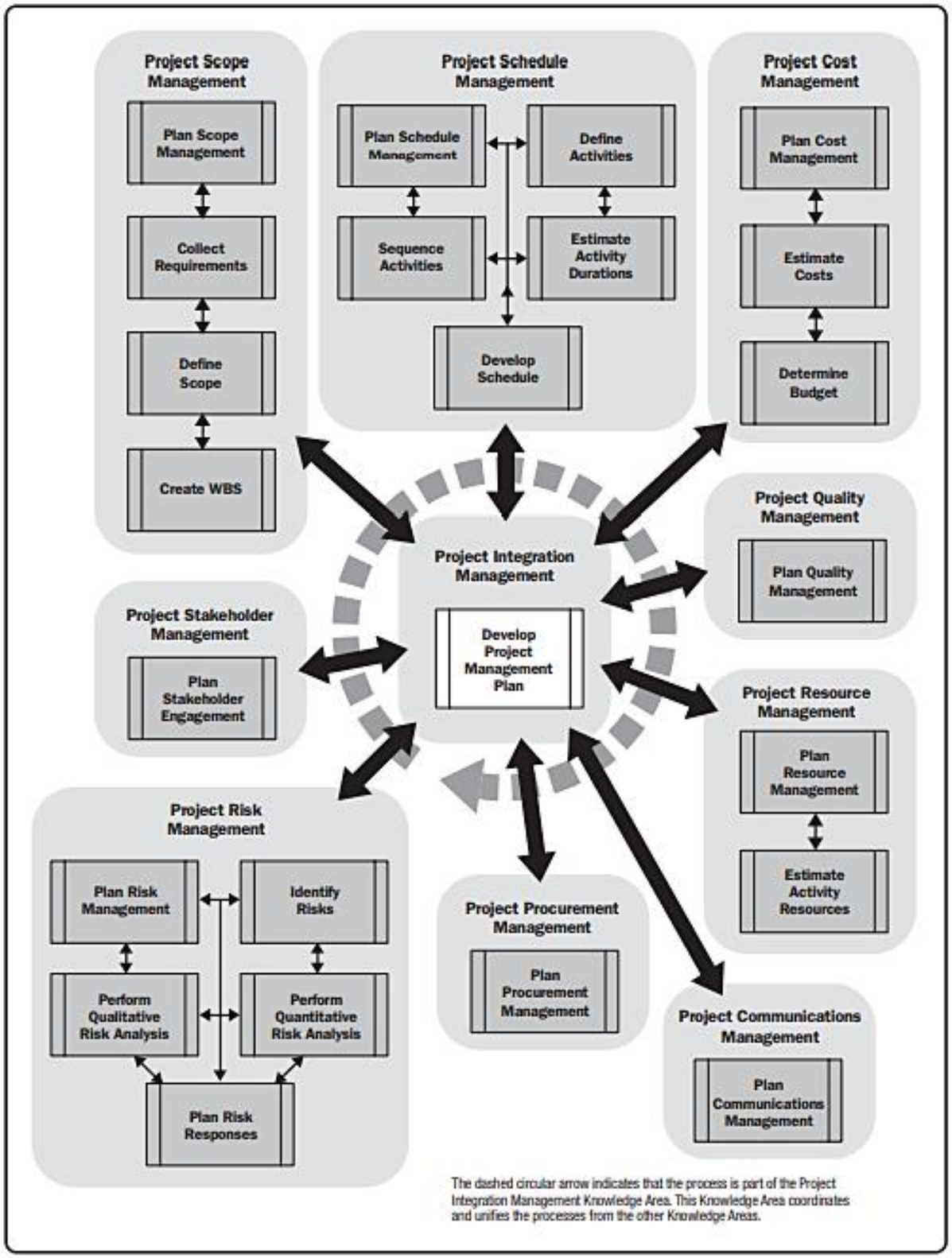

Figure 5 Planning Process Group. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 566), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

2.2.5 Project Management Knowledge Areas

According to the Project Management Institute (2017), the Project Management Knowledge Areas are fields or areas of specialization that are commonly employed when managing projects. There are ten (10) Knowledge Areas of project management which are as follows:

1) Project Integration Management
2) Project Scope Management
3) Project Schedule Management
4) Project Cost Management
5) Project Quality Management
6) Project Resource Management
7) Project Communication Management
8) Project Risk Management
9) Project Procurement Management
10) Project Stakeholder Management

1.2.5.1 Project Integration Management

The Project Management Institute (2017) states that Project Integration Management includes the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups. **Figure 6** outlines the processes involved in Project Integration Management.

Important terms that will be used during Project Integration Management are:

a) Business documents which are mainly two documents which are interdependent and iteratively developed and maintained throughout the life cycle of the project. The first one is the business case which is “a documented economic feasibility study used to establish validity of the benefits of a selected component lacking sufficient definition and that is used as a basis for the authorization of further project management activities” (Project Management Institute, 2017, p. 29) and the benefits

management plan which is “the documented explanation defining the processes for creating, maximizing and sustaining the benefits provided by a project” (Project Management Institute, 2017, p. 29).

b) Agreements are “any document or communication that defines the initial intentions of a project”. (Project Management Institute, 2017, p. 698).

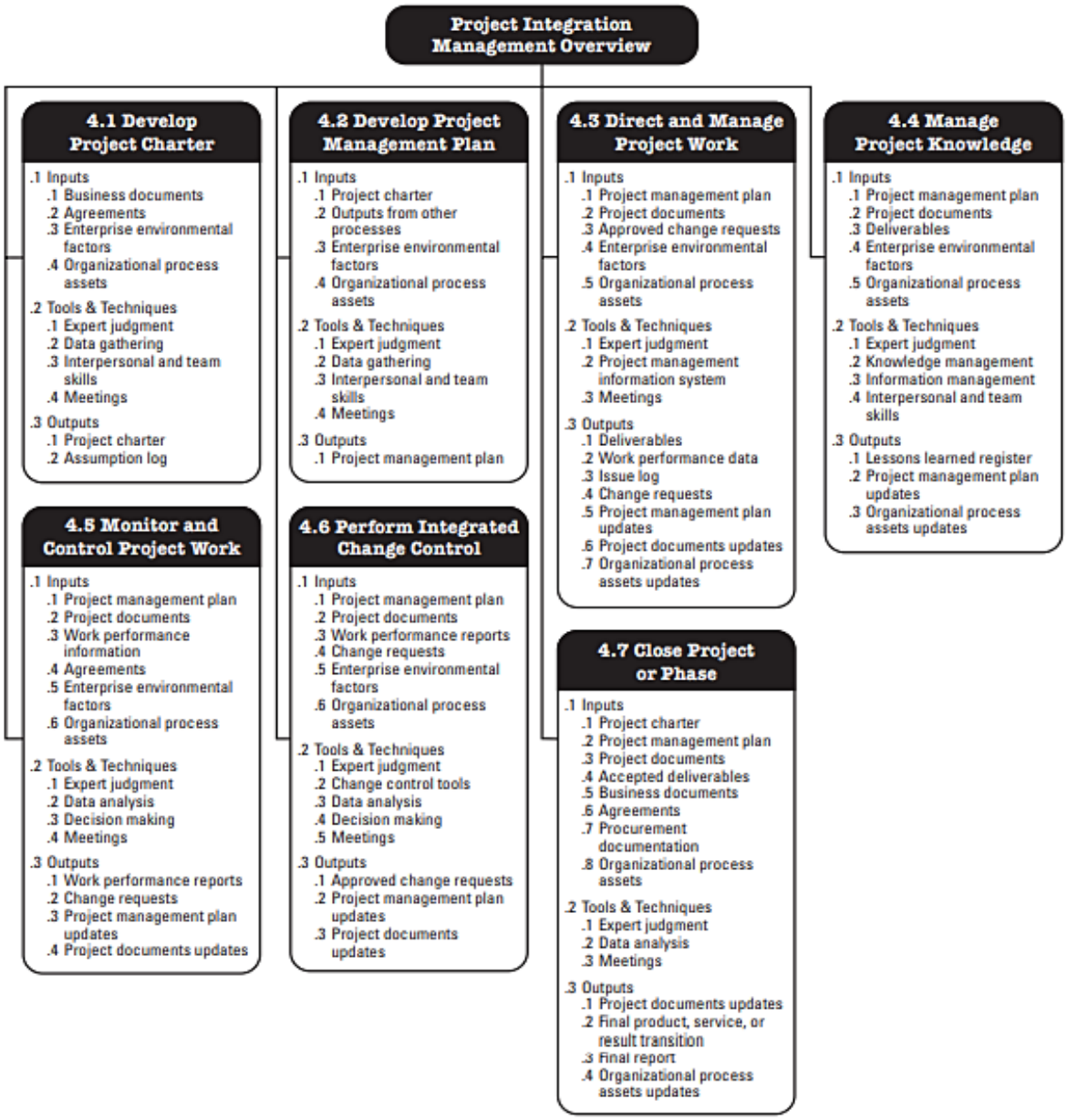

Figure 6 PMBOK® Guide Project Integration Management Overview. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 71), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.2 Project Scope Management

Project Scope Management is defined as the knowledge area that "includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully" (Project Management Institute, 2017).

Processes 5.1, 5.2, 5.3, and 5.4 of **Figure 7**, will be applied when developing the Project Management Plan.

5.1 Plan Scope Management—The process of creating a scope management plan that documents how the project and product scope will be defined, validated, and controlled.

5.2 Collect Requirements—The process of determining, documenting, and managing stakeholder needs and requirements to meet project objectives.

5.3 Define Scope—The process of developing a detailed description of the project and product.

5.4 Create WBS—The process of subdividing project deliverables and project work into smaller, more manageable components.

5.5 Validate Scope—The process of formalizing acceptance of the completed project deliverables.

5.6 Control Scope—The process of monitoring the status of the project and product scope and managing changes to the scope baseline.

Figure 7 PMBOK® Guide Project Scope Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 129), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.3 Project Schedule Management

The Project Management Institute (2017) states that Project Schedule Management includes the processes required to manage the timely completion of the project. **Figure 8** below is an overview of the processes of this knowledge area. Processes 6.1, 6.2, 6.3, 6.4, 6.5, and 6.6 will be applied to create the Schedule Management Plan, Schedule Baseline, Project Schedule, and Project Calendars.

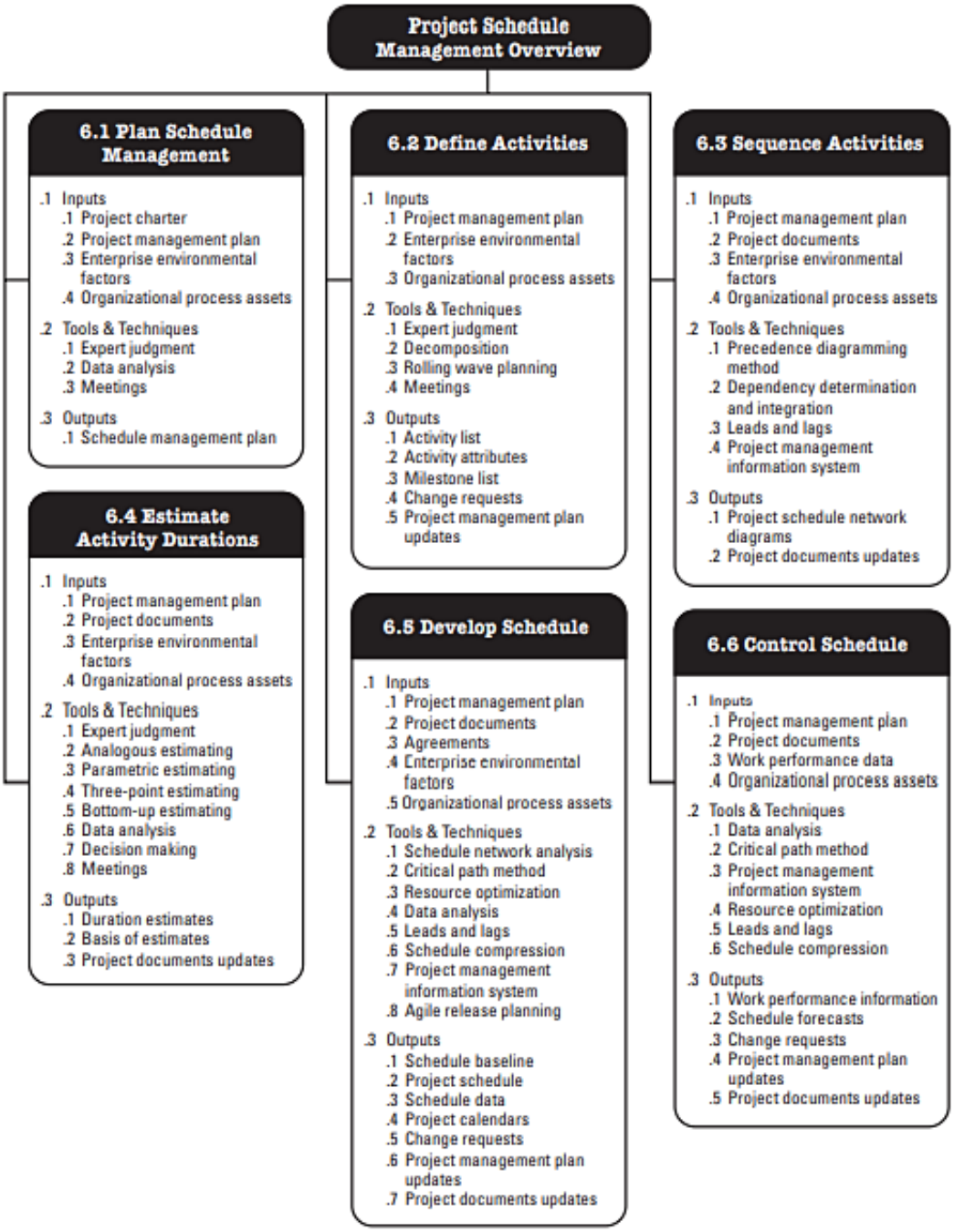

Figure 8 PMBOK® Guide Project Schedule Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 174), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.4 Project Cost Management

The Project Management Institute (2017) states that Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget. **Figure 9** below provides an overview of the Project Cost Management Processes.

7.1 Plan Cost Management—The process of defining how the project costs will be estimated, budgeted, managed, monitored, and controlled.

7.2 Estimate Costs—The process of developing an approximation of the monetary resources needed to complete project work.

7.3 Determine Budget—The process of aggregating the estimated costs of individual activities or work packages to establish an authorized cost baseline.

7.4 Control Costs—The process of monitoring the status of the project to update the project costs and manage changes to the cost baseline.

Figure 9 PMBOK® Guide Project Cost Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 231), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

Processes 7.1 through 7.3 will be used to create the Project Management Plan.

1.2.5.5 Project Quality Management

"Project Quality Management includes the processes for incorporating the organization's quality policy regarding planning, managing and controlling project and product quality requirements, in order to meet stakeholders' expectations" (Project Management Institute, 2017). The processes for the management of Quality are outlined in **Figure 10** below. Only process 8.1 will be used during project planning to produce the Quality Management Plan that will guide the project's Quality Assurance.

8.1 Plan Quality Management—The process of identifying quality requirements and/or standards for the project and its deliverables, and documenting how the project will demonstrate compliance with quality requirements and/or standards.

8.2 Manage Quality—The process of translating the quality management plan into executable quality activities that incorporate the organization's quality policies into the project.

8.3 Control Quality—The process of monitoring and recording the results of executing the quality management activities to assess performance and ensure the project outputs are complete, correct, and meet customer expectations.

Figure 10 PMBOK® Guide Project Quality Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 271), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.6 Project Resource Management

"Project Resource Management includes the processes to identify, acquire and manage the resources needed for the successful completion of the project" (Project Management Institute, 2017). The processes for Resource Management are outlined below in **Figure 11**. Only process 9.1 will be employed during project planning to create the Resource Management Plan.

9.1 Plan Resource Management—The process of defining how to estimate, acquire, manage, and utilize physical and team resources.

9.2 Estimate Activity Resources—The process of estimating team resources and the type and quantities of material, equipment, and supplies necessary to perform project work.

9.3 Acquire Resources—The process of obtaining team members, facilities, equipment, materials, supplies, and other resources necessary to complete project work.

9.4 Develop Team—The process of improving competencies, team member interaction, and the overall team environment to enhance project performance.

9.5 Manage Team—The process of tracking team member performance, providing feedback, resolving issues, and managing team changes to optimize project performance.

9.6 Control Resources—The process of ensuring that the physical resources assigned and allocated to the project are available as planned, as well as monitoring the planned versus actual use of resources, and performing corrective action as necessary.

Figure 11 PMBOK® Guide Project Resource Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 307), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.7 Project Communications Management

"Project Communications Management includes the processes that are required to ensure a timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project

information" (Project Management Institute, 2017). **Figure 12** below outlines the Project Communications Management processes. Only process 10.1 will be utilized to develop the project's Communication Management Plan.

10.1 Plan Communications Management—The process of developing an appropriate approach and plan for project communication activities based on the information needs of each stakeholder or group, available organizational assets, and the needs of the project.

10.2 Manage Communications—The process of ensuring timely and appropriate collection, creation, distribution, storage, retrieval, management, monitoring, and the ultimate disposition of project information.

10.3 Monitor Communications—The process of ensuring the information needs of the project and its stakeholders are met.

Figure 12 PMBOK® Guide Project Communication Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 359), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.8 Project Risk Management

The Project Management Institute (2017) states that "Project Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, response implementation, and monitoring risk on a project". **Figure 13** outlines the Project Risk Management processes. Only processes 11.1, 11.2, 11.3 and 11.5 will be utilized during project planning.

11.1 Plan Risk Management—The process of defining how to conduct risk management activities for a project.

11.2 Identify Risks—The process of identifying individual project risks as well as sources of overall project risk, and documenting their characteristics.

11.3 Perform Qualitative Risk Analysis—The process of prioritizing individual project risks for further analysis or action by assessing their probability of occurrence and impact as well as other characteristics.

11.4 Perform Quantitative Risk Analysis—The process of numerically analyzing the combined effect of identified individual project risks and other sources of uncertainty on overall project objectives.

11.5 Plan Risk Responses—The process of developing options, selecting strategies, and agreeing on actions to address overall project risk exposure, as well as to treat individual project risks.

11.6 Implement Risk Responses—The process of implementing agreed-upon risk response plans.

11.7 Monitor Risks—The process of monitoring the implementation of agreed-upon risk response plans, tracking identified risks, identifying and analyzing new risks, and evaluating risk process effectiveness throughout the project.

Figure 13 PMBOK® Guide Project Risk Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 395), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.9 Project Procurement Management

"Project Procurement Management includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team" (Project Management Institute, 2017). **Figure 14** below summarizes the Procurement Management processes. Only process 12.1 from the processes summarized below will be used to create the Procurement Management Plan.

12.1 Plan Procurement Management—The process of documenting project procurement decisions, specifying the approach, and identifying potential sellers.

12.2 Conduct Procurements—The process of obtaining seller responses, selecting a seller, and awarding a contract.

12.3 Control Procurements—The process of managing procurement relationships, monitoring contract performance, making changes and corrections as appropriate, and closing out contracts.

Figure 14 PMBOK® Guide Project Procurement Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 459), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

1.2.5.10 Project Stakeholder Management

A stakeholder is "an individual, group, or organization that may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project, program, or portfolio" (Project Management Institute, 2017). Project Management Institute (2017) further states that Project Stakeholder Management "includes the processes required to identify the people, group, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution".

The Project Stakeholder Management processes are outlined in **Figure 15**. Only the first two processes are needed to develop the Project Management Plan.

Important terms that will be used to classify and categorize stakeholders in the Stakeholder Engagement Plan are:

a) Power: stakeholder's level of authority regarding project outcome (Project Management Institute, 2017, p. 512)
b) Interest: Stakeholder's level of concern regarding project outcome (Project Management Institute, 2017, p. 512)
c) Influence: Stakeholder's ability to control the outcomes of the project (Project Management Institute, 2017, p. 512)
d) Impact: Stakeholder's ability to effect changes to the project's planning or execution (Project Management Institute, 2017, p. 512)

13.1 Identify Stakeholders—The process of identifying project stakeholders regularly and analyzing and documenting relevant information regarding their interests, involvement, interdependencies, influence, and potential impact on project success.

13.2 Plan Stakeholder Engagement—The process of developing approaches to involve project stakeholders based on their needs, expectation, interests, and potential impact on the project.

13.3 Manage Stakeholder Engagement—The process of communicating and working with stakeholders to meet their needs and expectations, address issues, and foster appropriate stakeholder engagement involvement.

13.4 Monitor Stakeholder Engagement—The process of monitoring project stakeholder relationships and tailoring strategies for engaging stakeholders through the modification of engagement strategies and plans.

Figure 15 PMBOK® Guide Project Stakeholder Management Processes. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 503), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

3 METHODOLOGICAL FRAMEWORK

3.1 Information Sources

Information, an invaluable resource, is being disseminated, transformed and communicated in a variety of environments. Oxford Learner's Dictionary (2020) defines information as "facts or details about someone or something" and source as "a place, person or thing that you get something from". Thus, an information source is a place, person or thing from which facts or details arises or is obtained.

Information can be obtained from various places. Information sources can be in printed versions or in electronic format. Internet sources, library sources, government publications and pictorial sources are examples of sources of information.

Although information can originate from different sources, there are only three types of information sources – primary, secondary and tertiary as purported by Schmidt (2017). Primary and secondary information sources will be used for the development of the Final Graduation Project.

3.1.1 Primary Sources

According to Schmidt (2017), a primary sources of information is "information taken directly from a person, event, location, or material at the point of the occurrence."

Personal interviews with employees of Fresh Start Construction, interviews with other stakeholders and minutes from meetings will be examples of primary information sources that will be used for the development of the Final Graduation Project. **Chart 1** outlines the specific primary sources of information that will be utilized.

3.1.2 Secondary Sources

Schmidt (2017) states that a secondary source of information is “information that is either compiled from or refers to primary sources of information”. The PMBOK ® Guide, the Project Management Institute database and library databases are examples of secondary sources of information that will be used for the development of the Final Graduation Project. **Chart 1** outlines the specific secondary sources of information that will be used for each specific objective

Chart 1 Information Sources (Source: R. Branch, The Author, March 2020)

Objectives	**Information sources**	
	Primary	**Secondary**
To create a Project Charter to describe the project, its rationale, its goals, the main stakeholders and grant the project manager with the authority to assign resources to project activities.	Meeting minutes, personal interview with project manager	PMBOK ® Guide and the Project Management Institute database
To create a Scope Management Plan to ensure that it includes all the work required to successfully complete the project.	Meeting minutes, personal interview with project manager	PMBOK ® Guide and the Project Management Institute database, the Internet
To create a Schedule Management Plan to define how the project schedule will be managed throughout the project life cycle to ensure the project is completed within specified time frame.	Personal interview with project manager	PMBOK ® Guide, the Internet
To create a Cost Management Plan to outline the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints.	Meeting minutes, personal interview with project manager	PMBOK ® Guide and the Project Management Institute database

Objectives	Information sources	
	Primary	**Secondary**
To develop a Quality Management Plan to describe how quality will be managed throughout the project life cycle to ensure that results meet stakeholder expectations within time, cost and scope constraints.	Personal interview with project manager	PMBOK ® Guide
To develop a Resource Management Plan to provide guidance on how human resources should be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints.	Personal interview with project manager	PMBOK ® Guide, the Internet
To create a Communications Management Plan to define the communication requirements of the project and how information will be disseminated in a timely and effective manner.	Personal interview with project manager	PMBOK ® Guide and the Project Management Institute database
To create a Risk Management Plan to identify and examine specific risks and develop risk mitigation strategies to minimize the likelihood of the risks and ensure the successful completion of the project.	Personal interview with project manager	PMBOK ® Guide and the Project Management Institute database
To develop a Procurement Management Plan to describe how the goods, services or results required for the project will be obtained.	Personal interview with project manager, purchasing institutions	PMBOK ® Guide
To create a Stakeholder Engagement Plan to ensure each stakeholder is involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.	Personal interview with project manager	PMBOK ® Guide

3.2 Research Methods

According to Oxford Learner's Dictionary (2020), research is defined as "a careful study of a subject, especially in order to discover new facts or information about it". Concise Oxford English Dictionary defines method as "a particular procedure for accomplishing or approaching something". Therefore, a research method is a particular procedure to discover new facts or information about a subject.

3.2.1 Analytical Method

Ask Media Group (2020) defines analytical research as "a specific type of research that involves critical thinking skills and the evaluation of facts and information relative to the research being conducted". Within analytical research articles, data and other important facts that pertain to a project is compiled. After the information is collected and evaluated, the sources are used to prove a hypothesis or support an idea. This research method utilizes and examines information from multiple sources which will be used to expound on the deliverables in **Chart 5**.

The research method for each specific objective is outlined in **Chart 2**.

Chart 2 Research Methods (Source: R. Branch, The Author, March 2020)

Objectives	Analytical Research Method
To create a Project Charter to describe the project, its rationale, its goals, the main stakeholders and grant the project manager with the authority to assign resources to project activities.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 1 above, to influence decision making when creating the project charter.
To create a Scope Management Plan to ensure that it includes all the work required to successfully complete the project.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 2 above, to influence decision making when creating the documents which comprise the scope management plan.
To create a Schedule Management Plan to define how the project schedule will be managed throughout the project life cycle to ensure the project is completed within specified time frame.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 3 above, to influence decision making when creating the documents which comprise the schedule management plan
To create a Cost Management Plan to outline the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 4 above, to influence decision making when creating the documents which comprise the cost management plan

Objectives	Analytical Research Method
To develop a Quality Management Plan to describe how quality will be managed throughout the project life cycle to ensure that results meet stakeholder expectations within time, cost and scope constraints.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 5 above, to influence decision making when creating the documents which comprise the quality management plan
To develop a Resource Management Plan to provide guidance on how human resources should be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 6 above, to influence decision making when creating the documents which comprise the resource management plan
To create a Communications Management Plan to define the communication requirements of the project and how information will be disseminated in a timely and effective manner.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 7 above, to influence decision making when creating the documents which comprise the communications management plan
To create a Risk Management Plan to identify and examine specific risks and develop risk mitigation strategies to minimize the likelihood of the risks and ensure the successful completion of the project.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 8 above, to influence decision making when creating the documents which comprise the risk management plan

Objectives	Analytical Research Method
To develop a Procurement Management Plan to describe how the goods, services or results required for the project will be obtained.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 9 above, to influence decision making when creating the documents which comprise the procurement management plan
To create a Stakeholder Engagement Plan to ensure each stakeholder is involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.	The analytical research method will be applied by using facts or information from the sources identified in Chart 1 objective 10 above, to influence decision making when creating the documents which comprise the Stakeholder Engagement Plan

3.3 Tools

PMBOK ® Guide defines tool as “something tangible, such as a template or software program, used in performing an activity to produce a product or result” (Project Management Institute, 2017, p. 725).

The tools used in the Final Graduation Project are identified and explained below. Additionally, the information is summarized in **Chart 3**.

a) Project Charter Template – It helps in the development of the project charter. It outlines the project and includes key stakeholders, scope, objectives and overall goals.
b) Requirements Traceability Matrix Template – It will be used to ensure that current project requirements will be met.
c) Work Breakdown Structure (WBS) Software – It will be used to break down the project into smaller components for better management.

d) Requirements Management Plan Template – It will be used to provide the approach for identifying, analyzing and managing the requirements that the Quality Management Plan will reference.
e) Scope Management Plan Template – It will be used to describe how the scope will be identified and defined, how it will be developed, then maintained, controlled and validated.
f) Requirements Documentation Template – It will be used to capture the requirements that the project and product should attain to meet stakeholder requirements.
g) Project Management Plan Template – It will be used to develop and organize the project management plan.
h) Schedule Management Plan Template – It will be used to explain how the project schedule will be developed, monitored and controlled.
i) Scheduling Tool – It will be used to create the project schedule using Schedule Network Analysis and Microsoft Excel 2016.
j) Activity List Template – It will be used to create a full list of all the activities in the project schedule.
k) Cost Management Plan Template – It will be used to define how the costs on the project will be managed throughout the project's life cycle.
l) Project Budgeting Template – It will be created in Microsoft Excel 2016 and will be used to help estimate costs and track expenses throughout the project's life cycle.
m) Cost Baseline Template – It will be used to develop the cost baseline
n) Quality Management Plan Template – It will be used to develop quality assurance and quality control measures specific to the project.
o) Quality Management Tools – Checklists, histograms, cause-and-effect diagrams and check sheets are examples which will be used throughout the project. Their uses will be outlined in the Quality Management Plan.
p) Resource Management Plan Template – It will be used to estimate, acquire, manage and utilize physical and human resources.

q) Responsibility Assignment Matrix – It will be used to illustrate the connections between work packages, or activities and project team members.

r) Communications Management Plan Template – It will be used to develop the Communications Management Plan.

s) Communications Matrix – It will be created in Microsoft Excel 2016 and will be used to define the communications requirements for the project and will identify how information will be transmitted between the project team and stakeholders.

t) Risk Management Plan and Risk Register Template – It will be created in Microsoft Excel 2016 and will be used to identify and classify risks and plan risk responses.

u) Procurement Management Plan Template – It will be used to assist in identifying contracts and making purchasing decisions.

v) Stakeholder Engagement Plan Template – It will be used to define the requirements, processes and techniques for engaging stakeholders based on an analysis of their needs, interests and abilities to impact the project.

w) Stakeholder Analysis Chart – It will be used to assist in the analysis and classification of stakeholders.

x) Stakeholder Register Template – It will be used to capture known stakeholders and their identifying information.

y) Stakeholder Engagement Assessment Matrix – It will be used to analyze and portray the level and direction of stakeholder engagement.

Chart 3 Tools (Source: R. Branch, The Author, March 2020)

Objectives	Tools
To create a Project Charter to describe the project, its rationale, its goals, the main stakeholders and grant the project manager with the authority to assign resources to project activities.	Project Charter Template and Project Management Plan Template
To create a Scope Management Plan to ensure that it includes all the work required to successfully complete the project.	Requirements Traceability Matrix Template, Requirements Documentation Template, Requirements Management Plan Template, Work Breakdown Structure Software, and Scope Management Plan Template
To create a Schedule Management Plan to define how the project schedule will be managed throughout the project life cycle to ensure the project is completed within a specified time frame.	Schedule Management Plan Template, Microsoft Excel 2016, Activity List Template
To create a Cost Management Plan to outline the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints.	Cost Management Plan Template, Microsoft Excel 2016, Project Budgeting Template, Cost Baseline Template
To develop a Quality Management Plan to describe how quality will be managed throughout the project life cycle to ensure that results meet stakeholder expectations within time, cost and scope constraints.	Quality Management Plan Template and Quality Management Tools
To develop a Resource Management Plan to provide guidance on how human resources should be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints.	Resource Management Template and Responsibility Assignment Matrix

Objectives	Tools
To develop a Procurement Management Plan to describe how the goods, services or results required for the project will be obtained.	Procurement Management Plan Template
To create a Stakeholder Engagement Plan to ensure each stakeholder is involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.	Stakeholder Engagement Plan Template, Stakeholder Analysis Chart, Microsoft Excel 2016, Stakeholder Register Template, Stakeholder Engagement Assessment Matrix, Online Stakeholder Power/Interest Grid Creator

3.4 Assumptions and Constraints

An assumption is defined by the Project Management Institute (2017) as “a factor in the planning process that is considered to be true, real, or uncertain, without proof or demonstration” (Project Management Institute, 2017, p. 699). It also defines a constraint as “a limiting factor that affects the execution of a project, program, portfolio, or process” (Project Management Institute, 2017, p. 701). The assumptions and constraints considered on the Final Graduation Project for each specific objective are explained in **Chart 4**.

Chart 4 Assumptions and Constraints (Source: R. Branch, The Author, March 2020)

Objectives	Assumptions	Constraints
To create a Project Charter to describe the project, its rationale, its goals, the main stakeholders and grant the project manager with the authority to assign resources to project activities.	The project charter will be created before all subsidiary documents.	Only ten (10) days have been allocated for the creation of the project charter. Stakeholder identification is also scheduled to occur simultaneously.
To create a Scope Management Plan to ensure that it includes all the work required to successfully complete the project.	The clients have disclosed all the information necessary for the development of the scope. The Scope Management Plan will include all the work necessary to successfully complete the project.	The client is considering including additional vendor stalls.
To create a Schedule Management Plan to define how the project schedule will be managed throughout the project life cycle to ensure the project is completed within specified time frame.	The time allocated for the development of the Project Management Plan and the redevelopment of the Castries Market is adequate.	The time allocated for the redevelopment of the Castries Market must not exceed an 18-month period.
To create a Cost Management Plan to outline the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints.	The budget formulated during planning will accurately outline the financial resources required to redevelop the Castries Market.	The budget for the redevelopment of the Castries Market must not exceed US$15 million dollars.
To develop a Quality Management Plan to describe how quality will be managed throughout the project life cycle to ensure that results meet stakeholder expectations within time, cost and scope constraints.	The Quality Management plan will identify all of the quality requirements of the project.	The quality constraints require that the structure is able to withstand a Category 5 hurricane and other vagaries of climate change and exhibit the features associated with a

Objectives	Assumptions	Constraints
		world-renowned vendors' markets.
To develop a Resource Management Plan to provide guidance on how resources should be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints.	The organization has sufficient resources to complete the project within time, cost and scope constraints.	Only the physical and human resources which have been identified and planned for will be used in the completion of the project. Man hours and overtime hours are predetermined.
To create a Communications Management Plan to define the communication requirements of the project and how information will be disseminated in a timely and effective manner.	The organization has appropriate technology to facilitate effective and timely communication.	The availability of electricity and readily accessible internet must be reliable.
To create a Risk Management Plan to identify and examine specific risks and develop risk mitigation strategies to minimize the likelihood of the risks and ensure the successful completion of the project.	There is information which is readily available to help adequately identify and examine most, if not all project risks.	All project risks need to be identified during the planning phase or as early as possible in the project.
To develop a Procurement Management Plan to describe how the goods, services or results required for the project will be obtained.	The organization's personnel have identified a list of potential suppliers.	The list of identified suppliers needs to be exhaustive and the use of international suppliers should not result in project delays.
To create a Stakeholder Engagement Plan to ensure each stakeholder is involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.	The Stakeholder Engagement Plan will accurately identify all stakeholders which will be involved in project decisions and will include plan to properly manage each stakeholder.	The information required to properly identify stakeholders must be precise.

3.5 Deliverables

The Project Management Institute (2017) defines a deliverable as “any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project” (Project Management Institute, 2017, p. 704).

Chart 5 Deliverables (Source: R. Branch, The Author, March 2020)

Objectives	Deliverables
To create a Project Charter to describe the project, its rationale, its goals, the main stakeholders and grant the project manager with the authority to assign resources to project activities.	Project Charter
To create a Scope Management Plan to ensure that it includes all the work required to successfully complete the project.	Scope Management Plan, Requirements Management Plan, Requirements Document and Requirements Traceability Matrix
To create a Schedule Management Plan to define how the project schedule will be managed throughout the project life cycle to ensure the project is completed within a specified time frame.	Schedule Management Plan, Activity List, Schedule Network Diagram, Resource Assignments and Activity Durations, and Schedule in Gantt Chart
To create a Cost Management Plan to outline the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints.	Cost Management Plan, Cost Baseline and Project Funding Requirements
To develop a Quality Management Plan to describe how quality will be managed throughout the project life cycle to ensure that results meet stakeholder expectations within time, cost and scope constraints.	Quality Management Plan

Objectives	Deliverables
To develop a Resource Management Plan to provide guidance on how human resources should be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints.	Resource Management Plan
To create a Communications Management Plan to define the communication requirements of the project and how information will be disseminated in a timely and effective manner.	Communications Management Plan and Communications Matrix
To create a Risk Management Plan to identify and examine specific risks and develop risk mitigation strategies to minimize the likelihood of the risks and ensure the successful completion of the project.	Risk Management Plan and Risk Register
To develop a Procurement Management Plan to describe how the goods, services or results required for the project will be obtained.	Procurement Management Plan
To create a Stakeholder Engagement Plan to ensure each stakeholder is involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.	Stakeholder Engagement Plan, Stakeholder Analysis Chart, and Stakeholder Register

4 RESULTS

4.1 Project Integration Management

The initial process in the Project Integration Management knowledge area for the development of the Project Management Plan for the redevelopment of the Castries Market was the creation of a Project Charter, which was specific objective one (1). Meeting minutes, interviews and the PMBOK ® Guide helped in the formulation of the Project Charter. These were used as determinants in conjunction with the utilization of the analytical research methodology. The Project Charter was created using a template from the Project Management Institute database. The Project Charter described the project, its rationale, its goals, the main stakeholders and granted the project manager with the authority to assign resources to project activities.

The second process in the Project Integration Management Knowledge Area is the development of the Project Management Plan which consisted of subsidiary plans produced during the Final Graduation Project. A template was utilized to manage the collation of information for the plan.

The Project Charter contained the project's overall purpose, objectives, description, risks, stakeholders, requirements, assumptions, constraints, deliverables, milestone schedule, budget, success criteria, approval requirements and the identification of the project manager and sponsor's authorization (Project Management Institute, 2017, p. 75).

Figure 16 below illustrates the inputs, tools and techniques required for the development of the Project Charter in accordance with the PMBOK ® Guide. (Project Management Institute, 2017, p. 75)

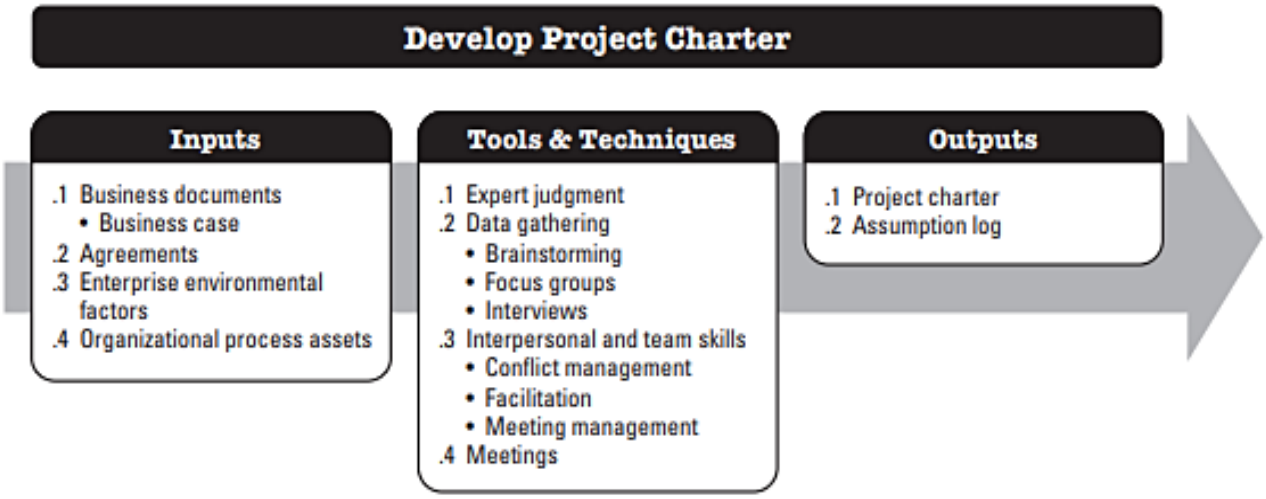

Figure 16 PMBOK® Guide Develop Project Charter: Inputs, Tools & Techniques and Outputs. Reprinted from *A Guide to the Project Management Body of Knowledge* (p. 75), Project Management Institute, 2017. Copyright 2017 by Project Management Institute Inc.

The Section Chief recognized that the absence of a comprehensive project management outlook by Fresh Start Construction to execute the redevelopment of the Castries Market meant that although the project's business case, statement of work, agreements, enterprise environmental factors and organizational process assets were the acknowledged inputs for the creation of the Project Charter, these documents would not be accessible. Moreover, organizational process assets (OPA) were nonexistent and the absence of a prescribed project management team or project management office (PMO) resulted in the limited appreciation of the enterprise environmental factors (EEF) of the significance of the project to the firm. An analysis of the Chief Project Manager's meeting minutes as well as a personal interview assisted with the development of the Project Charter in **Figure 17** in the absence of the inputs necessary for the process.

PROJECT CHARTER
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

04 JUNE 2020

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PROJECT PURPOSE/JUSTIFICATION

BUSINESS NEED/CASE

The redevelopment of the Castries Market arises from a market demand to provide comfort and to cater to all provisions market vendors in a uniformed and structured manner. The redevelopment of the market will contribute significantly to the socio-economic development of the country. The Castries Market Redevelopment Project is part of Castries Vision 2030 which aims to positively transform the image and business of vending in the city and to create an authentic Saint Lucian Brand.

BUSINESS OBJECTIVES

The following business objectives have been established with respect to the Castries Market Redevelopment Project:

1) To upgrade the Castries Market into a state-of-the-art amenity.
2) To encourage comfort and a structured approach to vending.
3) To transform the image and business of vending in the city.
4) To build a structure which can withstand adverse weather conditions and the vagaries of climate change.
5) To facilitate the physical improvement and/or rehabilitation of existing structures and façades within the Castries Market.
6) To encourage the construction of new commercial, civic/cultural and recreational development where appropriate.
7) To foster the replacement, repair, construction and/or improvement of market infrastructure where needed including public utilities, sidewalks, curbs, gutters and sanitary systems to create an environment conducive to economic development.
8) To achieve a public space which appeals to visitors, citizens and vendors.

PROJECT DESCRIPTION

The objective of the Castries Market Redevelopment Project is to address the old, inadequate structures and facilities of the existing vendors' market and to provide a viable and consumer-friendly centre of trade and commerce, thus, generating more income and livelihood opportunities for St. Lucians and increased revenues for the Government.

The first phase of the Castries Market Redevelopment Project caters to a covered vending area, refurbished comfort stations and newly built vending stalls. The next component of the project will see the construction of a Container Box Park creating an avenue for micro enterprising, cosmetic shops, cafés, pubs and eateries.

Thereafter, the remaining component of Phase One will include modifications to the entrance of the market adjacent to the Castries Harbour, construction of a state-of-the-art

food court, high-end air conditioned restaurants, a refurbished craft market, entertainment area and meat and fish depots.

Phase Two comprises the construction of a viewing tower, and duty free shopping boutiques.

PROJECT OBJECTIVES AND SUCCESS CRITERIA

The objectives which equally support the deliverables and milestones for the Castries Market Redevelopment Project have been identified. In an effort to attain success on the project, the ensuing objectives must be achieved within the specified time and budget allocations:

1) To construct 2.2 kilometres of roadway, paving and customer parking and to repair lighting within three (3) months of the project's execution.
2) To complete the construction of one hundred vendors' stalls within four (4) months of the project's execution.
3) To complete the renovation of the market area within eighteen (18) months as per the approved Architectural blueprints from the Ministry of Physical Planning.
4) To complete the redevelopment of the Castries Market within a budget of US$15 million dollars.

REQUIREMENTS

The Castries Market Redevelopment Project must satisfy the following list of requirements so as to attain success:

1) The structure of the Castries Market must be erected from materials which are structurally reliable and can withstand a category 5 hurricane.
2) The structure must be outfitted with ramps and other wheelchair access amenities for comfort and easy accessibility for differently-abled individuals.
3) The facility must be structurally designed to enable the free flow of market vendors and other market users.

Additional requirements may be included as necessary, with project sponsor approval, as the project progresses.

CONSTRAINTS

The following constraints pertain to the Castries Market Redevelopment Project:

1) The project should not exceed US$15 million dollars.
2) The project duration should not exceed eighteen (18) months.
3) Only the human resources which have been identified and planned for will be used in the completion of the project.
4) All local and national level regulatory and building code requirements are to be satisfied.

5) All work is to be completed with as little disruption to traffic flow and neighbouring businesses as possible.
6) The vendors must be temporarily relocated in order to commence the project.
7) Taxi operators must be temporarily relocated in order to commence the project.
8) The contingency reserve in the project budget is 10%.
9) Only the designated number of one hundred (100) vendors' stalls may be constructed.
10) A stipend of EC$500.00 only will be given to vendors to assist with their relocation.

ASSUMPTIONS

The following are a list of assumptions associated with the Castries Market Redevelopment Project. Upon agreement and signature of the document, all parties acknowledge that these assumptions are true and accurate:

Finances

1) It is assumed that the client is funded adequately.
2) It is assumed that full funding is available prior to advertising any contracts.

Schedule

1) It is assumed that based on stakeholder committees, the earliest desirable start date for the commencement of the project is February 2021.
2) It is assumed that the construction start date of February 2021 is contingent upon the availability of funding.
3) It is assumed that the project will be completed substantially in eighteen (18) months.
4) It is assumed that the completion of the construction of the vendors' stalls is a critical path item.

Weather

1) It is assumed that there will be occasional rain; therefore, the structure has to be weather resilient.
2) It is assumed that there will be hurricanes; therefore, concessions have been provided to reinforce the structure to withstand up to category 5 hurricanes.
3) It is assumed that there will be high temperatures; therefore, this will determine the type of materials and finishes utilized.

Budget

1) It is assumed that the project will be completed within the budget of US $15 million dollars
2) It is assumed that the prices of raw materials will not increase more than 10% during the course of the project.
3) It is assumed that the stipend of EC$500.00 allocated to the relocation of vendors is sufficient.
4) It is assumed that the budget formulated during planning will accurately outline the financial resources required to redevelop the Castries Market.

Legal Framework

1) It is assumed that all local and national level regulatory and building code requirements will be satisfied.
2) It is assumed that no legal actions preclude implementing the project schedule.

Human Resource

1) It is assumed that the organization has sufficient human resource to complete the project within time, cost and scope constraints.
2) It is assumed that the human resource is skilled and competent.

Operations

1) It is assumed that Saint Lucia has adopted the Façade Improvement Manual which is satisfactory to the funding agency.
2) It is assumed that the project will be executed in a safe manner.
3) It is assumed that the project outcome will be of highest quality.
4) It is assumed that the organization has appropriate technology to facilitate effective and timely communication.

Planning

1) It is assumed that the project will have the full support of the project sponsor and all stakeholders.
2) It is assumed that the final planning permission will be approved by the Ministry of Infrastructure within the timeframe required.
3) It is assumed that the clients have disclosed all the information necessary for the development of the scope.
4) It is assumed that all the required suppliers, resources, goods and services will be available as required by the project.
5) It is assumed that all stakeholders have been accurately identified.
6) It is assumed that there is information which is readily available to help adequately identify and examine most, if not all project risks.
7) It is assumed that the organization's personnel have identified a list of potential suppliers.

PRELIMINARY SCOPE

The following items are considered to be within the scope of the project:

1) The construction of one hundred (100) vendors' stalls.
2) The construction of roadways and pavements and the availability of customer parking.
3) The construction and refurbishment of a food court, restaurants, craft market, box park, viewing tower, entertainment area, meat and fish depots and duty-free shopping boutiques.
4) The refurbishment of the comfort station.
5) The repair of ten (10) street lights and the installation of an additional fifteen (15).

The following items are considered to be outside of the scope of this project and are therefore the responsibility of the Castries Constituency Council (CCC):

1) The maintenance of the Castries Market upon the completion of its redevelopment.
2) The securing of the property including the installation of surveillance cameras and other security measures.
3) The provision of training for vendors in the areas of merchandizing, sales strategy, customer service and marketing.

STAKEHOLDERS

The following groups and organizations are key stakeholders in the project:

1) Castries Constituency Council
2) Fresh Start Construction
3) Vendors
4) Ministry of Physical Planning
5) Ministry of Infrastructure
6) Ministry of Economic Development
7) Ministry of Tourism
8) The Office of the Mayor
9) World Bank
10) Organization of Eastern Caribbean States Competitive Tourism Committee
11) Neighbouring businesses
12) Consumers
13) Subcontractors
14) Suppliers
15) Consultants
16) Environmental Agencies
17) Civilians

RISKS

The following risks have been identified for the Castries Market Redevelopment Project. The project manager will decide and utilize the required risk avoidance/mitigation strategies as applicable to reduce the probability of these risks:

1) Delays in approval by the Ministry of Infrastructure can result in delays to the project.
2) Delays in the supply or the unavailability of required materials can cause a delay in the overall project.
3) Adverse weather conditions can affect the progress of the project.
4) An unexpected increase in prices of materials over time can affect the budget allocated for the project.
5) An under-estimation of the overall cost of the project can result in cost overruns.

6) Human-related risks, particularly misjudgement of hazardous situations, can lead to accidents onsite and severe injury.
7) Damage to onsite material can have a serious impact on cost.
8) Damage or theft to equipment and tools can result in delays to the project.
9) Issues with suppliers and subcontractors can affect the progress of the project.
10) Stakeholders who are unauthorized to be involved in the project can affect the progress of the project.

PROJECT DELIVERABLES

The following deliverables must be accomplished upon the successful completion of the Castries Market Redevelopment Project. Any modifications to these deliverables necessitates approval by the project sponsor:

Services & Amenities

1) Construct one hundred (100) vendors' stalls.
2) Construct a food court, restaurants, craft market, box park, viewing tower, entertainment area, meat and fish depots and duty-free shopping boutiques.
3) Refurbish the comfort station
4) Repair ten (10) street lights. Install an additional fifteen (15) lights spread twenty-five (25) metres apart to provide adequate road lighting in the area.

Access

1) Construct 2.2 kilometres of roadway and paving as indicated in the Architectural design for the revamping of the Castries Market. This includes excavating topsoil, laying the base course, compacting the base, adding curbing, and laying and marking the road surface. All roads are to be fully verged.
2) Construct two off-street parking areas and three street parking areas.

Security

1) Build a boundary wall to the southern area of the market. This wall will be 2.4 kilometres long and consist of secured barbed tape and razor wire.

SUMMARY MILESTONE SCHEDULE

The project Summary Milestone Schedule is depicted below. As requirements are further defined this schedule may be revised. Any alterations will be communicated through project status meetings held by the project manager.

Project	Target Date	Description
Project Initiation	September 30, 2020	The capturing and recording of information needed to correctly define and plan the project is complete.
Project Defined	October 10, 2020	The project's objectives, scope, purpose and deliverables are defined.
Conceptual Design Commence	October 15, 2020	The early design process of the renovated market is complete.
Feasibility Study Complete	October 20, 2020	The determination of the viability of the project including legally, technically and economically is complete.
Approval of Project Charter	December 5, 2020	The authorization of the project charter is complete.
Design Delivered to Client by Ministry of Physical Planning	December 13, 2020	The delivery of the design to the Castries Constituency Council is complete.
Design Documents Approved by Client	December 16, 2020	The approval of the design by the Castries Constituency Council is complete.
Approval of Design by Ministry of Infrastructure	December 25, 2020	The approval of the Architectural blueprints by the Ministry of Infrastructure is complete.
Project Management Plan Complete	January 5, 2021	The Project Management Plan is complete.
Procurement and Sourcing Commence	January 8, 2021	The process of identifying, shortlisting, selecting, and acquiring suitable goods and services for the project begins.
Roads Complete	February 26, 2021	Roads, parking and street lighting is complete.
Comfort Station Complete	March 5, 2021	Renovation of comfort station is complete.
Vending Stalls Complete	April 17, 2021	Construction of vending stalls is complete.

Project	Target Date	Description
Services and Amenities Complete	November 30, 2021	Construction of food court, restaurants, craft market, box park, viewing tower, entertainment area, meat and fish depots and duty-free shopping boutiques is complete.
Boundary Wall Complete	December 20, 2021	Construction of boundary wall to the southern area of the market is complete.
Final Building Inspection	February 8, 2022	The final assessment of the renovated structure is complete.
Project Complete	February 19, 2022	The customer has signed off on all deliverables. Project has been closed and is ready for review.

PROJECT BUDGET

The following table comprises a budget based on the planned cost components and estimated costs required for successful completion of the project.

Item	Component Cost ($USD)
Construction	$10,790,000.00
Administration & Personnel Resources	$800,000.00
Value Added Tax (12.5%)	$1,875,000.00
Blueprints	$35,000.00
Contingency (10%)	$1,500,000.00
GRAND TOTAL	**$15,000,000.00**

PROJECT APPROVAL

Success for the Castries Market Redevelopment Project will be achieved when all requirements have been met within the time and constraints indicated in this charter. In order to obtain project approval a completely renovated edifice must be delivered by October 19, 2020 with all the elements agreed upon in the Scope Statement. Success will be determined by the project sponsor, who will also authorize completion of the project.

PROJECT MANAGER

Mr. Anderson Lake is the Project Manager for the duration of the Castries Market Redevelopment Project. In his absence, Mr. Ian Henry, Section Chief, will act on his behalf.

The project manager's responsibilities include:

1) Production
2) Resource Planning
3) Coordination
4) Reporting & Documentation
5) Quality Control
6) Regulation Compliance
7) Project Finances
8) Architectural Engineering
9) Procurement

AUTHORIZATION

Approved by: _____

<Project Sponsor>
<Project Sponsor Title>

Date: _____

Figure 17 Castries Market Redevelopment Project Charter. Adapted from PMI Project Management Docs. Retrieved June 4, 2020 from https://www.projectmanagementdocs.com/template/project-initiation/project-charter-multi-page-version/#axzz6P6l2b9uo

4.2 Project Scope Management

The planning of Project Scope Management was the initial planning process to occur subsequent to the development of the Project Charter, Stakeholder Register and Procurement Management Plan. The creation of a Scope Management Plan helped to define the scope of the project. As depicted in **Figure 18**, a modified template from an online source was used to create this plan. The Scope Management Plan comprises the scope definition, project scope statement, the Work Breakdown Structure (WBS), WBS dictionary, scope verification and scope control measures that provide guidance and direction on how scope will be managed throughout the project (Project Management Institute, 2017, p. 134). The Scope Management Plan describes how the scope will be defined, developed, monitored, controlled and validated (Project Management Institute, 2017, p. 135).

The Scope Management Plan contained the outputs from the Scope Definition and Create WBS processes and would subsequently be maintained and approved as the Scope Baseline. These processes usually occur after the second process group in Scope Management, but they were performed synchronously with the formation of the Scope Management Plan as the required inputs were developed.

The Scope Management Plan was formulated using the Project Charter as an input in conjunction with interviews which were conducted with the Chief Project Manager and a review of minutes from meetings held between him and the project sponsor, documented during the clients' requirements meetings (Project Management Institute, 2017, p. 136). The Requirements Management Plan illustrated in **Figure 19** was produced as the second output of the Plan Scope Management process in addition to the Scope Management Plan (Project Management Institute, 2017, p. 134).

SCOPE MANAGEMENT PLAN
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

25 JUNE 2020

TABLE OF CONTENTS

INTRODUCTION

The Scope Management Plan specifies the scope framework for this project. The details of the scope management approach, roles and responsibilities relating to the project's scope, scope definition, verification and control processes, scope change control and the project's work breakdown structure are included in this plan. Communication which pertains to the project's scope should adhere to the Scope Management Plan.

This project is for the redevelopment of the Castries Market. Market demand necessitated the provision of comfort and the accommodation of all provisions market vendors in a standardized and coordinated manner. The revamping of the market will contribute considerably to the socio-economic development of the country.

SCOPE MANAGEMENT APPROACH

For the Castries Market Redevelopment Project, scope management will be the Project Manager's sole responsibility. The scope for this project is outlined in the Scope Statement, Work Breakdown Structure (WBS) and WBS Dictionary. The Project Manager, Sponsor and Stakeholders will authenticate and approve documentation for measuring scope which includes deliverable quality checklists and work performance measurements. Recommended scope changes may be initiated by the Project Manager, Stakeholders or any member of the project team. All change requests will be submitted as variations to the Project Manager who will then assess the requested scope change. Consequent to the acceptance of the scope change request, the Project Manager will submit the scope change request to the Project Sponsor, Stakeholders, Consultants and Subcontractors for approval. Scope changes which are strictly technical in nature are to be approved by the Project Manager. However, the Project Sponsor is responsible for the approval of scope changes which will affect time and cost parameters. Following the approval of scope changes, the Project Manager will update all project documents and convey the scope change to all stakeholders through a change directive. Based on feedback and contributions from the Project Manager and Stakeholders, the Project Sponsor is accountable for the approval of the final project deliverables and project scope.

ROLES AND RESPONSIBILITIES

The Project Manager, Project Sponsor and project team will all perform fundamental roles in managing the scope of this project. Therefore, the Project Sponsor, Project Manager and project team must be cognizant of their responsibilities so that work executed on the project is within the established scope throughout the project's duration.

The following table outlines the roles and responsibilities for the scope management of the Castries Market Redevelopment Project.

Name	Role	Responsibilities
Castries Constituency Council	Project Sponsor	a) Review changes to the project environment, including schedules, priorities and tasks and approve or deny scope change requests as appropriate b) Evaluate whether scope change requests are necessary c) Identify project critical success factors and accept project deliverables
Anderson Lake	Project Manager	a) Appraise and verify project scope b) Facilitate scope change requests c) Facilitate impact assessments of scope change requests d) Organize and facilitate scheduled change control meetings e) Communicate outcomes of scope change requests f) Revise and update project documents upon approval of all scope changes
Section Chief and Project Team	Team Members	a) Contribute to defining change resolutions b) Assess whether scope changes are needed and communicate them to the project manager as necessary
Stakeholders	Consultants/Subcontractors/Site Workers/Vendors	a) Can recommend scope changes b) Will implement and execute change directives

Table 1: Scope Management Roles and Responsibilities

SCOPE DEFINITION

A comprehensive requirements collection process was used to define the scope for the Castries Market Redevelopment Project. First, a thorough analysis of all project contracts, meeting minutes, regulatory and building codes, client's requirements and documentation pertaining to industry standards was completed. The Project Manager and Section Chief used this information to create the Requirements Management Plan, Requirements Documentation and the Requirements Traceability Matrix for the structure specifications.

The project deliverables were produced as a result of the requirements collection process and contributions from experts such as Consultants, Government Regulatory Agencies, Subcontractors and Environmental Agencies. This process of expert judgement provided feedback on the most applicable, feasible and safest methods by which the original requirements of constructing an edifice for the Castries Market that is structurally reliable and able to withstand a category 5 hurricane can be implemented.

PROJECT SCOPE STATEMENT

The project scope statement provides a detailed description of the project, deliverables, constraints, exclusions, assumptions and acceptance criteria. Furthermore, the scope statement comprises the work that should not be executed in an effort to eliminate any suggested but unauthorized or unwarranted work which deviates from the project's scope.

PRODUCT SCOPE DESCRIPTION

This project includes the renovation of existing structures and facilities of the existing vendors' market.

PRODUCT ACCEPTANCE CRITERIA

The project will be accepted once the following requirements have been met:

1) The structure of the Castries Market must be erected from materials which are structurally reliable and can withstand a category 5 hurricane.
2) The structure must be outfitted with ramps and other wheelchair access amenities for comfort and easy accessibility for differently abled individuals.
3) The facility must be structurally designed to enable the free flow of market vendors and other market users.

PROJECT DELIVERABLES

The following deliverables must be completed upon the successful completion of the Castries Market Redevelopment Project:

Construction of One Hundred Vendors' Stalls

1) Stall sizes should be kept as small as possible and shall be 2x2 metres to 3x4 metres with sales space or table occupying 30% to 50% of the area. There will also be a need for large stalls which shall be 4x4 metres to 5x5 metres but this will be very limited.
2) The stalls shall be constructed in timber with overall dimensions of frontage 1.5 to 1.8 metres and depth of 1.5 to 2.5 metres.
3) There shall be a counter flap to provide access to the stall.
4) The stalls shall have inclined shelves for display of produce.
5) The stalls shall have storage for extra produce.
6) The stalls shall be outfitted with locks as a safety measure.

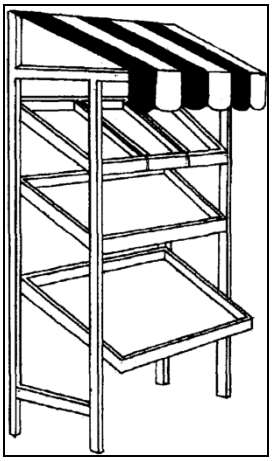

Figure 1: Vendor Stall

Construction of Roadways and Pavements and Customer Parking

1) Two-way roads shall be 12 metres wide.
2) Sidewalks shall be a minimum of 2.5 metres wide.
3) Car parking areas shall be 4.8 x 2.4 metres.
4) Pick-up parking areas shall be 8 x 3.65 metres.
5) Truck parking areas shall be 11 x 3.65 metres.
6) Car parking shall be 2 to 5 spaces per $100m^2$ of sale area.
7) The preferred maximum distance of car parking from the market shall be 100 metres.
8) There shall be a pedestrian crossing where pedestrians are able to cross freely.

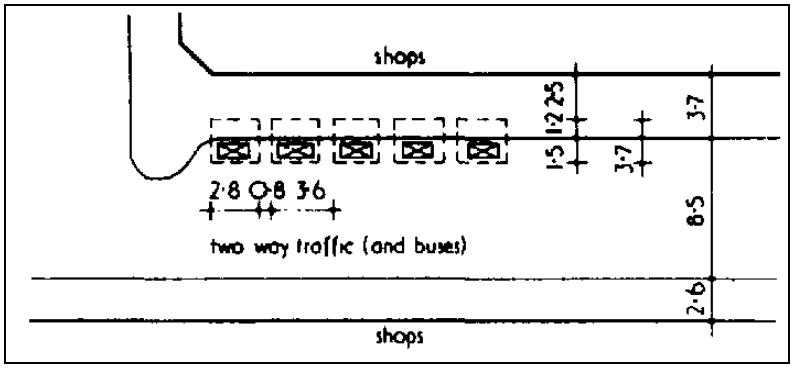

Figure 2: Roadway and Pavement Plan

Construction and Refurbishment of Market Structure to include Food Court, Restaurants, Craft Market, Box Park, Viewing Tower, Entertainment Area, Meat and Fish Depots and Duty-Free Shopping Boutiques

1) The roofs shall be clad in profiled steel sheeting with G90 galvanized coating for corrosion resistance. All fasteners shall be stainless steel screws.
2) The walls shall be load-bearing and shall be constructed from concrete blocks.
3) The walls shall withstand the lateral forces produced by hurricane winds.
4) The walls shall sustain the load of the roofs.
5) The aisle widths of the market area shall be in the range of 3.5 to 6 metres and shall be wide enough for ease of pedestrian circulation and to allow small delivery trolleys or vehicles to enter the market.
6) To encourage people to use the space, the market shall have highly visible and wide entrances, positioned so that it is possible for the public to immediately comprehend their accessibility
7) The paths or routes which form the market's internal street system shall be laid out so that they connect through a series of busy intermediate spaces in which the food court, restaurants, meat and fish depots and other public facilities are located.
8) The need for climatic control and security requirements shall determine the overall circulation system of the market building and the degree of enclosure.
9) Light fixtures shall be suspended from the market's roof structure. The fixtures shall be fluorescent tubes and shall be shall be easily accessible for replacement.
10) All areas of the market shall have some form of natural light from windows or rooflights.

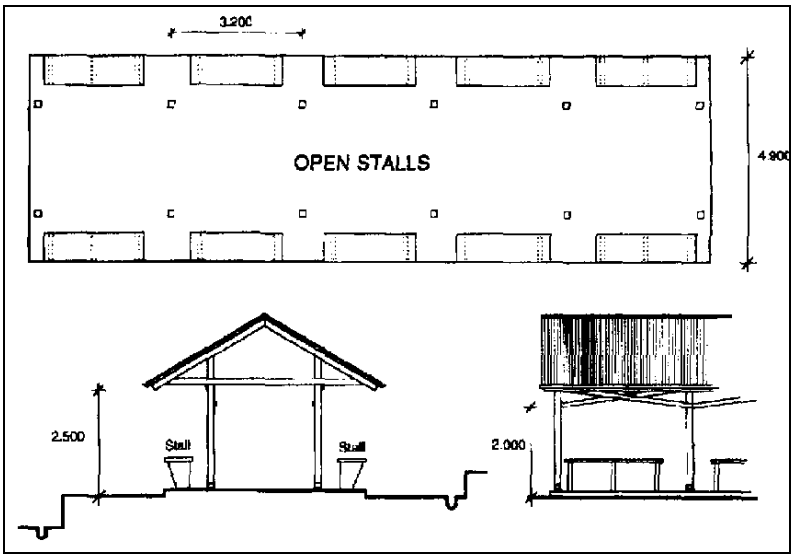

Figure 3: Market Structure Plan

Repair and Installation of Street lights

1) The spacing for the fifteen newly installed street lights shall be in the range of 25 metres.
2) All street lights shall be robust and fitted with long-life, energy efficient light-emitting diode (LED) light bulbs.

Security

1) A boundary wall of 2.4 kilometres consisting of secured-razor wire-timber fencing shall be built to the southern area of the market.

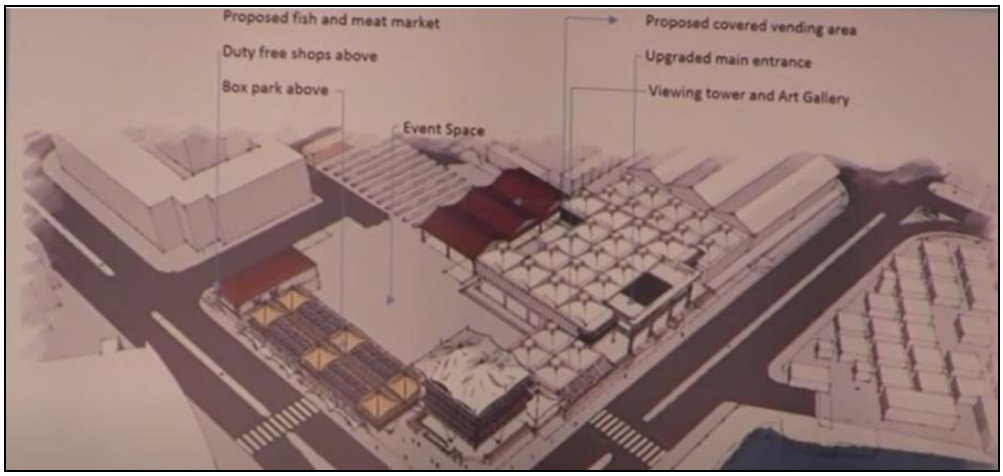

Figure 4: Proposed Layout of Castries Market

Figure 5: Phase 2 of the Redevelopment of the Castries Market

Figure 6: Redevelopment of the Castries Market

Figure 7: Redevelopment of the Castries Market

Figure 8: Redevelopment of the Castries Market

PROJECT EXCLUSIONS

The following items are considered to be outside of the scope of this project:

1) The maintenance of the Castries Market upon the completion of its redevelopment.
2) The securing of the property including the installation of surveillance cameras and other security measures.

3) The provision of training for vendors in the areas of merchandizing, sales strategy, customer service and marketing.

PROJECT CONSTRAINTS

The following constraints pertain to the Castries Market Redevelopment Project:

1) The project should not exceed US$15 million dollars.
2) The project duration should not exceed eighteen (18) months.
3) Only the human resources which have been identified and planned for will be used in the completion of the project.
4) All local and national level regulatory and building code requirements are to be satisfied.
5) All work is to be completed with as little disruption to traffic flow and neighbouring businesses as possible.
6) The vendors must be temporarily relocated in order to commence the project.
7) Taxi operators must be temporarily relocated in order to commence the project.
8) The contingency reserve in the project budget is 10%.
9) Only the designated number of one hundred (100) vendors' stalls may be constructed.
10) A stipend of EC$500.00 only will be given to vendors to assist with their relocation.

PROJECT ASSUMPTIONS

The following are a list of assumptions associated with the Castries Market Redevelopment Project:

Finances

1) It is assumed that the client is funded adequately.
2) It is assumed that full funding is available prior to advertising any contracts.

Schedule

1) It is assumed that based on stakeholder committees, the earliest desirable start date for the commencement of the project is February 2021.
2) It is assumed that the construction start date of February 2021 is contingent upon the availability of funding.
3) It is assumed that the project will be completed substantially in eighteen (18) months.
4) It is assumed that the completion of the construction of the vendors' stalls is a critical path item.

Weather

1) It is assumed that there will be occasional rain; therefore, the structure has to be weather resilient.
2) It is assumed that there will be hurricanes; therefore, concessions have been provided to reinforce the structure to withstand up to category 5 hurricanes.
3) It is assumed that there will be high temperatures; therefore, this will determine the type of materials and finishes utilized.

Budget

1) It is assumed that the project will be completed within the budget of US $15 million dollars
2) It is assumed that the prices of raw materials will not increase more than 10% during the course of the project.
3) It is assumed that the stipend of EC$500.00 allocated to the relocation of vendors is sufficient.
4) It is assumed that the budget formulated during planning will accurately outline the financial resources required to redevelop the Castries Market.

Legal Framework

1) It is assumed that all local and national level regulatory and building code requirements will be satisfied.
2) It is assumed that no legal actions preclude implementing the project schedule.

Human Resource

1) It is assumed that the organization has sufficient human resource to complete the project within time, cost and scope constraints.
2) It is assumed that the human resource is skilled and competent.

Operations

1) It is assumed that Saint Lucia has adopted the Façade Improvement Manual which is satisfactory to the funding agency.
2) It is assumed that the project will be executed in a safe manner.
3) It is assumed that the project outcome will be of highest quality.
4) It is assumed that the organization has appropriate technology to facilitate effective and timely communication.

Planning

1) It is assumed that the project will have the full support of the project sponsor and all stakeholders.
2) It is assumed that the final planning permission will be approved by the Ministry of Infrastructure within the timeframe required.
3) It is assumed that the clients have disclosed all the information necessary for the development of the scope.
4) It is assumed that all the required suppliers, resources, goods and services will be available as required by the project.
5) It is assumed that all stakeholders have been accurately identified.
6) It is assumed that there is information which is readily available to help adequately identify and examine most, if not all project risks.
7) It is assumed that the organization's personnel have identified a list of potential suppliers.

WORK BREAKDOWN STRUCTURE

In an effort to successfully manage the work required to complete this project, it will be subdivided into individual work packages which will not exceed 40 hours of work. This will permit the Project Manager to more effectively control the project's scope as the project team works on the tasks necessary for project completion. The project is divided into six phases which are the Initiation Phase, the Design Phase, the Pre-Construction Phase, the Construction Phase, the Post-Construction Phase and the Project Closure Phase. Each of these phases is subdivided further into work packages which will necessitate no more than 40 hours of work and no less than 4 hours of work. The Work Breakdown Structure is shown below.

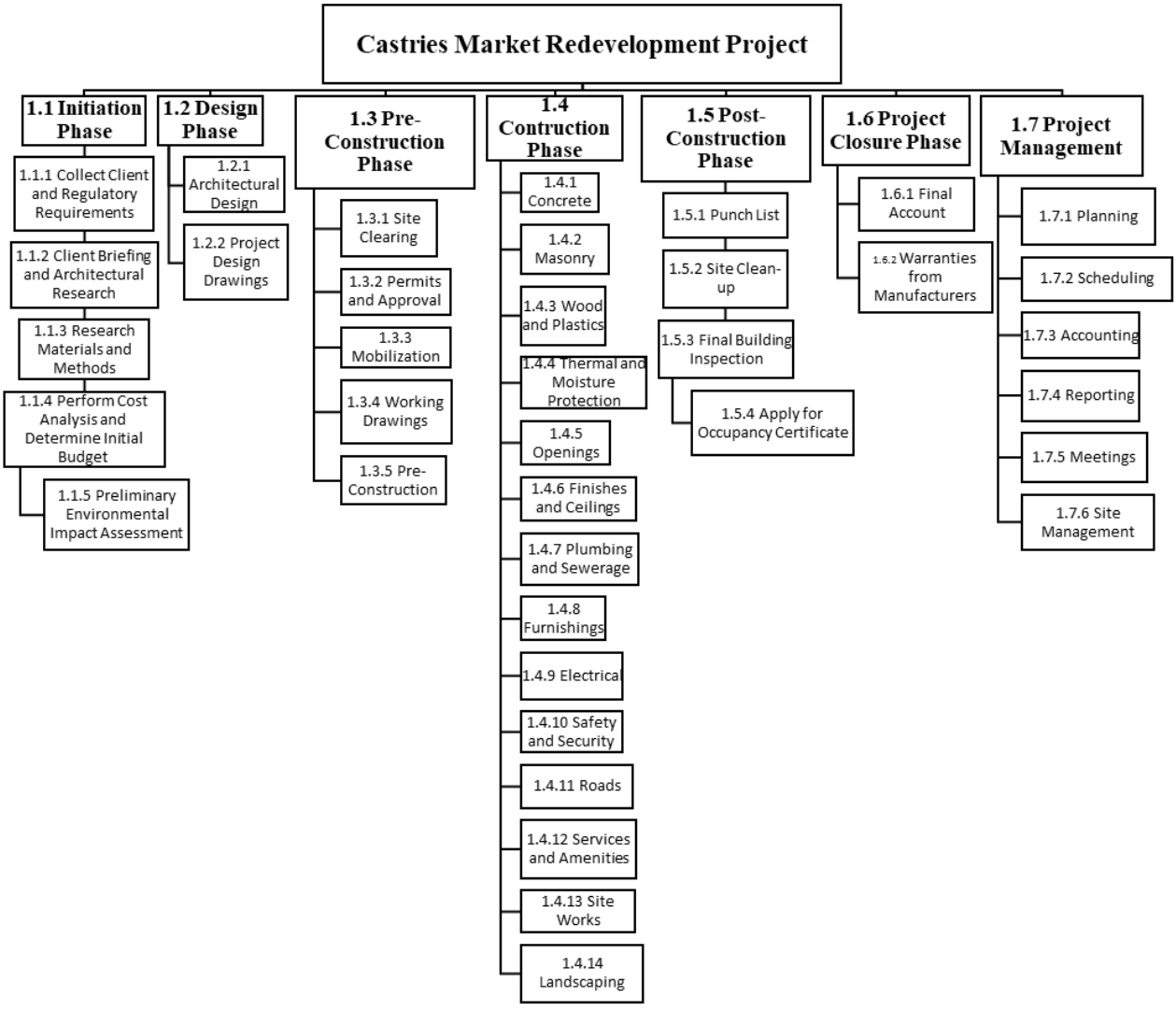

Figure 9: Work Breakdown Structure (WBS)

The WBS Dictionary helps to more clearly define the work required for project completion. The WBS Dictionary consists of an entry for each WBS element. The WBS Dictionary comprises a detailed description of work for each element and the deliverables, budget and resources required for that element. The project team will use the WBS Dictionary as a statement of work for each WBS element.

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
1	**1.1**	**Initiation Phase**	**Commencement of Conceptualization**		**$48,000**	
2	1.1.1	Collect Client and Regulatory Requirements	Meeting held to decipher client and regulatory requirements for the project	Initial Requirements Documentation	$8,000	Laptop Internet Relevant Literature
2	1.1.2	Client Briefing and Architectural Research	Architectural briefing describing the conception of the project with the Architect and Subcontractors	Client Directive	$17,000	Laptop Internet Relevant Literature
2	1.1.3	Research Materials and Methods	Research materials, methodologies and architectural standards that can be utilized for the project	Project Documentation	$7,500	Laptop Books Internet Standards
2	1.1.4	Perform Cost Analysis and Determine Initial Budget	Calculating the type of financial commitment needed based on the requirements from the client to complete the project	Cost Evaluation	$5,500	Project Scope
2	1.1.5	Preliminary Environmental Impact Assessment	Environmental Engineer will perform assessment of the project	Environmental Assessment Study	$10,000	Architectural Drawings Project Scope

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
1	**1.2**	**Design Phase**	**Collaborative Effort of Consultants**		**$155,000**	
2	1.2.1	Architectural Design	Graphical visualization of project	Architectural Drawings/Blue prints	$35,000	CAD Software
2	1.2.2	Project Design Drawings	Consultants' drawings including: Structural engineer Land surveyor Building inspector	Engineering Drawings	$120,000	
1	**1.3**	**Pre-Construction Phase**	**Contract Phase where design development, consultant identification and agreements with necessary stakeholder(s) are confirmed and established**		**$260,000**	
2	1.3.1	Site Clearing	The location is cleared for the commencement of work	Vendors Relocated, Existing Structures Demolished	$70,000	
2	1.3.2	Permits and Approval	The process of making an application for the following permits: Environmental Permit Ministry of Infrastructure Permit Ministry of Health Permit	Permits to proceed	$15,000	Client Requirements Architectural Drawings

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
2	1.3.3	Mobilization	The process whereby preparations occur onsite prior to the commencement of any work	Site preparation complete including: Arranging necessary road closures and restrictions, diversions of services and connections necessary for the works to be carried out. Developing the site waste management plan. Arranging for the statutory utilities to provide the necessary water, electricity and information and communication technology services required. Site surveying Hoardings Temporary toilets Signs	$50,000	Dump truck, cement mixer, backhoe, wheel barrows, jackhammers, light weight crane

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
2	1.3.4	Working Drawings	Graphical documents that instruct the contractors on how to build the market structure		$55,000	
2	1.3.5	Pre-Construction	Forming and shoring, drilling, piling, capping and levelling of columns		$70,000	
1	**1.4**	**Construction Phase**	**Phase where project execution occurs**		**$10,402,000**	
2	1.4.1	Concrete	Entails all structural cementers work	Columns, pilings and floors	$450,000	Concrete workers, masons, concrete truck, crane, formwork
2	1.4.2	Masonry	Cementers material used to cover cement block units or other materials	Used to plaster concrete components	$300,000	Suppliers Quotations In house labour
2	1.4.3	Wood and Plastics	Wood is used as blocking for doors and windows Plastics will be used for gutterings and eaves drips	Wood used in interior of walls Plastics will be used on the exterior	$220,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.4	Thermal and Moisture Protection	Underlayment for the roofing system	Underlayment for roofing system	$40,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.5	Openings	Void spaces for windows and doors	Window and door spaces	$325,000	Suppliers Quotations

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
2	1.4.6	Finishes and Ceilings	Construction of ceilings and installation of finishes	Cement finished on walls (interior and exterior) and ceilings	$275,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.7	Plumbing and Sewerage	Installation of all waste and supply lines, water closets and lavatory	Throughout the buildings as per building specifications	$415,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.8	Furnishings	Includes tables, chairs, lights, construction of one hundred vendors' stalls and other items indicated in the scope	Used throughout the buildings as per design drawings	$800,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.9	Electrical	Electrical power to buildings and equipment (including generators)	Electricity	$355,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.10	Safety and Security	Construction of boundary wall	Wall consisting of secured barbed tape and razor wire.	$60,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.11	Roads	Construction of two-way roads inclusive of concrete drains, headwalls, metal grills (inclusive of double surface dressing) and concrete pavements.	Roads, pavements	$1,420,000	Suppliers Quotations Subcontractors Installation Quotations

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
2	1.4.12	Services and Amenities	Construction of food court, restaurants, craft market, box park, viewing tower, entertainment area, meat and fish depots and duty-free shopping boutiques. Renovation of comfort station	Food court, restaurants, craft market, box park, viewing tower, entertainment area, meat and fish depots, duty-free shopping boutiques, comfort station	$5,232,000	Suppliers Quotations Subcontractors Installation Quotations
2	1.4.13	Site Works	Works pertaining to exterior elements of the project such as parking layouts, lighting and landscape	Parking lots, exterior lighting including street lights, landscaping	$850,000	
2	1.4.14	Landscaping	The physical placement of shrubs, trees, grass and other organic items	Landscaping	$70,000	
1	**1.5**	**Post-Construction Phase**	**Phase that occurs after substantial completion**		**$1,500,000**	
2	1.5.1	Punch List (Budgeted as Contingency)	To fix defective works	Checklist	$1,500,000	Project Manager/Architect
2	1.5.2	Site Clean-up	To clean up the site	Cleaned site	N/A	
2	1.5.3	Final Building Inspection	Building inspection performed by Ministry of Infrastructure, Project Manager and Architect	Quality Checklist Requirements Document	N/A	
2	1.5.4	Apply for Occupancy Certificate	Submit application to the Government Regulatory Agencies	Occupancy Certificate	N/A	

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
1	**1.6**	**Project Closure Phase**	**Phase that signifies completion of project and handover of market**		**N/A**	
2	1.6.1	Final Account	The accumulation of all the project's expenses		N/A	
2	1.6.2	Warranties from Manufacturers	Manufacturers' guarantee that if products are defective, they will be fixed or replaced within a certain period of time	Warranties	N/A	
1	**1.7**	**Project Management**	**The management of the planning, execution, monitoring, controlling and closure of the project**		**$350,000**	
2	1.7.1	Planning	Planning and updating project activities throughout project life cycle	Project Management Plan Quantity Surveyor Report	$60,000	
2	1.7.2	Scheduling	Planning of project activities, assigning timeline and dates to determine and control project duration	Schedule	$40,000	
2	1.7.3	Accounting	Monitoring the financial expenditures of the project throughout the project life cycle	Financial Reports	$50,000	

Level	WBS Code	Element Name	Description of Work	Deliverables	Budget	Resources
2	1.7.4	Reporting	Documenting project activities, preparing reports and presenting to the appropriate stakeholders	Project Management Reports Memorandums	$55,000	
2	1.7.5	Meetings (Progress)	Medium for the management of the project	Progress Meetings	$45,000	
2	1.7.6	Site Management	Management of the day-to-day on site happenings of the project	Site Management	$100,000	

Table 2: WBS Dictionary

SCOPE VERIFICATION

As the project progresses the Project Manager will validate interim project deliverables against the original scope as outlined in the scope statement, WBS and WBS Dictionary. Scope verification includes measuring, examining and testing project deliverables to ensure that they comply with agreed upon requirements. Once the Project Manager confirms that the scope meets the requirements outlined in the project plan, the Project Manager and Sponsor will convene for formal acceptance of the deliverable. During this meeting the Project Sponsor will accept the deliverable by signing a project deliverable acceptance document. This will ensure that project work remains within the scope of the project on a consistent basis throughout the life of the project.

SCOPE CONTROL

The Project Manager and the project team will collaborate to control the scope of the project. The project team will leverage the WBS Dictionary by employing it as a statement of work for each WBS element. The project team will ensure that they execute only the work outlined in the WBS dictionary and produce the defined deliverables for each WBS element. The Project Manager will supervise the project team and the development of the project to ensure that the scope control process is adhered to.

The project scope may need to be adjusted to adapt to a dynamic project environment. Such changes may include fluctuations in resources, schedule, cost and client requirements. If a change to the project scope is required, the process for recommending changes to the project's scope must be performed. All change requests must be submitted to the Project Manager in the form of a project change order. The Project Manager will then evaluate the suggested change to the scope of the project. The Project Manager will then either deny the

change request if it does not apply to the intent of the project or organize a change control meeting between the project team and Project Sponsor to evaluate the change request further and perform an impact assessment of the change. If the change request receives approval from the Project Manager and Project Sponsor, the Project Manager will then formally submit the change request to the Project Sponsor who will then formally accept the change by signing the change order. Upon acceptance of the scope change by the Project Manager and Project Sponsor, the Project Manager will update all project documents and convey the scope change to all project team members and stakeholders through a change directive.

SPONSOR ACCEPTANCE

Approved by:

_____

<Project Sponsor>
<Project Sponsor Title>

Date: _____

Figure 18 Castries Market Redevelopment Project Scope Management Plan. Adapted from Project Management Docs. Retrieved June 25, 2020 from https://www.projectmanagementdocs.com/template/project-planning/scope-management-plan/#axzz6TThD0vPn

REQUIREMENTS MANAGEMENT PLAN

TABLE OF CONTENTS

EXHIBITS

REVISION HISTORY

DATE	Version	Description	Author

OVERVIEW

The redevelopment of the Castries Market arises from a market demand to provide comfort and to cater to all provisions market vendors in a uniformed and structured manner. The redevelopment of the market will contribute significantly to the socio-economic development of the country. The project is being undertaken by the Castries Constituency Council. The first phase of the Castries Market Redevelopment Project caters to a covered vending area, refurbished comfort stations and newly built vending stalls. The next component of the project will see the construction of a Container Box Park creating an avenue for micro enterprising, cosmetic shops, cafés, pubs and eateries. Thereafter, the remaining component of Phase One will include modifications to the entrance of the market adjacent to the Castries Harbour, construction of a state-of-the-art food court, high-end air conditioned restaurants, a refurbished craft market, entertainment area and meat and fish depots. Phase Two comprises the construction of a viewing tower, and duty free shopping boutiques. The market will be maintained by the Castries Constituency Council once the project is complete.

PURPOSE

The purpose of Requirements Management is to establish a common understanding of the technical and non-technical requirements that will be addressed and achieved by the project or organization between the customer and project or organization, within the project or organization, and throughout the life cycle. The objectives of Requirements Management are to ensure that requirements are controlled to establish a baseline for development, acquisition, or management; and to ensure plans, work products and activities are consistent with the requirements.

The Requirements Management Plan establishes a systematic method by which the objectives of Requirements Management will be accomplished. The plan also conveys vital information to project participants and helps newcomers become acquainted with the project. Therefore, the plan is a document that needs to be updated and supplemented continuously.

SCOPE

The scope of the plan includes the renovation of a covered vending area with the following details:

Construction of One Hundred Vendors' Stalls

1) Stall sizes should be kept as small as possible and shall be 2x2 metres to 3x4 metres with sales space or table occupying 30% to 50% of the area. There will also be a need for large stalls which shall be 4x4 metres to 5x5 metres but this will be very limited.
2) The stalls shall be constructed in timber with overall dimensions of frontage 1.5 to 1.8 metres and depth of 1.5 to 2.5 metres.
3) There shall be a counter flap to provide access to the stall.

4) The stalls shall have inclined shelves for display of produce.
5) The stalls shall have storage for extra produce.
6) The stalls shall be outfitted with locks as a safety measure.

Construction of Roadways and Pavements and Customer Parking

1) Two-way roads shall be 12 metres wide.
2) Sidewalks shall be a minimum of 2.5 metres wide.
3) Car parking areas shall be 4.8 x 2.4 metres.
4) Pick-up parking areas shall be 8 x 3.65 metres.
5) Truck parking areas shall be 11 x 3.65 metres.
6) Car parking shall be 2 to 5 spaces per $100m^2$ of sale area.
7) The preferred maximum distance of car parking from the market shall be 100 metres.
8) There shall be a pedestrian crossing where pedestrians are able to cross freely.

Construction and Refurbishment of Market Structure to include Food Court, Restaurants, Craft Market, Box Park, Viewing Toer, Entertainment Area, Meat and Fish Depots and Duty-Free Shopping Boutiques

1) The roofs shall be clad in profiled steel sheeting with G90 galvanized coating for corrosion resistance. All fasteners shall be stainless steel screws.
2) The walls shall be load-bearing and shall be constructed from concrete blocks.
3) The aisle widths of the market area shall be in the range of 3.5 to 6 metres and shall be wide enough for ease of pedestrian circulation and to allow small delivery trolleys or vehicles to enter the market.
4) To encourage people to use the space, the market shall have highly visible and wide entrances, positioned so that it is possible for the public to immediately understand how to enter the building.
5) The paths or routes which form the market's internal street system shall be laid out so that they connect through a series of busy intermediate spaces in which the food court, restaurants, meat and fish depots and other public facilities are located.
6) The need for climatic control and security requirements shall determine the overall circulation system of the market building and the degree of enclosure.
7) Light fixtures shall be suspended from the market's roof structure. The fixtures shall be fluorescent tubes and shall be shall be easily accessible for replacement.
8) All areas of the market shall have some form of natural light from windows or rooflights.

Repair and Installation of Streetlights

1) The spacing for the fifteen newly installed streetlights shall be in the range of 25 metres.
2) All streetlights shall be robust and fitted with long-life, energy efficient light-emitting diode (LED) light bulbs.

Security

1) A boundary wall of 2.4 kilometres consisting of secured-razor wire-timber fencing shall be built to the southern area of the market.

Activity	Responsible
Project Management	Fresh Start Construction
Architecture and Design	Fresh Start Construction
Construction	Fresh Start Construction
Permits	Fresh Start Construction
Financier	Castries Constituency Council
Supplies	Suppliers
Technical Requirements	Consultants

APPLICABILITY

The project management and construction management teams will be most affected by the Requirements Management Plan as they will have to ensure that all other subsidiary documents, including the Scope Management Plan, the Requirements Traceability Matrix and the Project Management Plan, all adhere to the processes that guide Requirements Management. The Requirements Management Plan will help the project management and construction teams to ensure project success by avoiding poor requirements capture, scope creep and disagreement about acceptance of project deliverables.

APPLICABLE DOCUMENTS

The Project Management Plan, the Project Charter, the Scope Management Plan, the Requirements Documentation, the Requirements Traceability Matrix and the approved Construction Documents such as Architectural Drawings and Blueprints are all applicable to this process.

CHANGES AND REVISIONS

The Project Manager of Fresh Start Construction is responsible for controlling all changes to the Requirements Management Plan and related information.

ISSUE(S)

The following issues may affect the implementation of the Requirements Management Plan:

1) The client requirements may be ambiguous and incomplete.
2) The requirements are identified at later stages and should have been identified earlier.
3) The requirements are missed or overlooked at the time of implementation.
4) Various stakeholders have conflicting requirements.

ROLES AND RESPONSIBILITIES

ORGANIZATION OVERVIEW

Role	Name	Organization
Project Manager	Anderson Lake	Fresh Start Construction
Project Sponsor	The Office of the Mayor	Castries Constituency Council
Supplier	Representative	Caribbean Metals Limited
Project Team	Team	Fresh Start Construction
Consultants	Team	Contracted by Castries Constituency Council

A. Roles and Organization

Role A

The Project Manager is responsible for collecting, reviewing and developing project requirements. He is also responsible for approving technical, building and project requirements. He must know how to effectively gather requirements from diverse stakeholders to capture needs and wants successfully in the Project Charter and planning documents.

Role B

The Project Sponsor is responsible for providing client requirements, evaluating technical and building requirements and authorizing requirements.

Role C

The suppliers are responsible for providing any variations in technical requirements related to the steel sheeting that they will be manufacturing for the project.

Role D

The Project Team is responsible for analyzing requirements to ensure that details are accurate and precise.

Role E

The Consultants are responsible for providing technical requirements and specialty consultation for the project.

REQUIREMENTS PROCESSES

OVERVIEW

To identify, develop, manage, maintain and control the requirements, the PMBOK ® Guide's Project Scope Management processes will be utilized. Hence, the following procedures will guide Requirements Management.

Process A

Collect Requirements: The process of ascertaining, documenting and managing stakeholders' needs, regulatory requirements and industry standards as it relates to project objectives.

Process B

Define Scope: This is the process that will entail the development of a detailed description of the project and the resulting product or service determined by stakeholders' needs, regulatory requirements and industry standards.

Process C

Create Work Breakdown Structure: This process involves the subdivision of project deliverables and work into several more manageable units of work.

Process D

Validate Scope: This process includes reviewing the completed deliverables to ensure that they are completed satisfactorily and meet stakeholder requirements and obtaining formal acceptance of deliverables.

Process E

Control Scope: This process involves monitoring the status of the project and product scope and managing changes to the scope baseline. This process ensures that all requested changes and recommended corrective or preventive actions are processed through the integrated change control process.

TOOLS

Tool	Version	Use
WBS Tool (Created in Microsoft Word)	2016	Used to create Work Breakdown Structure
Stakeholder Engagement Plan (Created in Microsoft Word)	2016	Used to create Stakeholder Engagement Plan
Requirements Documentation Template (Created in Microsoft Word)	2016	Used to create Requirements Documentation
Microsoft Project	2016	Used to manage WBS components
Requirements Traceability Matrix (Created in Microsoft Excel)	2016	Used to identify and manage the requirements

B. List of Tools

REQUIREMENTS DOCUMENTATION AND ORGANIZATION

REQUIREMENTS DOCUMENTATION

Work Breakdown Structure

Provides a graphical deliverable-oriented hierarchical decomposition of the total scope of work to be executed by the project team to accomplish the project objectives and create the required deliverables.

Requirements Traceability Matrix

Provides documentation of each requirement including how each will be implemented and tested.

Requirements Document

Details the design, structural and functional requirements for the revamped Castries Market.

Scope Management Plan

Describes how the scope will be defined, developed, monitored, controlled and validated throughout the project life cycle.

MEASURES

Requirements will be managed using measures. Details are outlined in the Appendix.

In an effort to measure requirements, the site manager will be given Work Orders (Directives) biweekly, preferably Monday and Wednesday mornings, prior to the commencement of site work, to execute tasks based on the schedule.

The site manager will collate data daily and compile a report that will be delivered to the Project Management Office (PMO) for the Project Manager and Section Chief. The Project Manager or Section Chief will subsequently compile a report that will result in Work Orders (Directives) to be issued the ensuing Monday in accordance with the project requirements.

APPENDICES

REQUIREMENTS EVALUATION CHECKLISTS

Evaluation Criteria	Yes	No	ID	Remarks
Client/User Needs				
Comfort				
Safety				
Acceptable marketing conditions				
Adequate stall space				
Accessibility				

Evaluation Criteria	Yes	No	ID	Remarks
Traffic flows and congestion (internally and externally)				
Functional Requirements				
No over-design of facilities				
Viability				
Barrier free design (handicap access)				
Proper market layout				
Proper lighting				
Proper utilization of space				
Proper climatic control				
Proper ventilation systems				
Proper management of sales space				
Emergency exits				
Fire control				
Adequate restroom facilities				
Desirable market characteristics				
Technical/Structural Requirements				
Buildings and building components must be constructed to withstand natural catastrophic occurrences				
Buildings must adhere to local building code requirements and industry standards				
Building heights and enclosures must be at a minimum level to ensure proper natural lighting and ventilation				
Buildings must have or consist of all essential utilities such as electrical and plumbing systems and air conditioning where necessary				
Buildings must have designated rooms for specific activities				

C. Checklist for Individual Requirements

QUALITY STANDARDS

Description of the features of requirements of good quality:

Client or User Needs:

1) Comfort: Satisfaction with the surrounding environment; ergonomically designed
2) Safety: Provision of lock-up stalls to secure vendors' produce and other paraphernalia
3) Acceptable marketing conditions: Provision of water supply; produce should not be displayed directly on the ground and exposed to the weather; sanitary accommodation and appropriate waste disposal method

4) Adequate stall space: Provision of adequate stalls to prevent vendors spill out onto adjacent streets
5) Accessibility: Good access to a main road system; convenient for customers; within walking distance
6) Traffic flows and congestion (internally and externally): Proper access points; non-congestible entries and exits; controlled parking; free flow of market vendors and other users

Functional Requirements:

1) No over-design of facilities: Care is necessary to ensure that there is no over-design of physical facilities. The facilities have a limited life span and will inevitably be subject to frequent change.
2) Viability: Must be able to function successfully in relation to the population
3) Barrier free design (handicap access): The structure must be outfitted with ramps and other wheelchair access amenities for comfort and easy accessibility for differently-abled individuals. Restrooms must be designed to ensure handicap ease of use.
4) Proper market layout: An unobstructed traffic circulation pattern and effective parking control with adequate parking facilities provided; maximum possibility for interaction between the market users leading to the possibility of optimum price formation; provision and full utilization of support facilities; adequate arrangements for display and sale of produce to maintain produce quality; efficient produce handling
5) Proper lighting: Project site must be well lit around perimeter to ensure safety of pedestrians and vehicular traffic
6) Proper utilization of space: There must be an optimum use of space. The "core" space of the market, which is the space in which sales occur, must be properly utilized. The available sales space will affect the market's throughput. In addition to the sales space and the circulation area needed to access vendors' stalls, allowance must be made for ancillary and supporting services.
7) Proper climatic control: Energy consumption must be kept at a minimum in buildings. Energy efficient practices in relation to heating, ventilation, plumbing and electrical systems must be adopted. A Building Automation System, which is a type of climate control system, must be installed in all buildings.
8) Proper ventilation systems: Mixed mode ventilation must be utilized for buildings including restaurants, craft market, meat and fish depots and duty free shopping boutiques. This will entail a combination of natural ventilation from operable windows and mechanical systems that integrate the use of a high seer (energy efficient) level chilled water air conditioning system.
9) Proper management of sales space: There must be an effective management of sales space and traffic. The congestion within the market and the flow of vehicles delivering and collecting produce must be controlled.
10) Emergency exits: Must be clearly identified and defined and must have auxiliary energy source in the event of electrical failure
11) Fire control: Fire extinguishers must be located within reach in the event of a small fire. Fire detectors must be placed in accordance with industry requirements.

12) Adequate restroom facilities: The comfort station must be designed to ensure a restroom capacity of 1 toilet to every 10 persons.
13) Desirable market characteristics: There must be adequate space provision for sales areas, storage, administration, specialized facilities, circulation and parking; space provision should allow for future expansion needs and for adjusting the space utilization of the market to meet changing social and economic circumstances; building designs should allow the maximum amount of flexibility for change

Technical/Structural Requirements:

1) Buildings and building components must be constructed to withstand natural catastrophic occurrences: All building components and structure must be designed to meet or exceed prevailing hurricane-gust winds
2) Buildings must adhere to local building code requirements and industry standards
3) Building heights and enclosures must be at a minimum level to ensure proper natural lighting and ventilation
4) Buildings must have or consist of all essential utilities such as electrical and plumbing systems and air conditioning where necessary
5) Buildings must have designated rooms for specific activities: Cool rooms, banana ripening rooms or facilities for special equipment

Figure 19 Castries Market Redevelopment Project Requirements Management Plan. Adapted from The Managing Requirements. Retrieved July 27, 2020 from http://www.jiludwig.com/templates/RM_Plan.doc

Requirements were collected as the final planning process for Project Scope Management subsequent to the planning of Scope Management. The Project Charter, Scope Management Plan, Requirements Management Plan, Stakeholder Engagement Plan and Stakeholder Register were used as inputs to this process as outlined in the PMBOK® Guide Sixth Edition. Approximately six meetings were conducted with the Project Manager to amass information from his meetings with various stakeholders. The Requirements Documentation depicted in **Figure 20** and the Requirements Traceability Matrix depicted in **Figure 21** were generated following the analysis of project documents (Project Management Institute, 2017, p. 568).

Castries Market Redevelopment Project: Requirements Document (1.0)

Project: Castries Market Redevelopment Project
Date(s): 20 June 2020
Prepared by: I. Henry (Section Chief)
Document status: __ Draft __ Proposed __ Validated __ Approved

1. Introduction

This document contains the design, structural, and functional requirements for the ***Castries Market Redevelopment Project***. These requirements have been derived from several sources, including the Project Sponsor, the Architect and Contractor, the Consultants and Subcontractors, and Industry Standards from the Ministry of Physical Planning, the Ministry of Infrastructure and Government Regulatory Agencies.

1.1 Purpose of this Document

This document is intended to guide development of the ***Castries Market Redevelopment Project***. It will go through several stages during the course of the project:

1. **Draft:** The first version, or draft version is compiled after requirements have been determined, documented, categorized, and prioritized.
2. **Proposed:** The draft document is then proposed as a potential requirements specification for the project. The proposed document should be evaluated by various parties who may comment on any requirements and any priorities, either to agree, to disagree, or to identify missing requirements. Readers include the Project Manager, Section Chief, Project Sponsor, Suppliers and Subcontractors. The document may be modified and re-proposed several times before progressing to the next stage.
3. **Validated:** Once the various stakeholders have agreed to the requirements in the document, it is considered validated.
4. **Approved:** The validated document is accepted by representatives of each party of stakeholders as an appropriate statement of requirements for the project. The Project Manager/Contractor will then utilize the Requirements Document as a guide to implementation, and to check the progress of the project as it develops.

1.2 How to Use This Document

It is expected that this document will be used by individuals with various skill sets. This section outlines which parts of this document should be reviewed by various types of readers.

Types of Reader

The sections of this document that will be reviewed by each reader are detailed in the table below.

Type of Reader	Sections Most Pertinent to Reader
Project Manager and Section Chief	All
Project Sponsor	1.3, 1.4, 1.5, 2, 3, 4, 5
Suppliers	1.5, 2.1, 2.2
Subcontractors	2 and 3

Technical Background Required
Readers must have a level of proficiency that will allow them to understand architectural design, engineering, construction and procurement specifications outlined in the document.

1.3 Business Case for the Product

The redevelopment of the Castries Market arises from a market demand to provide comfort and to cater to all provisions market vendors in a uniformed and structured manner. The redevelopment of the market will contribute significantly to the socio-economic development of the country.

2. General Description

This section will give the reader an overview of the project, including why it was conceived, what it will do upon completion, and the types of individuals who will utilize it. Constraints encountered during development as well as assumptions made regarding how the project would proceed are listed.

The project is being undertaken to improve the Castries Market in an effort to provide comfort and to cater to all provisions market vendors in a uniformed and structured manner. The redevelopment of the market will contribute significantly to the socio-economic development of the country.

2.1 Project Perspective

The Castries Market Redevelopment Project is part of Castries Vision 2030 which aims to positively transform the image and business of vending in the city and to create an authentic Saint Lucian Brand. The objective of the project is to address the old, inadequate structures and facilities of the existing vendors' market and to provide a viable and consumer-friendly centre of trade and commerce, thus generating more income and livelihood opportunities for St. Lucians and increased revenues for the Government.

The principal stakeholders for the project are the Castries Constituency Council (the client). The project is being developed by Fresh Start Construction, a locally-owned construction company, which will build and manage the construction of the project. The redesign was done by the architectural section within the Department of Physical Planning.

The provisions market vendors will be the sole beneficiary of this product. However, it is expected that consumers will also benefit from the improvement of the market as they will enjoy more comfort whilst shopping.

2.2 Building Functions

The redeveloped Castries Market will;

- Have an open covered vending area
- Have one hundred (100) vendors' stalls
- Have a comfort station with ten (10) restrooms in total
- Have two (2) off street parking areas and three (3) street parking areas
- Have a Container Box Park comprising of cosmetic shops, cafés, pubs and eateries
- Have a food court
- Have eight (8) air conditioned restaurants
- Have a craft market
- Have one (1) meat and one (1) fish depot
- Have a viewing tower
- Have ten (10) duty free shopping boutiques
- Have an entertainment area

2.3 User Characteristics

The market will be used by vendors and consumers. The market is a site of historic and architectural significance and represents a part of the country's cultural assets. It will be a popular tourist destination.

2.4 General Constraints

The following constraints pertain to the Castries Market Redevelopment Project:

1) The project should not exceed US$15 million dollars.
2) The project duration should not exceed eighteen (18) months.
3) Only the human resources which have been identified and planned for will be used in the completion of the project.
4) All local and national level regulatory and building code requirements are to be satisfied.
5) All work is to be completed with as little disruption to traffic flow and neighbouring businesses as possible.
6) The vendors must be temporarily relocated in order to commence the project.
7) Taxi operators must be temporarily relocated in order to commence the project.
8) The contingency reserve in the project budget is 10%.
9) Only the designated number of one hundred (100) vendors' stalls may be constructed.
10) A stipend of EC$500.00 only will be given to vendors to assist with their relocation.

3. Specific Requirements

This section of the document lists specific requirements for the ***Castries Market Redevelopment Project***. Requirements are divided into the following sections:

- Client/User Needs: These are requirements written end users' perspective, usually expressed in narrative form.

- Functional Requirements: These are comprehensive specifications describing the functions the system must be capable of performing.
- Technical/Structural Requirements: These are requirements about the user interface, which may be expressed as a list, as a narrative, or as images.

3.1 Client/User Needs

- Comfort
- Safety
- Acceptable marketing conditions
- Adequate stall space
- Accessibility
- Traffic flows and congestion (internally and externally)

3.2 Functional Requirements

- No over-design of facilities
- Viability
- Barrier free design (handicap access)
- Proper market layout
- Proper lighting
- Proper utilization of space
- Proper climatic control
- Proper ventilation systems
- Proper management of sales space
- Emergency exits
- Fire control
- Adequate restroom facilities
- Desirable market characteristics

3.3 Technical Requirements

- Buildings and building components must be constructed to withstand natural catastrophic occurrences
- Buildings must adhere to local building code requirements and industry standards
- Building heights and enclosures must be at a minimum level to ensure proper natural lighting and ventilation
- Buildings must have or consist of all essential utilities such as electrical and plumbing systems and air conditioning where necessary
- Buildings must have designated rooms for specific activities

Figure 20 Castries Market Redevelopment Project Requirements Document. Adapted from the Centre for Distributed Learnings. Retrieved July 30, 2020 from http://www.cdl.edu/uploads/Yf/tc/YfychVflme0lxMBeQDjsHA/reqdoctemplate.doc

REQUIREMENTS TRACEABILITY MATRIX								
Project Name				Castries Market Redevelopment Project				
Project Manager Name				Anderson Lake				
Project Description				Project will result in the improvement of a vendors' market				
ID	WBS ID	Customer Needs	Functional Requirements	Technical Assumption(s) Technical Requirements	Verification	Architectural/Design Document	Priority	Additional Comments
001	1.2.1	Use existing site	Surveyor to provide proper surveyor's drawings to Architect and Client	There must be the complete or partial replacement of existing facilities		Site plan	High	
002	1.2.4	Market is designed to accommodate one hundred (100) vendors	Use floor plan to assess market layout	Floor plan is used as a form of orthographic projection to show market layout		Floor plan	High	
003	1.2.4	Market and surrounding amenities need to be elevated by three feet (3') to avoid any potential flood water	Use concrete columns to elevate buildings and sub-slab drainage system construction	Buildings will be erected on concrete piles embedded into the ground at approximately fifteen (15) feet into existing substructure		Foundation plan and piling layout	High	
004	1.2.4	Roofs are clad in profile steel sheeting with G90 galvanized coating for corrosion resistance and fastened with stainless steel screws. Roof trusses are tied properly to exterior walls with metal hurricane connectors or straps to resist the "uplift" effect of strong winds	Find supplier to provide complete framing for roof structure and sheeting.	Roof layout as per architectural drawings and to conform to the Organization of Eastern Caribbean States (OECS) Building Guidelines		Drawings and layouts including roof plan	High	
005	1.2.4	Buildings are built with structural integrity	Enlist the services of a structural engineer	All structural engineering must conform to the "St Lucia Building Code" and the OECS Building Guidelines				
006	1.2.4	Must have electricity	Enlist the services of an electrical engineer	Electrical receptacles, switches, circuit breakers, size of wires, electrical fixtures, size of conduits and the amount of electrical demand load required to run the buildings		Electrical layout and schedules	High	

ID	WBS ID	Customer Needs	Functional Requirements	Technical Assumption(s) Technical Requirements	Verification	Architectural/Design Document	Priority	Additional Comments
007	1.2.4	Must have running water and an avenue to discharge waste water	Enlist the services of a plumbing engineer	Plumbing drawings to indicate all supply lines, water waste lines, ventilation and plumbing fixtures		Plumbing layout and schedules	High	
008	1.2.4	Must have properly functioning air conditioning systems	Enlist the services of an air conditioning engineer	Layout to indicate all ducting with cubic feet per minute (CFM) air flow for each space calculation		Air conditioning layout and schedules	High	
009	1.2.1	Ergonomically planned spaces	Enlist the services of an Architect	Architectural floor plan to indicate dimensions of walls and components of buildings		Architectural floor plans	High	
010	1.2.1	Conservation of historic façade aimed at improving aesthetic appeal	Enlist the services of an Architect	Architectural order, scaling and propositions to produce the desired aesthetics and placement of windows, doors and roofing system		Architectural elevations	High	
011	1.2.1	Window and door selection	Enlist the services of an Architect	Windows and doors will be impact resistant aluminum with permanent shutters. Window glass will be double glazed with low-emissivity glass which is slightly tinted		Window and door schedules	High	
012	1.2.1	Must have stable flooring	Enlist the services of an Architect	All floor joists will be firmly secured to beams and materials of adequate cross-sectional strength will be used. Twisted metal straps will be used to secure these elements to each other		Architectural floor plan and foundation plan	High	
013	1.2.1	Quality detailed finishes, especially interiors	Enlist the services of an Architect	Detail various building components and how they are constructed		Architectural details	High	
014	1.2.1	Quality detail interior layout with material use and colour décor particularly for restaurants	Enlist the services of an Interior Designer	Building must adhere to local building code requirements and industry standards		Interior design layouts	High	
015	1.2.1	Standard ceiling height must be nine feet (9')	Enlist the services of an Architect	Ceilings for amenities will comprise of PVC ceiling tiles		Ceiling plan	High	

Figure 21 Castries Market Redevelopment Project Requirements Traceability Matrix. Adapted from the Centre of Disease Control and Prevention. Retrieved August 1, 2020 from http://www.projectmanagementdocs.com/project-planningtemplates/scope-management-plan.html#axzz4Oi4tBOkP

4.3 Project Schedule Management

Following Project Scope Management and Project Cost Management, the Project Schedule Management planning processes were performed. The development of the Schedule Management Plan was the initial process in Project Schedule Management. The Schedule Management Plan would be used to define how the project's schedule would be managed throughout the project life cycle. The inputs used for this process were the Project Charter and the Scope Management Plan. They were used to collate information apropos of the Scope Baseline and the summary milestone schedule. Expert judgement, meetings and analytical methods were the tools and techniques utilized to develop the Schedule Management Plan depicted in **Figure 22**. A Schedule Management Plan template was obtained from an alternative source since OPA's were nonexistent and it was modified for this purpose (Project Management Institute, 2017, p. 179).

SCHEDULE MANAGEMENT PLAN
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

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INTRODUCTION

The project schedule is a listing of a project's milestones, activities and deliverables with proposed commencement and completion dates. It is a guide for the execution of the project and is an integral part of the Castries Market Redevelopment Project as it provides the project team and Project Sponsor with a picture of the project's status at a specific moment. The Schedule Management Plan outlines the method the project team will employ to produce the project schedule. The approach which will be utilized by the team to monitor the project schedule and administer changes subsequent to the approval of the standard schedule is included in this plan. This comprises identifying, evaluating, recording, prioritizing, approving, denying and issuing all schedule-related changes.

SCHEDULE MANAGEMENT APPROACH

Microsoft Project 2016 will be used to create project schedules. Activity definition will pinpoint the particular work packages which must be executed to complete each deliverable. Activity sequencing will be used to identify the dependencies among work packages to put them in logical order. The number of work periods necessary to complete work packages will be deciphered during activity duration estimating. During activity resource estimating, the type and quantities of resources required to complete the development of the schedule will be assigned to work packages.

Upon the development of a preliminary schedule, the Project Manager and Section Chief will review the document carefully to assess assigned project tasks. The project team and resources must assent to the proposed work package assignments, durations and schedule. After this is accomplished, the Project Sponsor will assess and approve the schedule following which it will be base-lined.

The following are designated as milestones for the project schedule:

1) Project Initiation
2) Project Defined
3) Conceptual Design Commence
4) Feasibility Study Complete
5) Approval of Project Charter
6) Design Delivered to Client by Ministry of Physical Planning
7) Design Documents Approved by Client
8) Approval of Design by Ministry of Infrastructure
9) Project Management Plan Complete
10) Procurement and Sourcing Commence
11) Roads Complete
12) Comfort Station Complete
13) Vending Stalls Complete
14) Services and Amenities Complete
15) Boundary Wall Complete
16) Final Building Inspection
17) Project Complete

The following are the roles and responsibilities for schedule development:

1) Project Manager – The Project Manager will be responsible for facilitating the classification of work packages into activities that provide a foundation for sequencing, estimation duration and resources with the project team. The Project Manager will also use Microsoft Project 2016 to produce the project schedule and will confirm the schedule with the project team and stakeholders. The Project Manager will gain schedule approval from the stakeholders and baseline the schedule.

2) Project Team – The project team is responsible for participating in activity definition, activity sequencing, activity duration estimation and activity resource estimating. The project team will also analyze and validate the recommended schedule and execute delegated activities following the approval of the schedule.

3) Project Stakeholders – The project stakeholders will participate in reviews of the proposed schedule and help with its validation.

SCHEDULE CONTROL

The project schedule will be reviewed and revised as necessary when additional or outdated information is appended or removed. It will comprise the actual start, finish and completion percentages.

The Project Manager's responsibilities include arranging schedule updates or review meetings, deciphering the effects of schedule alterations, submitting schedule change requests and conveying the status of the project schedule consistent with the project's Communication Plan.

The project team is responsible for participating in schedule updates or review meeting sessions. The team must convey any modifications of the actual start or finish dates to the Project Manager and contribute to schedule variance resolution activities as required.

The project stakeholder(s) will maintain awareness of the status of the project schedule and review or approve any schedule change requests submitted by the Project Manager.

SCHEDULE CHANGES AND THRESHOLDS

If any project team member concludes that there is a required change to be made to the schedule, then the Project Manager and project team will convene to examine and evaluate the change. The Project Manager and project team must ascertain which duties will be affected, or any variation that is reflected as a result of the impending change, and any alternatives or variance resolution activities they can utilize to determine how the scope, schedule and resources would be impacted. Provided that the Project Manager concludes that any change will exceed the established schedule constraints following the completion of the evaluation, then a schedule change request must be submitted.

The submission of a schedule change request to the project stakeholder(s) for approval is mandatory if any of the resulting two conditions is true:

- The recommended change is estimated to reduce the duration of an individual work package by 3% or more or increase the duration of an individual work package by 8% or more.

- The proposed change is estimated to reduce the duration of the overall baseline schedule by 8% or more or increase the duration of the overall baseline schedule by 3% or more.

Any change requests that would give rise to changes that are within or below the percentages specified in the aforementioned thresholds must be presented to the Project Manager for approval.

Upon the review and approval of the change request, the Project Manager will be responsible for modifying the schedule and conveying all changes and impacts to the project team and stakeholders. The Project Manager is also responsible for ensuring that all change requests are stored safely.

SCOPE CHANGE

Modifications to the project scope which have been approved by the project stakeholder(s) will necessitate evaluation by the project team to assess the effect of the scope changes on the current schedule. If the Project Manager concludes that the scope change will affect the current project schedule substantially, he may request that the schedule is re-baselined, taking into account any changes which must occur as part of the revised project scope. The request must be assessed and approved by the project stakeholder(s) before the schedule is re-baselined.

SPONSOR ACCEPTANCE

Approved by:

_____ Date: _____

<Project Sponsor>
<Project Sponsor Title>

Figure 22 Castries Market Redevelopment Project Schedule Management Plan. Adapted from Project Management Docs. Retrieved August 5, 2020 from https://www.projectmanagementdocs.com/template/project-planning/schedule-management-plan/#axzz6VZFotCmX

Activity Definition is the second process in planning Project Schedule Management subsequent to the formulation of the Schedule Management Plan. The Schedule and Scope Management Plans, which included the scope baseline comprising project deliverables, the WBS, constraints and assumptions were inputs used particularly for Activity Definition. Among the techniques listed in the PMBOK ® Guide, expert judgement and decomposition were the ones utilized during this process. Microsoft Office Project 2016 was the tool used to record the information for this and the outstanding processes needed to develop the project schedule. The Activity List depicted in **Figure 23** is an output generated from this process and was compiled from the information available in the schedule.

As defined in PMBOK ® Guide, an activity list comprises the schedule of activities required to complete the project and includes an activity identifier and a scope of work description for each work package (Project Management Institute, 2017, p. 185). Milestones were also included and amended whilst activities were defined. Thereafter, the list of milestones located in the Project Charter and Schedule Management Plan were revised.

An Activity Attributes List was not produced as an output to this process as implied in the PMBOK ® Guide because the information outlined in the Activity Attributes including the activity identifier, activity description, activity responsibility, WBS identifier, predecessor activities, successor activities, resource requirements, imposed dates, constraints and assumptions were already denoted in other plans or matrices incorporated in the Final Graduation Project (Project Management Institute, 2017, p. 186).

Activity ID Number	Activity Name	Description of Work	Responsibility
1.1	Initiation Phase	Proposal requested	Project Manager, Section Chief, Architect
1.1.1	Collect Client and Regulatory Requirements	Meeting held to decipher client and regulatory requirements for the project	Project Manager, Architect
1.1.2	Client Briefing and Architectural Research	Architectural briefing held with the Architect and Subcontractors	Project Manager, Architect
1.1.3	Research Materials and Methods	Research materials, methodologies and architectural standards that can be utilized for the project	Architect
1.1.4	Perform Cost Analysis and Determine Initial Budget	Calculating the type of financial commitment needed based on the requirements from the client to complete the project	Project Manager, Section Chief
1.1.5	Preliminary Environmental Impact Assessment	Environmental Engineer will perform assessment of the project	Project Manager
1.2	Design Phase	Collaborative Effort of Consultants	Architect, Draughtsman
1.2.1	Architectural Design	Graphical visualization of project	Architect, Draughtsman
1.2.2	Project Design Drawings	Consultants' drawings including: Structural engineer Land surveyor Building inspector	Architect, Draughtsman, Administrative Assistant
1.3	Pre-Construction Phase	Contract Phase where design development, consultant identification and agreements with necessary stakeholder(s) are confirmed and established	Project Manager, Section Chief, Architect
1.3.1	Site Clearing	The location is cleared for the commencement of work	Project Manager, Section Chief

Activity ID Number	Activity Name	Description of Work	Responsibility
1.3.2	Permits and Approval	The process of making an application for the following permits: Environmental Permit Ministry of Infrastructure Permit Ministry of Health Permit	Section Chief, Draughtsman
1.3.3	Mobilization	The process whereby preparations occur onsite prior to the commencement of any work	Project Manager, Section Chief, Construction Superintendent, Site Foreman
1.3.4	Working Drawings	Graphical documents that instruct the contractors on how to build the market structure	Architect, Draughtsman
1.3.5	Pre-Construction	Forming and shoring, drilling, piling, capping and levelling of columns	Project Manager, Section Chief, Construction Superintendent
1.4	Construction Phase	Phase where project execution occurs	Project Manager, Section Chief
1.4.1	Concrete	Entails all structural cementers work	Masons, Construction Site Labourers
1.4.2	Masonry	Cementers material used to cover cement block units or other materials	Masons, Site Foreman, Construction Superintendent
1.4.3	Wood and Plastics	Wood is used as blocking for doors and windows Plastics will be used for gutterings and eaves drips	Speciality Services
1.4.4	Thermal and Moisture Protection	Underlayment for the roofing system	Construction Site Labourers, Carpenter

Activity ID Number	Activity Name	Description of Work	Responsibility
1.4.5	Openings	Void spaces for windows and doors	Construction Superintendent
1.4.6	Finishes and Ceilings	Construction of ceilings and installation of finishes	Speciality Services
1.4.7	Plumbing and Sewerage	Installation of all waste and supply lines, water closets and lavatory	Plumber
1.4.8	Furnishings	Includes tables, chairs, lights, construction of one hundred vendors' stalls and other items indicated in the scope	Section Chief, Building Services Engineer, Carpenter, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.4.9	Electrical	Electrical power to buildings and equipment (including generators)	Electrician
1.4.10	Safety and Security	Construction of boundary wall	Section Chief, Construction Superintendent, Masons
1.4.11	Roads	Construction of two-way roads inclusive of concrete drains, headwalls, metal grills (inclusive of double surface dressing) and concrete pavements.	Section Chief, Civil Engineer
1.4.12	Services and Amenities	Construction of food court, restaurants, craft market, box park, viewing tower, entertainment area, meat and fish depots and duty-free shopping boutiques. Renovation of comfort station	Project Manager, Section Chief, Construction Superintendent

Activity ID Number	Activity Name	Description of Work	Responsibility
1.4.13	Site Works	Works pertaining to exterior elements of the project such as parking layouts, lighting and landscape	Construction Site Labourers
1.4.14	Landscaping	The physical placement of shrubs, trees, grass and other organic items	Section Chief, Landscape Engineer, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.5	Post-Construction Phase	Phase that occurs after substantial completion	Project Manager, Section Chief
1.5.1	Punch List (Budgeted as Contingency)	To fix defective works	Section Chief, Construction Superintendent
1.5.2	Site Clean-up	To clean up the site	Section Chief, Construction Superintendent, Construction Site Labourers
1.5.3	Final Building Inspection	Building inspection performed by Ministry of Infrastructure, Project Manager and Architect	Project Manager, Section Chief, Construction Superintendent, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3

Activity ID Number	Activity Name	Description of Work	Responsibility
1.5.4	Apply for Occupancy Certificate	Submit application to the Government Regulatory Agencies	Project Manager, Architect
1.6	Project Closure Phase	Phase that signifies completion of project and handover of market	Project Manager, Section Chief
1.6.1	Final Account	The accumulation of all the project's expenses	Project Manager, Accountant
1.6.2	Warranties from Manufacturers	Manufacturers' guarantee that if products are defective, they will be fixed or replaced within a certain period of time	Section Chief, Architect
1.7	Project Management	The management of the planning, execution, monitoring, controlling and closure of the project	Project Manager, Section Chief
1.7.1	Planning	Planning and updating project activities throughout project life cycle	Project Manager, Section Chief
1.7.2	Scheduling	Planning of project activities, assigning timeline and dates to determine and control project duration	Project Manager, Section Chief
1.7.3	Accounting	Monitoring the financial expenditures of the project throughout the project life cycle	Accountant
1.7.4	Reporting	Documenting project activities, preparing reports and presenting to the appropriate stakeholders	Project Manager, Section Chief, Construction Superintendent, Accountant
1.7.5	Meetings (Progress)	Medium for the management of the project	Project Manager, Section Chief
1.7.6	Site Management	Management of the day-to-day on site happenings of the project	Construction Superintendent

Figure 23 Castries Market Redevelopment Project Activity List. Adapted from Adapted from Project Management Docs. Retrieved August 10, 2020 from https://www.projectmanagementdocs.com/template/project-documents/activity-list/#axzz6VpgQiJ00

Subsequent to the definition and identification of activities, was the sequencing of these activities. Sequencing is the process of “identifying and documenting relationships among the project activities” (Project Management Institute, 2017, p. 573). This is the third planning process of Project Schedule Management. Inputs to this process included the Schedule Management Plan, the Activity List and Milestone list. Sequencing was performed using manual techniques to portray the logical relationships among project activities (Project Management Institute, 2017, p. 188). Additionally, meetings were held with Mr. Lake to provide assistance in verifying the precise arrangement from each activity. The Schedule Network Diagram depicted in **Figure 24** was the output produced from this process.

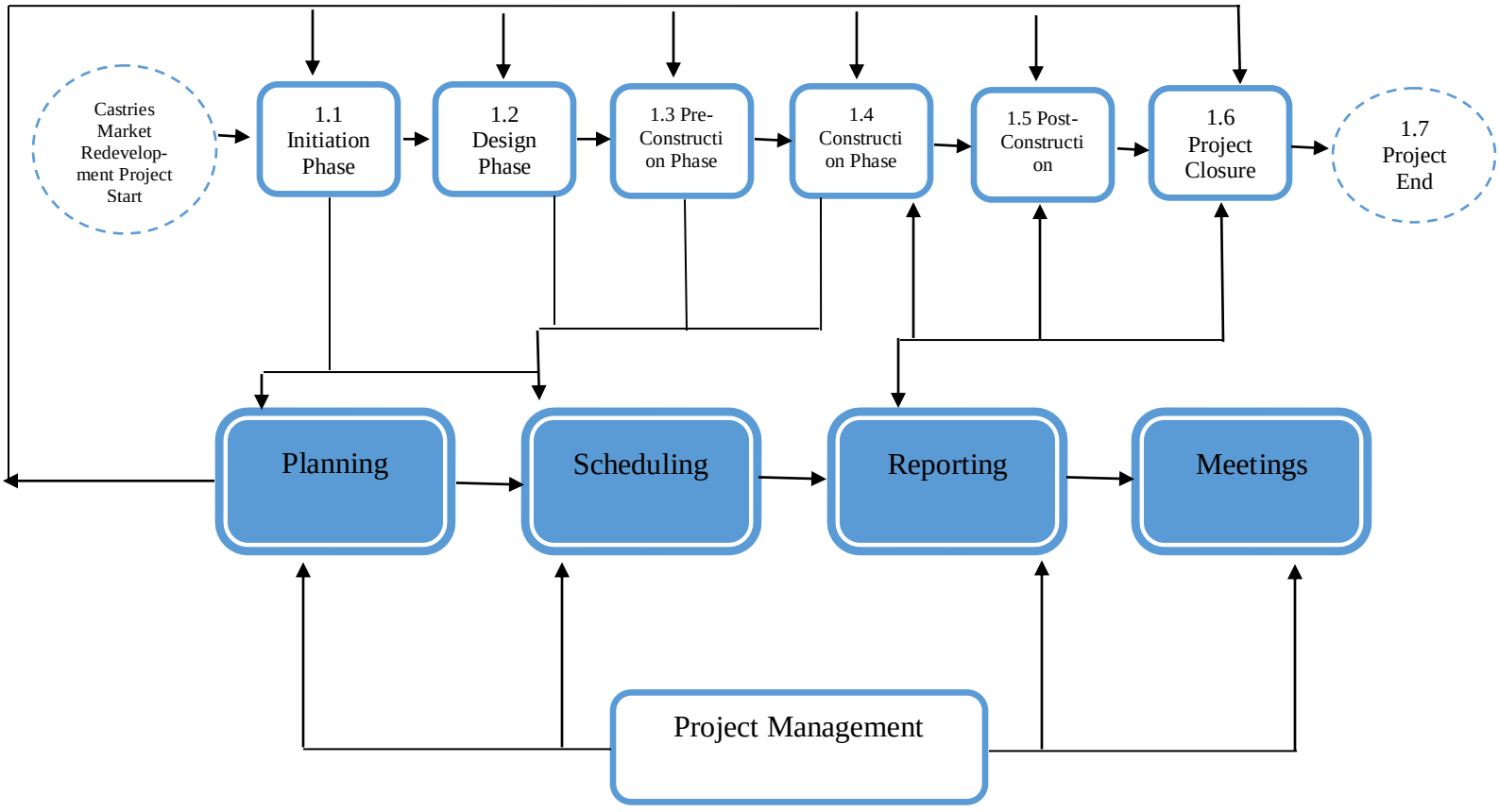


Figure 24 Schedule Network Diagram

Estimating Activity Durations was the fourth planning process in Project Schedule Management as outlined in the PMBOK ® Guide. The inputs for this process included the Schedule Management Plan, Activity List, Resource Calendar, Milestone List and Resource Requirements were used as inputs for this process. Meetings with the Project Manager and expert judgment were the tools and techniques utilized. The output from this planning process is depicted below in **Chart 6**

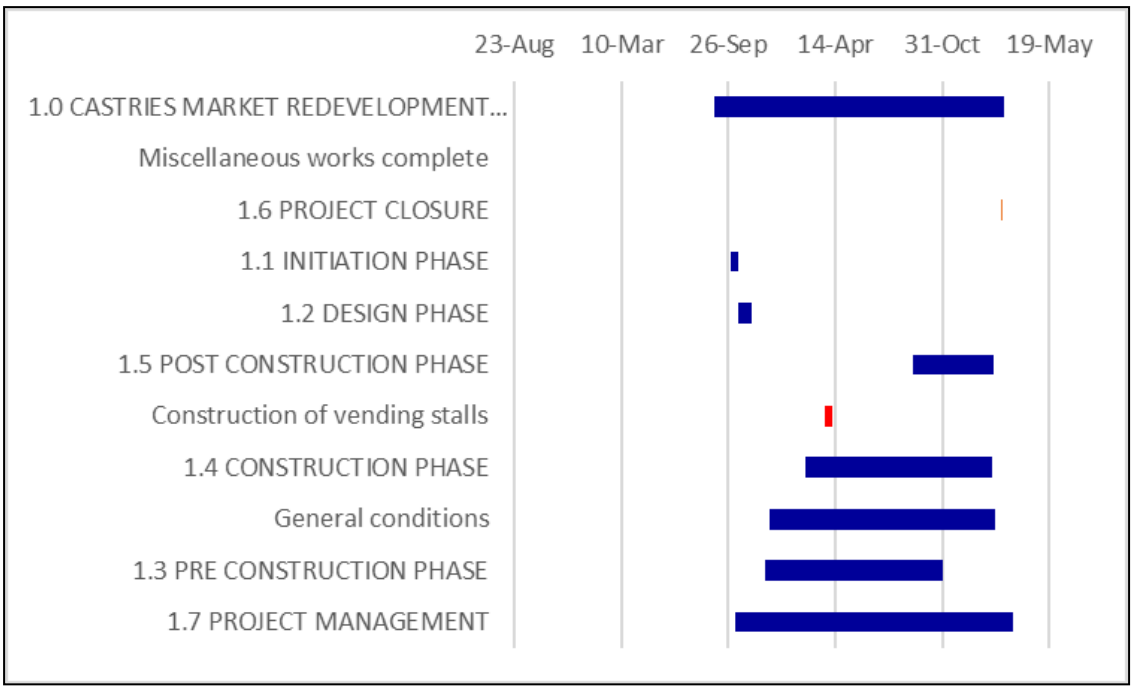
Chart 6 Resource Assignment and Activity Durations (Source: R. Branch, The Author, August 2020)

Task Name	Duration	Resource Names
1.0 CASTRIES MARKET REDEVELOPMENT PROJEC	540 days	
1.1 INITIATION PHASE	15 days	Project Manager, Section Chief, Architect
Project Initiation	0 days	Project Manager, Section Chief, Architect
1.1.1 Collect client and regulatory requirements	5 days	Project Manager, Architect
1.1.1.1 Meeting client	1 day	Project Manager, Section Chief, Architect
1.1.1.2 Client's requirements	6 days	Project Manager, Section Chief, Architect
1.1.1.3 Regulatory agencies requirements	2 days	Architect
1.1.2 Client briefing and architectural research	4 days	Project Manager, Architect
1.1.2.1 Building code research	0 days	Architect
1.1.2.2 Client's Briefing defined	1 day	Architect
1.1.2.3 Design considerations and restrictions	0 days	Architect
Project Defined	0 days	Architect
1.1.3 Research materials and methods	1 wk	Architect
1.1.3.1 Research	2 days	Architect
1.1.3.2 Schematic design	5 days	Architect
1.1.4 Perform cost analysis and determine initial budget	10 days	Project Manager
1.1.4.1 Preliminary costing	3 days	Project Manager, Section Chief, Architect
1.1.5 Preliminary environmental impact assessment	4 days	Project Manager
1.2 DESIGN PHASE	25 days	Architect, Draughtsman
1.2.1 Architectural design	30 days	Architect, Draughtsman
1.2.1.1 Conceptual design commence	13 days	Architect
1.2.1.2 Conceptual design complete	0 days	Architect
1.2.1.3 Design documents	10 days	Architect
1.2.1.4 Design review by client	6 days	Architect, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.2.1.5 Design approval by client	0 days	Architect, Client Representative, Client Representative 1, Client Representative 2, Client Representative 4
1.2.2 Project Design drawings	25 days	Architect, Draughtsman, Administrative Assistant
1.2.2.1 Roof Structure Design and Quote	4 wks	Caribbean Metals Limited
1.2.2.2 Structural Engineering	5 wks	Structural Engineer
1.2.2.3 Fire Suppression Engineer	4 days	Fire and Safety
1.2.2.4 Landscape Design	17 days	Landscape Engineer
1.2.2.5 Civil Engineering	18 days	Civil Engineer
1.2.2.6 Technical Drawings	15 days	Technical Inspector
1.2.2.7 Printing and Plotting	3 days	Administrative Assistant

Task Name	Duration	Resource Names
1.3 PRE CONSTRUCTION PHASE	330 days	Project Manager, Section Chief, Architect
1.3.1 Site Clearing	2 wks	Project Manager, Section Chief
1.3.1.1 Relocation of vendors	1 wk	Section Chief
1.3.1.2 Demolition works	1 wk	Project Manager
1.3.2 Permits and approval: Submission of Documents to Regulatory Authorities	275 days	Section Chief, Draughtsman
1.3.2.1 Submit Design Documents to Ministry of Infrastructure for Permit	5 wks	Architect
1.3.2.2 Apply for Ministry of Health Permit	3 wks	Architect
1.3.2.3 Apply for Environmental Permit	2 wks	Architect
1.3.2.4 Building Permit issued	1 day	Architect
1.3.3 Mobilization	8 days	Project Manager, Section Chief, Construction Superintendent, Site Foreman
1.3.4 Working drawings	3 wks	Architect, Draughtsman
1.3.5 Pre-Construction	40 days	Project Manager, Section Chief, Construction Superintendent
Site Works begin	0 days	Project Manager, Section Chief, Construction Superintendent, Project Manager, Site Foreman, Construction Site Labourers
1.3.5.1 Drilling and piling	5 wks	Construction Site Labourers
1.3.5.2 Surveying and layout	3 days	Architect, Land Surveyor
1.3.5.2 Ministry of Infrastructure Inspection	3 days	Section Chief, Construction Superintendent
1.3.5.3 Ministry of Infrastructure Approval	0 days	Section Chief, Site Foreman
1.3.5.4 Pouring Concrete	4 days	Section Chief, Construction Superintendent, Site Foreman
1.4 CONSTRUCTION PHASE	350 days	Project Manager, Section Chief
Vertical Construction begins	0 days	Section Chief, Construction Superintendent, Site Foreman
1.4.1 Concrete	93 days	Masons, Construction Site Labourers
1.4.1.1 Forming and Shoring for Concrete Columns	25 days	Masons, Construction Site Labourers
1.4.1.1.1 Steel column form	3 wks	Section Chief, Construction Superintendent, Site Foreman, Construction Site Labourers
1.4.1.1.2 Pouring concrete	5 days	Concrete Xpress premix, Masons
1.4.1.2 Levelling columns	70 days	Masons, Site Labourers
1.4.1.2.1 Levelling	3 days	Architect, Draughtsman, Construction Superintendent, Site Foreman, Masons
1.4.1.3 Preparing concrete flooring	3 wks	Architect, Draughtsman, Construction Superintendent, Site Foreman, Masons
1.4.1.4 Pouring concrete flooring	3 days	Construction Superintendent, Site Foreman, Masons
1.4.2 Masonry	70 days	Architect, Draughtsman, Construction Superintendent, Site Foreman, Masons
1.4.3 Wood and plastics	250 days	Speciality Services
1.4.4 Thermal and Moisture Protection	48 days	Construction Site Labourers, Carpenter
1.4.5 Openings	85 days	Construction Superintendent
1.4.5.1 Installing windows	13 wks	Carpenter, Construction Site Labourers
1.4.5.2 Installing doors	5 wks	Carpenter, Construction Site Labourers, Speciality Services
1.4.6 Finishes and ceilings	2 months	Speciality Services
1.4.7 Plumbing and Sewerage	95 days	Plumber
1.4.8 Furnishings	65 days	Section Chief, Building Services Engineer, Carpenter, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.4.9 Electrical	120 days	Electrician
1.4.10 Safety and Security	28 days	Section Chief, Construction Superintendent, Masons
1.4.11 Roads	55 days	Section Chief, Civil Engineer
1.4.12 Services and Amenities	280 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.1 Construction of food court	58 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.2 Construction of restaurants	90 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.3 Construction of craft market	70 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.4 Construction of box park	62 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.5 Construction of viewing tower	45 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.6 Construction of entertainment area	68 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.7 Construction of meat and fish depots	88 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.8 Construction of duty-free shopping boutiques	70 days	Project Manager, Section Chief, Construction Superintendent
1.4.12.9 Renovation of comfort station	25 days	Project Manager, Section Chief, Construction Superintendent
1.4.13 Site Works	2 months	Construction Site Labourers
1.4.14 Landscaping	115 days	Section Chief, Landscape Engineer, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3

Task Name	Duration	Resource Names
1.5 POST CONSTRUCTION PHASE	150 days	Project Manager, Section Chief
Substantial completion	0 days	Project Manager, Section Chief, Construction Superintendent
1.5.1 Punch list	0 days	Section Chief, Construction Superintendent
1.5.2 Site Clean-up	20 days	Section Chief, Construction Superintendent, Construction Site Labourers
1.5.3 Final Building Inspection	0 days	Project Manager, Section Chief, Construction Superintendent, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.5.4 Apply for Occupancy Certificate	0 days	Project Manager, Architect
1.6 PROJECT CLOSURE	1 day	Project Manager, Section Chief
1.6.1 Final Account	0 days	Project Manager, Accountant
1.6.2 Warranties from Manufacturers	0 days	Section Chief, Architect
1.7 PROJECT MANAGEMENT	520 days	Project Manager, Section Chief
1.7.1 Planning	355 days	Project Manager, Section Chief
1.7.1.1 Initial Impact Assessment	1 month	Project Manager, Architect
1.7.1.2 Site Investigation Report	4 days	Project Manager
1.7.1.3 Feasibility Study	12 days	Project Manager, Quantity Surveyor
1.7.1.3.1 Quantity Surveyor final costing	10 days	Quantity Surveyor
1.7.1.4 Project Charter commissioned	3 days	Project Manager, Section Chief
1.7.1.5 Approval of Project Charter	1 day	Project Manager, Section Chief, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.7.1.6 Design sent to consultants for fee proposals	0 days	Architect
1.7.1.7 Budget	5 days	Project Manager, Quantity Surveyor
1.7.1.8 Project management team; amendments and adjustments to management document	300 days	Project Manager, Section Chief
1.7.1.9 Approval of Roles and Responsibilities	2 days	Project Manager, Section Chief
1.7.1.10 Project Management Plan	45 days	Project Manager, Section Chief
1.7.1.11 Procurements	340 days	Section Chief
1.7.1.11.1 Contract Tendering	13 days	Project Manager, Section Chief, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.7.1.11.1.1 Tender Meeting/Bid Documents	2 days	Project Manager, Section Chief, Subcontractors
1.7.1.11.1.2 Tender Evaluation Period	20 days	Project Manager, Section Chief, Client Representative, Client Representative 1, Client Representative 2, Client Representative 3
1.7.1.11.1.3 Contract review	4 days	Project Manager, Section Chief, Client Representative, Client Representative 1, Client Representative 2, Client Representative 4
Award contract	0 days	Project Manager, Section Chief, Client Representative, Client Representative 1, Client Representative 2, Client Representative 5
1.7.1.11.2 Procurements and Contracts	340 days	Project Manager, Section Chief
1.7.1.11.2.1 Project management team in place	12 days	Project Manager, Section Chief
1.7.1.11.2.2 Scheduling baselined - confirmed/adjusted	1 day	Project Manager
1.7.1.11.2.3 Procurement and Sourcing	300 days	Section Chief
1.7.11.2.4 Long lead items sourced	3 days	Section Chief
1.7.2 Scheduling	460 days	Project Manager, Section Chief
1.7.3 Accounting	460 days	Accounting
1.7.4 Reporting	460 days	Project Manager, Section Chief, Construction Superintendent, Accountant
1.7.5 Meetings	3 days	Project Manager, Section Chief
1.7.6 Site Management	445 days	Construction Superintendent

The fifth and final process performed in Project Schedule Management as outlined in the PMBOK ® Guide was the development of the Schedule. This process occurred concurrently with the foregoing Schedule Management processes. The Schedule Management Plan, Project Schedule Network Diagram, Activity List, Activity Durations, Risk Register, Resource Calendar and Resource Requirements were the inputs for this process. The tools and techniques used to create the project schedule portrayed in **Figure 25** below were Schedule Network Analysis, Leads and Lags and Microsoft Excel 2016.



Name	Duration	Start	Finish
1.0 CASTRIES MARKET REDEVELOPMENT PROJECT	540 days	01-Sep-20	19-Feb-22
Miscellaneous works complete	0 days	08-Feb-22	08-Feb-22
1.6 PROJECT CLOSURE	1 day	19-Feb-22	19-Feb-22
1.1 INITIATION PHASE	15 days	30-Sep-20	14-Oct-20
1.2 DESIGN PHASE	25 days	15-Oct-20	10-Nov-20
1.5 POST CONSTRUCTION PHASE	150 days	06-Sep-21	28-Jan-22
Construction of vending stalls	15 days	25-Mar-21	17-Apr-21
1.4 CONSTRUCTION PHASE	350 days	17-Feb-21	10-Jan-22
General conditions	420 days	13-Dec-20	05-Jan-21
1.3 PRE CONSTRUCTION PHASE	330 days	05-Dec-20	19-Nov-21
1.7 PROJECT MANAGEMENT	520 days	10-Oct-20	19-Feb-22

Figure 25 Castries Market Redevelopment Project Gantt Chart (Created in Microsoft Excel 2016, August 2020)

4.4 Project Cost Management

Plan Cost Management, which is the initial process of Project Cost Management, was completed subsequent to the initial process of Schedule Management. The scope baseline, as well as the Schedule Management Plan, were used to create the Cost Management Plan outlined in **Figure 26** (Project Management Institute, 2017, p. 232).

Data analysis, meetings and expert judgement were the tools and techniques used to create the Cost Management Plan. After this process, project management documents inclusive of the Project Charter, Scope Management Plan and Schedule Management Plan were revised s specified by the PMBOK ® Guide.

COST MANAGEMENT PLAN
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

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INTRODUCTION

It will be the Project Manager's responsibility to control and report on the project's cost throughout the project's duration. This includes maintaining expected margins, avoiding losses, generating data to benchmark for future projects and tracking long term cost trends. Weekly financial reports should be issued via electronic mail from the Project Manager to the Project Sponsor. During the semi-monthly project progress meetings, the Project Manager and Section Chief will meet with the Project Sponsor to evaluate and present the project's cost performance for the previous month. Earned Value Management will be used to measure the cost performance. The Section Chief will be responsible for formulating the Cost Management Plan and the Cost Baseline. The Project Manager is accountable for explaining cost deviations and providing the Project Sponsor with options for staying within budget once more. The Project Sponsor has the authorization to effect changes to the project to get it back within budget.

COST MANAGEMENT APPROACH

The Cost Management Approach for the Castries Market Redevelopment Project requires that the project resources assist in establishing and controlling the total cost of ownership of the project. This includes establishing the estimated budget and assessing actual spending against the planned budget.

Project costs will be managed and controlled at the second level of the Work Breakdown Structure (WBS). At this level, Control Accounts (CA) will be created to monitor costs. Earned Value calculations for the CAs will measure and manage the project's financial performance. Credit for work will be allocated at the work package level. The percentage of credit assigned to each work package will be estimated based on the volume of work completed at a certain juncture in comparison to the total costs required to finish the work package. Costs may be rounded to the nearest dollar and work hours rounded to the nearest whole hour.

Cost variances of +/- 0.1 in the cost and schedule performance indices will change the status of the project cost to cautionary. As such, those values will be amended to yellow in the project status reports. Cost variances of +/- 0.2 in the cost and schedule performance indices will change the status of the project cost to an alert change. As a result, those values will be highlighted in red in the project status reports. This necessitates remedial action from the Project Manager in an effort to bring the cost and/or schedule performance indices below the alert level. Corrective actions will necessitate a project change order and requires approval from the Project Sponsor prior to its inclusion in the project scope.

MEASURING PROJECT COSTS

Project performance will be determined using Earned Value Management. It integrates project scope, cost and schedule measures to assist the project management team to assess and measure project performance and progress. The following four Earned Value measurements will be reviewed:

1) Schedule Variance (SV)
2) Cost Variance (CV)
3) Schedule Performance Index (SPI)
4) Cost Performance Index (CPI)

If the Schedule Performance Index (SPI) or Cost Performance Index (CPI) contains a variance of between 0.1 and 0.2, the Project Manager must state the reason for the exception. If the SPI or CPI contains a variance of more than 0.2, the Project Manager must state the reason for the exception and furnish management with a comprehensive remedial plan to bring the project's performance back to satisfactory levels.

Performance Measure	Yellow	Red
Schedule Performance Index (SPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less than 0.8 or Greater than 1.2
Cost Performance Index (CPI)	Between 0.9 and 0.8 or Between 1.1 and 1.2	Less than 0.8 or Greater than 1.2

REPORTING FORMAT

Cost Management Reporting will be incorporated in the semi-monthly Project Progress Report. A section labelled "Cost Management" will be included in the Monthly Project Progress Report. The Earned Value Metrics named above will be found in this section. All cost variances which are not within the thresholds identified in the Cost Management Plan will be reported on, as well as any remedial actions which are proposed. Change orders which are initiated as a result of any project cost overruns will be identified and monitored in this report.

COST VARIANCE RESPONSE PROCESS

The Control Threshold for this project is a CPI or SPI of less than 0.8 or greater than 1.2. A Cost Variance Corrective Action Plan is required if the project reaches one of these Control Thresholds. The Project Manager will provide the Project Sponsor with options for corrective actions within five business days from when the cost variance is first reported. The Project Manager will present the Project Sponsor with a formal Cost Variance Corrective Action Plan within three business days from when the Project Sponsor selects a corrective action option. The actions which are required to bring the project back within budget and the method which will be used to assess the effectiveness of the actions in the plan will be outlined in the Cost Variance Corrective Action Plan. The Corrective Variance Action Plan will become an element of the project plan and the project will be reviewed to reflect the corrective action consequent to the acceptance of the document.

COST CHANGE CONTROL PROCESS

The Cost Change Control Process will follow the established project change order process. The Project Sponsor must approve the budget or cost changes.

PROJECT BUDGET

The project's budget is outlined below.

Item	Component Cost ($USD)
Construction	$10,790,000.00
Administration & Personnel Resources	$800,000.00
Value Added Tax (12.5%)	$1,875,000.00
Blueprints	$35,000.00
Contingency (10%)	$1,500,000.00
GRAND TOTAL	**$15,000,000.00**

SPONSOR ACCEPTANCE

Approved by:

_____ Date: _____

<Project Sponsor>
<Project Sponsor Title>

Figure 26 Castries Market Redevelopment Project Cost Management Plan. Adapted from Project Management Docs. Retrieved August 10, 2020 from https://www.projectmanagementdocs.com/template/project-planning/cost-management-plan/#axzz6VxhOmjO6

Following the development of the plan, the project's costs were estimated. Various factors have to be considered when completing this process, including fixed and variable costs, overheads, inflation and the time value of money. The Cost Management Plan was an input to this process. Expert judgement, analogous, parametric and bottom-up estimating, reserve analysis and a Project Management Information System were the tools and techniques used. Meetings were held with Mr. Lake to ascertain the most effective way to estimate the project's budget. Bottom-up estimating was the method selected where the costs of each individual work component was estimated. The Section Chief presented this in a modified Microsoft Excel 2016 project budget spreadsheet (Project Management Institute, 2017, p. 244).

Costs were estimated for each related task involved in the completion of components of work identified during Activity Definition in an effort to determine the cost of each work package. To accomplish this, analogous estimating and parametric estimating were used and the data was then compared to vendors' tenders to ensure that estimates were practical. Additionally, the cost estimate comprised a contingency reserve calculated at 10%. The percentage allocated for the contingency reserve was determined using expert judgement. The decision was made to calculate the contingency at the lower end of the range due to the number of known unknowns outlined in the Project Charter, Risk Management Plan and previous experience. Microsoft Excel 2016 was the software used to calculate the estimated costs of the project whereas Microsoft Word 2016 was used to capture the information. Activity Cost Estimates is depicted in Table 2, WBS Dictionary in Figure 18: Castries Market Redevelopment Project Scope Management Plan.

The budget was determined by totaling the costs of each work package using the information from the Activity Cost Estimates, Cost Management Plan, Scope Baseline, Project Schedule, Risk Register and Agreements. Expert Judgement, as well as Funding Limit Reconciliation, was used during this process to ensure that the projected expenditure did not exceed the funds committed to the project by the Project Sponsor. The Cost Baseline depicted in **Figure 27** and the Project Funding Requirements illustrated in **Figure 30** are the outputs of this process. The amount of funds required at different periods during the life cycle of the project is shown in Figure 30. The project's cash flow and the S-curve is demonstrated in **Figure 28** and **Figure 29** respectively.

Castries Market Redevelopment Project Cost Baseline

Project Name: Castries Market Redevelopment Project

Project Manager: Anderson Lake

Project Sponsor: Castries Constituency Council

Prepared by: Section Chief

Date prepared: 20 August 2020

Submitted to:

Funding Source: Project Sponsor, Castries Constituency Council

Total Cost Authorization:

Date:

Expense	Quantity	Unit Cost	Total Cost		Purpose
Construction/Subcontractors					
In-house					
Skilled Site Workers	20		**$1,604,000**		Labour only
Carpenters	8	$28,000	$224,000		
Masons	7	$40,000	$280,000		
Roof Mechanic	5	$52,000	$260,000		
Common Labourers (unskilled)	25	$24,000	$600,000		
Construction Site Labourers (unskilled)	10	$24,000	$240,000		
Subcontracts			**$1,439,000**		
Contractor #1: Electrical	1	$380,000	$380,000		Labour and materials
Contractor #2: Plumbing & Sewerage	1	$320,000	$320,000		Labour and materials
Contractor #3: Landscaping	1	$45,000	$45,000		Labour and materials
Contractor #4: Finishes and Ceilings	1	$165,000	$165,000		Labour only

Subcontracts					
Contractor #5: Erection of Roof Structure	1	$248,000	$248,000		Labour only
Contractor #6: Fire and Safety	1	$51,000	$51,000		Labour and materials
Contractor #7: Roads	1	$69,000	$69,000		Labour and materials
Contractor #8: Thermal and Moisture Protection	1	$27,000	$27,000		Labour and materials
Contractor #9: Openings (Window and Door Installation)	1	$54,000	$54,000		Labour only
Contractor #10: Services and Amenities	1	$80,000	$80,000		Labour and materials
Administrative/Professional			***$800,000***		Labour only
Architecture	**2**		**$120,000**		Labour only
Architect	1	$70,000			Labour only
Draughtsman	1	$50,000			Labour only
Project Management	**20**		**$350,000**		Labour only
Project Manager	1	$95,000			Labour only
Section Chief	1	$82,000			Labour only
Accountant	1	$40,000			Labour only
Administrative Assistant	1	$35,000			Labour only
Office Operations (supplies, etc)	1	$78,000			Labour only
Office Attendant	1	$20,000			Labour only
Land Surveying	**1**	**$10,000**	**$10,000**		Labour only
Structural Engineering	**1**	**$20,000**	**$20,000**		Labour only
Civil Engineering	**1**	**$30,000**	**$30,000**		Labour only
Planning Engineering	**1**	**$15,000**	**$15,000**		Labour only
Building Inspector	**1**	**$20,000**	**$20,000**		Labour only
Quantity Surveyor (Project Management Activity)	**1**	**$15,000**	**$15,000**		Labour only
Site Management	**2**		**$100,000**		Labour only
Construction Superintendent	1	$55,000			Labour only
Site Foreman	1	$45,000			Labour only
Mobilization			$50,000		Labour and materials
Landscaping	**1**		$70,000		Labour only

Vendors	**10**		**$7,747,000**		
Caribbean Metals Limited	1	$1,900,000			Materials
Concrete Xpress Limited (Concrete)	1	$750,000			Materials
Sunbilt Limited (Wood)	1	$240,000			Materials
Saint Lu Metal and Plastic Manufacturers Limited (Windows)	1	$190,000			Materials
PGT Industries (Doors)	1	$265,000			Materials
Pinnacle Industrial Supplier Inc (Steel)	1	$745,000			Materials
Asona Limited (Finishes and Ceilings Materials)	1	$580,000			Materials
Econ Precast Pte Limited (Concrete Piles)	1	$355,000			Materials
Shell Global (Bitumen)	1	$1,750,000			Materials
Furnishings	1	$972,000			Materials
Blueprints			**$35,000**		
Contingency (10%)			**$1,500,000**		
Value Added Tax (12.5%)			**$1,875,000**		
TOTAL			**$15,000,000**		

Approvals

Printed Name: Title:	Printed Name: Title:

Figure 27 Castries Market Redevelopment Project Cost Baseline. Adapted from IDOCPUB. Retrieved August 14, 2020 from https://idoc.pub/documents/cost-baseline-template-3no7p5dpzxld

ITEM	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9
Initiation	$48,000								
Design			$75,000	$80,000					
Pre-Construction				$225,000	$410,505	$215,600	$369,258	$453,455	$251,023
Construction				$550,000	$610,000	$790,000	$687,258	$548,529	$857,000
Project Management		$123,839	$123,455	$33,839	$27,589	$24,289	$29,464	$35,000	$43,206
Total	$48,000	$123,839	$198,455	$888,839	$1,048,094	$1,029,889	$1,085,980	$1,036,984	$1,151,229
Cumulative Total	**$48,000**	**$171,839**	**$370,294**	**$1,259,133**	**$2,307,227**	**$3,337,116**	**$4,423,096**	**$5,460,080**	**$6,611,309**

ITEM	MONTH 10	MONTH 11	MONTH 12	MONTH 13	MONTH 14	MONTH 15	MONTH 16	MONTH 17	MONTH 18
Initiation									
Design									
Pre-Construction	$206,548	$199,582	$197,542	$212,787	$155,000	$136,099	$117,800		
Construction	$925,000	$955,000	$972,000	$963,000	$969,000	$975,000	$310,358		
Project Management	$63,258	$55,000	$71,464	$62,525	$71,339	$91,764	$115,464	$125,000	$444,000
Total	$1,194,806	$1,209,582	$1,241,006	$1,238,312	$1,195,339	$1,202,863	$543,622	$125,000	$444,000
Cumulative Total	**$7,806,115**	**$9,015,697**	**$10,256,703**	**$11,495,015**	**$12,690,354**	**$13,893,217**	**$14,436,839**	**$14,561,839**	**$15,005,839**

Figure 28 Castries Market Redevelopment Project Cash Flow

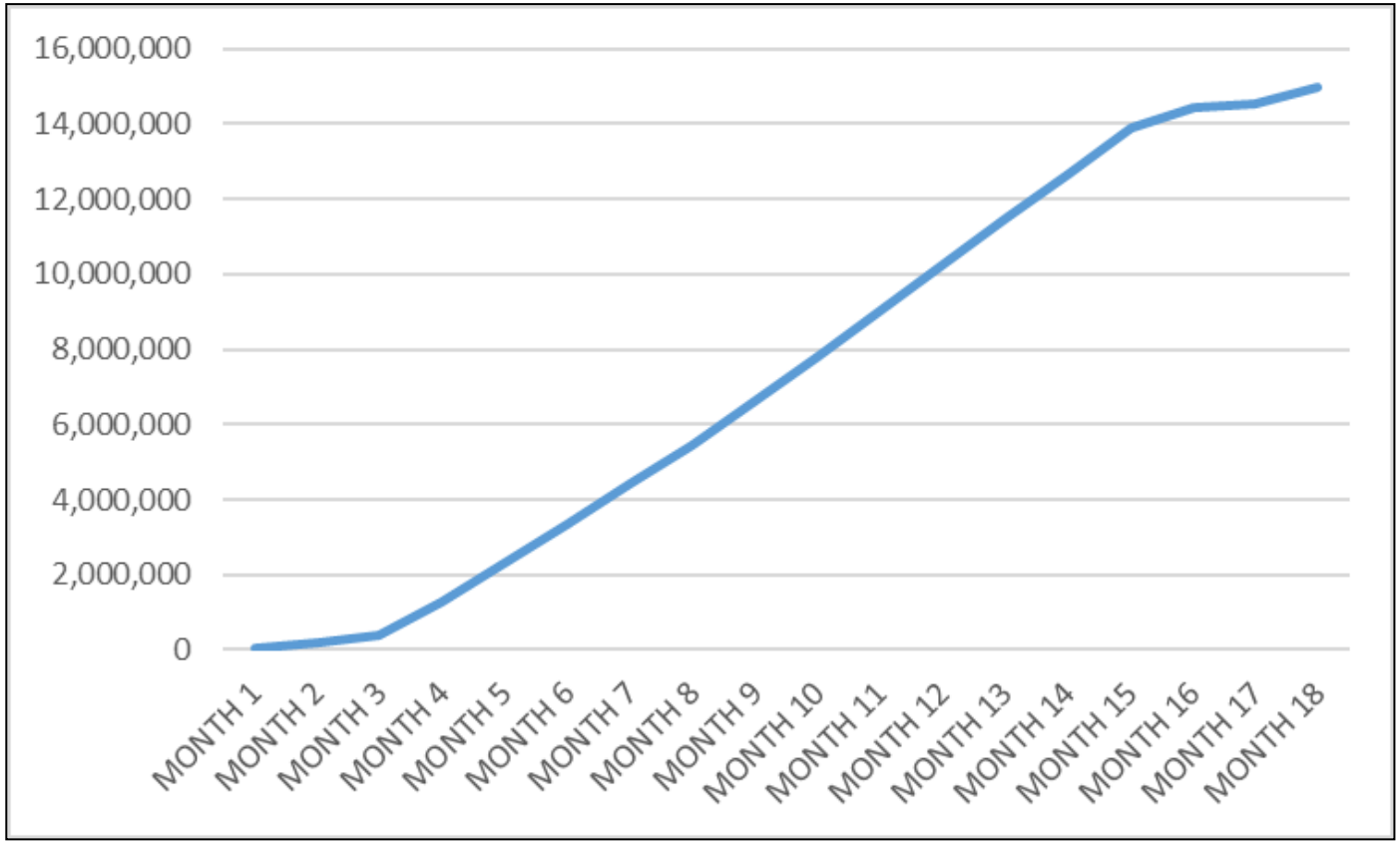

Figure 29 Castries Market Redevelopment Project S-Curve

Project Funding Requirements Castries Market Redevelopment Project														
Project Phase	**Funding Type**	**September 30, 2020**	**20 October, 2020**	**November 12, 2020**	**December 18, 2020**	**February 17, 2021**	**March 3, 2021**	**May 10, 2021**	**July 18, 2021**	**September 20, 2021**	**November 8, 2021**	**December 10, 2021**	**January 8, 2022**	**February 19, 2022**
Initiation	Manpower	48,000												
Design	Manpower			155,000	40,000									
Pre-Construction	Manpower					200,000								
	Equipment/Capital				2,756,000									

	Manpower & Equipment					1,587,275	1,958,500	1,115,020	1,535,555	850,000	686,050	393,158		
Project Closure	Manpower													
	Equipment/Capital													
Project Management	Planning		5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000

	Scheduling				15,000		15,000	2,000	2,000	2,000	1,000	1,000	1,000	1,000
	Accounting						6,250	6,250	6,250	6,250	6,250	6,250	6,250	6,250
	Reporting						6,875	6,875	6,875	6,875	6,875	6,875	6,875	6,875
	Meetings	3,455	3,455	3,455	3,455	3,455	3,455	3,455	3,455	3,455	3,455	3,455	3,455	3,540
	Site Management						12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500

V.A.T														1,875,000
Contingency Reserve		115,384	115,384	115,384	115,384	115,384	115,384	115,384	115,384	115,384	115,384	115,384	115,384	115,384
Totals		**166,839**	**123,839**	**278,839**	**2,934,839**	**1,911,114**	**2,122,964**	**1,266,484**	**1,687,019**	**1,001,464**	**836,514**	**543,622**	**150,464**	**2,025,549**

*Contingency reserve to be evenly spread over all pay periods

Figure 30 Castries Market Redevelopment Project Funding Requirements. Adapted from Project Management Docs. Retrieved August 17, 2020 from https://www.projectmanagementdocs.com/template/project-documents/project-funding-requirements/#axzz6VxhOmjO6

4.5 Project Quality Management

The Quality Management Plan was developed after the Procurement Management Plan to effectively strategize and ensure that quality was integrated in the project's processes and the product. Plan Quality Management is the sole Quality Management process used during project planning.

The Risk Register, Stakeholder Register and the Requirements Documentation which was previously created by the Section Chief were the inputs used to develop the Quality Management Plan shown in **Figure 31** as outlined in the PMBOK ® Guide. Additionally, the Requirements Management Plan was used as input because it outlined the requirements of acceptable quality as formerly summarized by the project team. Benchmarking and meetings are the tools and techniques that will be used (Project Management Institute, 2017, p. 277).

QUALITY MANAGEMENT PLAN
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

20 AUGUST 2020

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INTRODUCTION

The Quality Management Plan for the Castries Market Redevelopment Project will establish the activities, processes and procedures for ensuring a superior product upon the completion of the project. The primary goal of the Quality Management Plan is to ensure that the project deliverables are of adequate quality and fit for the purpose. The purpose of this plan is to:

- Ensure quality is planned
- Define how quality will be managed
- Define quality assurance activities
- Define quality control activities
- Define acceptable quality standards

QUALITY MANAGEMENT APPROACH

The Quality Management Approach describes how quality will be managed during the project in order to prevent unnecessary rework, waste, cost and time. This includes the specific processes, procedures, techniques, standards and responsibilities to be applied.

The Quality Management Approach for the Castries Market Redevelopment Project will ensure quality is planned for both the product and process. In order to be successful, this project will achieve its quality objectives by using an integrated quality approach to define quality standards, evaluate quality and continuously enhance quality.

Product quality for the Castries Market Redevelopment Project will be characterized by existing standards and criteria in relation to industry benchmarks. The emphasis will be on the project's deliverable and the standards and criteria being used will ensure that the product meets established quality standards and client approval.

Process quality for the Castries Market Redevelopment Project will examine the processes which will be used to design and construct the project deliverable. The establishment of process quality standards ensures that all activities conform to organizational and regulatory standards which results in the successful completion and delivery of the project.

The Project Manager or Architect will outline and document all organizational and project specific quality standards for the product and processes. The Quality Documentation developed will become a component of the Castries Market Redevelopment Project Management Plan and will be converted to a Building Operational Management Document subsequent to the successful completion of the project.

Metrics will be established and used to measure quality throughout the project duration for the product and processes. The Project Manager or Architect will be responsible for working with the project team to define these metrics, perform measurements and evaluate results. These product and process measurements will be used as one criterion in assessing

the success of the project and must be analyzed by the Project Sponsor or client. Metrics will include:

- Structure Design
- Schedule
- Cost
- Resources
- Product Performance
    - Attenuation
    - Compression strength
    - Tensile strength
- Process Performance
- Customer Satisfaction

Improvements in quality will be identified by any project team member. Every recommendation will be analyzed to determine the cost compared to the benefit of implementing the improvement and how the improvement will affect the product or processes. If an improvement is implemented, the Section Chief will update the project documentation accordingly to include the improvement.

QUALITY REQUIREMENTS/STANDARDS

PRODUCT QUALITY

The Project Manager or Architect will determine the product quality standards and requirements. These standards will be based primarily on the company's documented standards. There may be product-specific quality standards identified that are not currently elements of the documented organizational standards. In this case, the newly identified standards will be reviewed by the Project Manager or Architect and the Section Chief will incorporate them into the organizational documentation if they are approved. The project team will also document any newly identified quality standards in the Castries Market Redevelopment Project Management Plan and will ensure communication with all stakeholders.

PROCESS QUALITY

Process quality standards and requirements will be determined by the Project Manager or Architect. Many of these standards will be based on current company process standards. The Castries Market Redevelopment project team will collaborate with the Project Manager or Architect to establish acceptable standards and will document these standards for inclusion in organizational process documents and the Castries Market Redevelopment Project Plan. These standards will be communicated to all project stakeholders.

QUALITY ASSURANCE

The quality assurance of the Redevelopment of the Castries Market focuses on the processes used in the construction of the structure. In an effort to ensure quality, an iterative process will be used throughout the life cycle of the project. This iterative process

comprises measuring process metrics, analyzing process data and continuously improving the processes.

The Project Manager or Architect and the project team will conduct evaluations at planned intervals throughout the project to ensure all processes are being implemented and executed correctly. The following table outlines the main quality assurance metrics for the Project:

Item	Description	Method of Measurements	Metrics	Reference	Process Phase	Assessment Interval
Concrete cylinders	Cast in place concrete pile (bored pile)	Compressive test	5,000 psi compressive strength yield at 25 days	Structural Plan	Steel cylinder	Factory tested
		Slump	100 mm (max)	Structural Plan	Slump cone	Batch of concrete
Reinforcing steel	Bored pile reinforcing	Tensile and yield	413.7 megapascals (60 kilo pound per square inch)	Structural Plan	Onsite delivery	Per floor load

The Project Manager and the project team will provide daily Quality Management and Conduct Process Audits on a weekly basis, monitor Process Performance Metrics and ensure that all processes comply with project standards. If discrepancies are found, the Project Manager or Section Chief will meet with the Construction Superintendent and examine the identified discrepancies.

Regularly occurring project, management and document reviews will be scheduled by the Section Chief. In these reviews, an agenda item will include a review of project processes, any discrepancies and/or audit findings and a discussion on process improvement initiatives.

Process improvement is another element of quality assurance. Quality assurance reviews, findings and evaluations should always result in some form of process improvement and as a result, product improvement. All process improvement efforts must be documented, executed and communicated to all stakeholders as changes are put into effect.

QUALITY CONTROL

Quality control of the Castries Market Redevelopment Project focuses mainly on the design and construction of the structure. The quality performance standards for the Castries Market Redevelopment Project are in accordance with the organizational standards. Additionally, all physical measurements will be performed to ensure compliance with established quality standards. All physical measurements will be performed onsite by the project team which will ensure that all physical and performance standards are adhered to.

The Project Manager will schedule regularly occurring project, management and document reviews. In these reviews, an agenda item will include an assessment of products, any discrepancies and/or audit findings from the Section Chief and a discussion on product improvement initiatives.

Adherence to all established physical and performance standards is imperative for the success of the project.

QUALITY CONTROL MEASUREMENTS

All the deliverables and processes of the Castries Market Redevelopment Project must be measured and fall within the established standards and tolerances. The following logs will be utilized by the project team in performing these measurements and will be retained for use as supporting documentation for the project's acceptance.

Quality Assurance Log

Process Inspection #1	Date	Process Measured	Required Value	Actual Measured	Acceptable? (Y/N)	Recommendation	Date Resolved

Quality Control Log

Deliverable #1	Date	Item Measured	Required Value	Actual Measured	Acceptable? (Y/N)	Recommendation	Date Resolved

SPONSOR ACCEPTANCE

Approved by:

_____ Date: _____

<Project Sponsor>
<Project Sponsor Title>

Figure 31 Castries Market Redevelopment Project Quality Management Plan. Adapted from Project Management Docs. Retrieved August 19, 2020 from https://www.projectmanagementdocs.com/template/project-planning/quality-management-plan/#axzz6VxhOmjO6

4.6 Project Resource Management

Following the creation of the Communications Management Plan, the Resource Management Plan was developed, as depicted in **Figure 32**. The Quality Management Plan, Project Schedule, Risk Register and Stakeholder Register were used as inputs to this process. Expert judgement and meetings were the tools utilized to identify the physical and team resources required and to ascertain how these resources would be managed throughout the duration of the project (Project Management Institute, 2017, p. 312).

Plan Resource Management and Estimate Activity Resources are the two processes from the Project Resource Management knowledge area that will be used during the planning process. The other four processes outlined in Figure 11 will be conducted during project execution and monitoring and controlling respectively.

RESOURCE MANAGEMENT PLAN
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

24 AUGUST 2020

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INTRODUCTION

Resource management is an integral part of the Castries Market Redevelopment Project. The Resource Management Plan is a tool which will aid in the management of the project's resources throughout the project until closure. The Resource Management Plan comprises the following:

- Roles and responsibilities of team members throughout the project
- Project organizational charts
- Resource management plan to include:
    - How resources will be acquired
    - Timeline for resources or skill sets
    - Training required to develop skills of human resource
    - How performance reviews will be conducted
    - Recognition and rewards system
- Methods for ensuring that adequate physical resources are available when required

The purpose of the Resource Management Plan is to attain project success by providing guidance on how project resources will be categorized, allocated, managed and released. This will be divided between the team management plan and the physical resource management plan.

RESOURCE MANAGEMENT

Resource management ensures the optimum utilization of resources. It also helps to resolve internal conflicts, avoid unforeseen occurrences, improves the performance of the team resource, builds transparency and results in better control of the project budget.

PHYSICAL RESOURCES

The Project Manager will be responsible for the management of the physical resources that will be utilized during the project. The physical resources which will be used during the Castries Market Redevelopment Project include equipment, materials, supplies, facilities and infrastructure. The Project Manager is responsible for quantifying the amount of each type of resource required. A detailed Resource Schedule will then be created which will specify the physical resources required to complete the project, the time frames for the consumption of each resource, the quantity of each resource required per week and the total quantity of resources consumed per week.

TEAM RESOURCES

Staff Acquisition

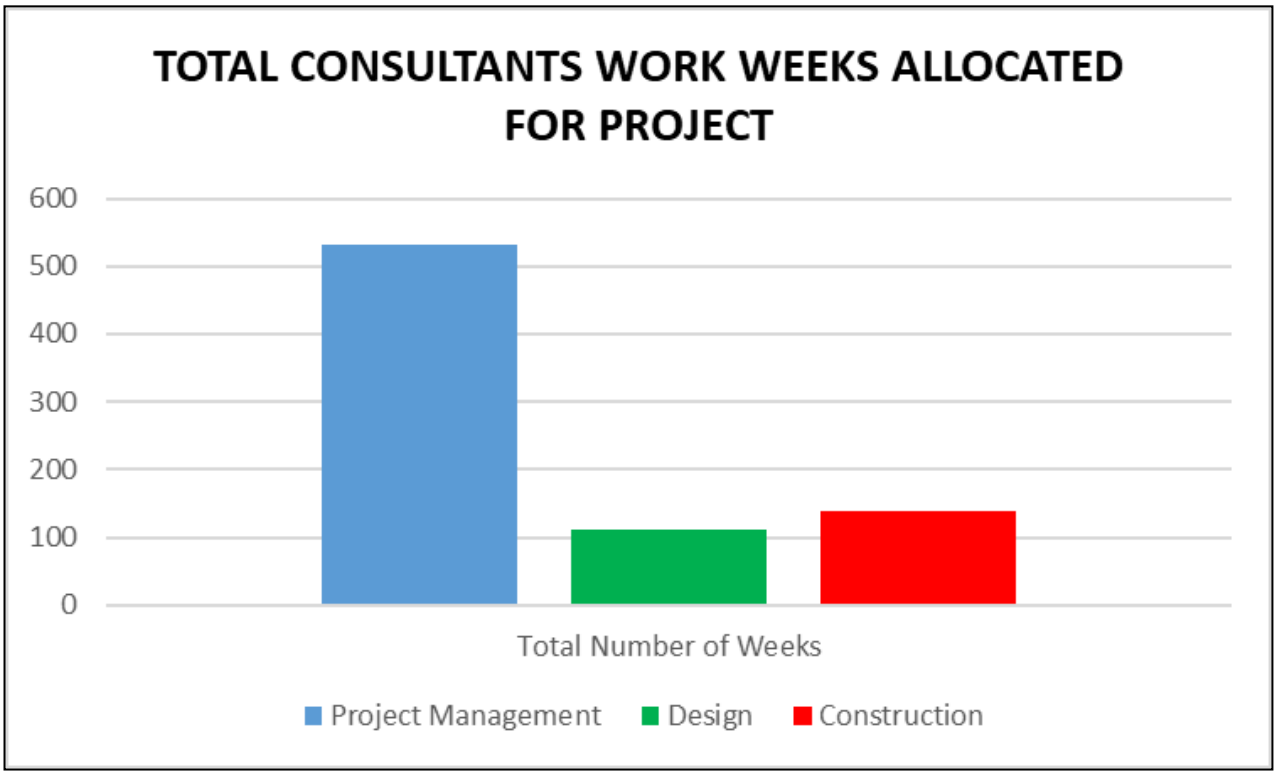
The project staff will consist of a few internal resources for the Castries Market Redevelopment Project. However, the majority of the work will be subcontracted to external resources. There will be outsourcing or contracting performed within the scope of this project. The Project Manager will negotiate with various companies in an effort to identify and assign resources for the project. All team resources must sign a contract or agreement with the performing organization prior to the commencement of any project

work. The managerial staff and office employees will work at the office of Fresh Start Construction and will be required to visit the site daily. The subcontractors and site workers will work on-site until contract completion.

Resource Calendars

The Redevelopment of the Castries Market will continue for 72 weeks. All team resources are required before the commencement of the project. The resource table and histogram below portray the number of weeks required to complete the project management, design and construction works for the Castries Market Redevelopment Project.

	Team Resource	Number of Weeks
Project Management	Project Manager	72
	Site Manager	58
	Site Foreman	45
	Section Chief	72
	Administrative Assistant	72
	Draughtsman	69
	Accountant	72
	Office Attendant	72
	Total	**532**
Design	Structural Engineer	5
	Electrical Engineer	24
	Civil Engineer	4
	Plumbing	19
	Quantity Surveyor	6
	Landscaping	23
	Architect	30
	Total	**111**
Construction	Electrical	24
	Plumbing	19
	Fire and Safety	1
	Roofing	4
	Landscaping	23
	Masons	32
	Steel Erectors	25
	Carpenters	10
	Total	**138**



Training

The site construction workers which are employed directly with Fresh Start Construction will require training. This training will equip the workers with the necessary knowledge to install and erect the roof structure. A professional Structural Engineer from Caribbean Metals Limited will be contracted to guide and instruct the site workers.

The other employees and contracted workers are fully capable of functioning in the capacity for which they have been hired.

Performance Reviews

The Project Manager will review the overall performance of the project during the project life cycle. At the commencement of the project, the Project Management will communicate with the Section Chief and Construction Superintendent to inform them of all the expectations of the work to be executed. Once the Section Chief submits the biweekly Work Orders to the Construction Superintendent, it is his responsibility to manage and evaluate each team member's performance and assess how effectively they are completing the assigned tasks. Concurrently, it is the responsibility of the Section Chief to evaluate each of his team members, in the office, and assess how effectively they are completing the work assigned. Prior to the release of project resources, in accordance to the payment schedule, the Project Manager will meet with the Section Chief and provide feedback on employee project performance. Subsequently, the Section Chief will meet with the Construction Superintendent to review the formal performance reviews of each team member on a weekly basis.

Recognition and Rewards

The main objective of the Recognition and Rewards System is to ensure that employees feel appreciated and that their work does not go unnoticed. It also serves as a means of motivating employees to improve performance over the project life cycle. Every project team member should be aware of the Recognition and Reward System.

The following are some of the planned reward items for project team members:

- Distributed Bonus – A prefix bonus amount will be paid to project team members who achieve their targets and project objectives. This is aimed to improve performance over the project life cycle.

- Performance Based Reward – This will be paid to employees who have met or exceeded their project targets. This method of reward can be measured at either team or department levels.

Some team members may be intrinsically motivated and would therefore require recognition instead of reward. The following are some planned recognition systems for project team members:

- Job Enrichment – This will be a method of moral excellence where team members will.be given additional authority, autonomy and control over the way a job is accomplished.

- Job Enlargement – This will include the expansion of the scope of the job of project team members with a greater variety of tasks.

ROLES AND RESPONSIBILITIES

The roles and responsibilities for the project team of the Redevelopment of the Castries Market are integral to project success. It is imperative that all team members understand their roles and responsibilities in order to successfully perform their assignments. The following project team roles and responsibilities have been established for the Redevelopment of the Castries Market:

Architect (A), (1 position): Responsible for ensuring the building aesthetics, function and use of space are adhered to. The Architect is also responsible for all of the various disciplines, excluding the project manager and production of project documents.

Project Manager (PM), (1 position): Responsible for the overall success of the project. The PM must authorize and approve all project expenditures. The PM is also responsible for ensuring that work activities meet established acceptability criteria and fall within acceptable variances. The PM will be responsible for reporting project status in accordance with the Communications Management Plan. The PM will evaluate the performance of all project team members. The PM is also responsible for acquiring human resources for the project by skill set. The PM must possess the following skills: leadership/management, budgeting, scheduling and effective communication.

Section Chief (SC), (1 position): Responsible for creating project planning documents (i.e. Project Management Plan), taking meeting minutes, reporting to the PM on changes and updates made to the project for approval, management the procurement process and collecting daily reports from the Site Management Team. The Section Chief is also responsible for disseminating daily site reports to relevant stakeholders as directed by the Project Manager.

Accountant: Responsible for all financial transactions and financial reporting pertaining to the project.

Electrical Engineer (EE), (1 position): Responsible for ensuring that the buildings operate at an optimum and efficient electrical capacity. The EE is responsible for producing an electrical floor plan, lighting layout, switches, etc. to be submitted to the Architect.

Structural Engineer (SE), (1 position): Responsible for the structural integrity of the buildings and produces structural calculations and drawings to be issued to the Architect.

Mechanical Engineer (ME), (1 position): Responsible for the air conditioning systems ensuring that they provide the necessary cooling capacity to maintain the CFM's and airflow in the building. The ME will also produce an air conditioning, ducting and supply line layout to be submitted to the Architect.

Plumbing Engineer (PE), (1 position): Responsible for floor layouts showing the lavatories, water closets, urinals, supply lines, waste water lines and connections to the sewer system. The PE will also submit drawings to the Architect.

Landscaping Engineer (LE), (1 position): Responsible for advising, planning, designing and overseeing the regeneration and development of the external land areas.

Civil Engineer (CE), (1 position): Responsible for inspecting project sites and monitoring progress and ensuring conformance to design specifications and safety or sanitation standards. The CE will also direct construction, operations and maintenance activities at the project site.

Planning Engineer (P), (1 position): Responsible for determining and developing the most suitable and economically viable construction and engineering methods for the project.

Building Inspector (BI), (1 position): Responsible for reviewing and interpreting plans, blueprints, site layouts, specifications and construction methods to ensure compliance to legal requirements and safety regulations. The BI will also inspect and monitor the construction site to ensure adherence to safety standards, building codes and specifications.

Quantity Surveyor (QS), (1 position): Responsible for collecting data based on the construction specifications and drafting documents to arrive at a cost analysis for the proposed project.

Land Surveyor (L), (1 position): Responsible for topography and contour mapping.

Office Attendant (OA), (1 position): Person available to run errands for the project.

Construction Superintendent (CS), (1 position): Responsible for any and all production and business pertaining to the site works.

Site Foreman (SF), (1 position): Responsible for the technical requirements as per the specifications and drawings. The Site Foreman ensures that each skilled worker executes the work as per the specifications.

Draughtsman (D), (1 position): Responsible for all revisions, 2D and 3D drafting, designs and details based on change orders and addendums.

Electrical Subcontractor (ES), (1 position): Responsible for reading and calculating electrical drawings and ensuring their correct placement in the buildings. Additionally, the ES is responsible for installing all building and site lighting as per electrical and site layouts and schedules.

Plumbing and Sewerage Subcontractor (PSS), (1 position): Responsible for reading and calculating plumbing drawings and ensuring their correct placement in the buildings within schedule constraints.

Fire and Safety Subcontractor (FSS), (1 position): Responsible for determining the necessary apparatus required to ensure fire safety. The FSS is also responsible for the installation of the necessary apparatus to ensure fire safety within schedule constraints.

Roofing Subcontractor (RS), (1 position): Responsible for reading Architectural drawings pertaining to the roof layout and constructing the roof in accordance with the specifications and schedule constraints.

Windows and Doors Subcontractor (WDS), (1 position): Responsible for ensuring that the window and door schedules and specifications are adhered to in the manufacturing of the windows and doors and installation of same in accordance with the drawings and within schedule constraints.

Landscaping Subcontractor (LS), (1 position): Responsible for taking detailed measurements of the site and taking account of environmental factors such as prevailing winds, climate and natural features.

Road Subcontractor (RS), (1 position): Responsible for ensuring that road specifications are adhered to.

Thermal and Moisture Subcontractor (TMS), (1 position): Responsible for ensuring that the materials used to seal the outside of the buildings against moisture, thermal and air penetration, as well as the associated insulation and accessories, meet regulatory standards.

Finishes and Ceilings Subcontractor (FCS), (1 position): Responsible for ensuring that the materials used for ceilings and finishes are in accordance with the specifications and schedule constraints.

PROJECT ORGANIZATIONAL CHARTS

The RACI (responsible, accountable, consult, and inform) Chart below depicts the relationship between project tasks and team members. Any proposed changes to project responsibilities must be reviewed and approved by the Project Manager. Changes will be proposed in accordance with the project's change control process. As changes are made all project documents will be updated and redistributed accordingly.

	Project Manager	Engineers	Subcontractors	Construction Superintendent	Section Chief	Site Workers	Accountant	Site Foreman
Requirements Gathering	A	R	I	R	R	I		I
Building Design	A	R						
Change Requests	A		I	I	R	I		I
Feasibility Study	A							
Contract Administration	A				R			
Site Management	A		I	R	R	I		I
Permits/Approvals	A			I	R			
Project Scope	A	I	I	I	R	I		I
Project Communications	A		I	I	R	I		I
Project Quality	A		I	I	R	I		I
Stakeholder Management	A			I	R	I		I
Accounting	A				R		R	
Status Reports	A		I	I	R	I		I
Manage Site Workers	A			R	I	I		
Procurements	A				R			I

Key:
R – Responsible for completing the task
A – Accountable for ensuring task completion/sign off
C – Consulted before any decisions are made
I – Informed when an action/decision has been made

RESOURCE CONTROL

This process will be applied from the start of the project and throughout on a regular basis to provide efficient and timely use of project resources. This process will ensure the availability of planned resources, monitoring them against the Resource Plan, and taking corrective actions when required. Factors influencing the utilization of resources as well as change management will be addressed via this process. Additionally, this process addresses the quality, quantity and usability of resources to ensure that products meet the quality expectations of the project.

SPONSOR ACCEPTANCE

Approved by:

_____ Date: _____

<Project Sponsor>
<Project Sponsor Title>

Figure 32 Castries Market Redevelopment Project Resource Management Plan. Adapted from Project Management Docs. Retrieved August 24, 2020 from https://www.projectmanagementdocs.com/template/project-planning/human-resource-plan/#axzz6WWcisiWF

4.7 Project Communications Management

The Communications Management Plan seen in **Figure 34** was developed using the PMBOK ® Guide. This plan will be disseminated to the appropriate parties at the right time to ensure that information about the project is communicated during the project life cycle. The plan describes how each stakeholder will receive information from project team members, the frequency of communication, the information that will be communicated and the person responsible for ensuring that accurate information was received by the communications sent (Project Management Institute, 2017, p. 368). An interview was conducted with Mr. Lake, the Project Manager, to ascertain the types of communication and delivery methods previously utilized by the company. The information collected in conjunction with a communications requirements analysis which was completed by the Section Chief are included in the Communication Matrix portrayed in **Figure 33**.

Project Name: Castries Market Redevelopment Project Project Objective: To renovate a vendors' market Prepared by: I. Henry (Section Chief) Submitted to: The Office of the Mayor	Project Manager: A. Lake Project Sponsor: Castries Constituency Council Date Prepared: August 27, 2020 Possible Number of Communication Channels: 758

Project Team Communication Matrix

Communication Type	Deliverable	Description	Delivery Method	Frequency	Owner	Audience
Personal Communication	Project updates	Regular communication	Telephone calls	Needs basis	Project Manager/Section Chief	The Office of the Mayor
	Project updates	Regular communication	Telephone calls/E-mail	Needs basis	Project Manager/Section Chief	Consultants Subcontractors
	Project updates	Regular communication	Telephone calls Email Meetings	As needed	Project Manager	Section Chief
	Project updates	Regular communication	Telephone calls Email	Daily	Section Chief	Construction Superintendent

Communication Type	Deliverable	Description	Delivery Method	Frequency	Owner	Audience
	Project updates	Regular communication	Email Conversation	Daily	Construction Superintendent	Site Foreman
	Project updates	Regular communication	Email	Needs basis	Project Manager/Section Chief	Financial Analyst
	Procurement update	Update on status and shipping of products	Email Conversation Web conference	Weekly	Project Manager/Section Chief	Suppliers
	Project updates	Regular communication	Face to face Communication	Daily	Site Foreman	Subcontractors
	Instructions and issues	Regular communication	Face to face Communication	Daily	Subcontractors	Site Workers
Reports	Project status report (Project Progress)	Regular update on crucial project issues	Email	Weekly	Project Manager	Project Manager The Office of the Mayor Project Team
	Quality audit report	Regular updates on project quality performance	Email	Semi-monthly	Section Chief	Project Manager The Office of the Mayor Project Team
	Financial report	Regular updates on project finances	Email	Weekly – Friday	Project Manager	Quality Manager Project Manager The Office of the Mayor
	Compliance report	Regular updates on pending permits, extensions, deviations, etc.	Email	Weekly – Friday	Project Manager	Project Manager The Office of the Mayor
	Task report	Regular updates on crucial project issues pertaining to the external team (consultants and subcontractors)	Email	Weekly – Every Tuesday morning after Team meeting	Section Chief	Project Manager Project Team Quality Team
Presentations	Project review	Project status updates	Meeting	Monthly	Project Manager	Project Manager Project Sponsor Project Team

Communication Type	Deliverable	Description	Delivery Method	Frequency	Owner	Audience
	Final account	A complete audit of project finances from the project, performed at the end of the project, in addition to operational cost projections	Meeting	Once	Project Manager Section Chief	Project Manager Section Chief The Office of the Mayor
Project Announcements	Task reminders	Task owner schedule reminders	Email	Daily	Section Chief	Project Manager Project Team
	Change requests/Orders	Request to add or remove scope from the project	Written (Standard Form)	Needs basis	Project Manager	Project Manager Project Team
	Project updates	Project updates for neighbouring businesses	Written	Needs basis	Project Manager	Neighbouring Businesses Vendors
Reviews and Meetings	Team meeting	Meeting to review project status	Planning Meeting	Weekly Monday morning	Section Chief	Project Manager Section Chief Project Team
	Financial report	Regular updates on project finances	Progress Meeting	Semi-monthly	Project Manager	The Office of the Mayor Project Manager
	Project status meetings (Project Process)	Regular updates on crucial project issues	Progress Meeting	Semi-monthly	Project Manager	Project Manager The Office of the Mayor Project Team Vendors
	Planning	Regular updates and project planning	Progress and Planning Meeting	Daily	Project Manager	Section Chief
	Consultant Meeting	Technical planning session to collaborate on work schedules, installations, delays, issues, etc.	Planning Meeting	By request	Project Manager	Section Chief Consultants

Communication Type	Deliverable	Description	Delivery Method	Frequency	Owner	Audience
	Site Meeting	Regular updates and project planning	Progress/Planning Meeting	Monthly	Project Manager	Site Foreman Subcontractors Construction Superintendent Section Chief
	External Regulatory Meeting	Meeting at the request of Government Regulatory Agencies	Meeting	By request	Project Manager	Project Manager Section Chief Government Regulatory Agencies
Team Morale	Team Event	Regularly schedule team morale events	Event	Quarterly	Section Chief	Project Manager Project Sponsor Project Team

Figure 33 Castries Market Redevelopment Project Communication Matrix. Adapted from TeamGantt. Retrieved August 25, 2020 from https://www.teamgantt.com/communication-matrix-template

COMMUNICATIONS MANAGEMENT PLAN

CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

25 AUGUST 2020

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INTRODUCTION

The Communications Management Plan sets the communications framework for the Castries Market Redevelopment Project. It will serve as a guide for communications throughout the life of the project and will be updated as communication needs change. This plan identifies and defines the roles of persons involved in the project.

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COMMUNICATIONS MANAGEMENT APPROACH

The Project Manager will take a proactive role in ensuring effective communication during the project life cycle. The communications requirements are documented in the Communication Matrix. The Communication Matrix will be used as the guide for the information to be communicated, person responsible for communicating the information, time frame and frequency for the distribution of required information and persons or groups who will receive the information.

The Project Manager will be responsible for managing all proposed and approved changes to the Communications Management Plan. Once the change is approved, the Project Manager will update the plan and supporting documentation and will distribute the updates to the project team and all stakeholders. This methodology is consistent with the project's Change Management Plan and ensures that all project stakeholders remain aware and informed of any changes to Communications Management.

COMMUNICATIONS MANAGEMENT CONSTRAINTS

All project communication activities will occur within the project's approved budget, schedule, and resource allocations. The Project Manager is responsible for ensuring that communication activities are performed by the project team and without external resources which will result in exceeding the authorized budget. Communication activities will occur in accordance with the frequencies detailed in the Communication Matrix in order to ensure the project adheres to schedule constraints. Any deviation of these timelines may result in excessive costs or schedule delays and must be approved by the Project Sponsor.

STAKEHOLDER COMMUNICATION REQUIREMENTS

As part of identifying all project stakeholders, the Project Manager will communicate with each stakeholder in order to determine their preferred frequency and method of communication. This feedback will be maintained by the project manager in the project's Stakeholder Register. Standard project communications will occur in accordance with the Communication Matrix; however, depending on the identified stakeholder communication requirements, individual communication is acceptable and within the constraints outlined for the project. In addition to identifying communication preferences, stakeholder communication requirements must identify the project's communication channels and ensure that stakeholders have access to these channels.

Once all stakeholders have been identified and communication requirements are established, the Project Manager will maintain this information in the project's Stakeholder

Register and use this, along with the project Communication Matrix as the basis for all communications.

COMMUNICATION DELIVERY METHODS AND TECHNOLOGIES

The main communication vehicles will be email, phone, face-to-face (personal communication), presentations, announcements and meetings.

AUDIENCE

The main audience for the project are listed below:

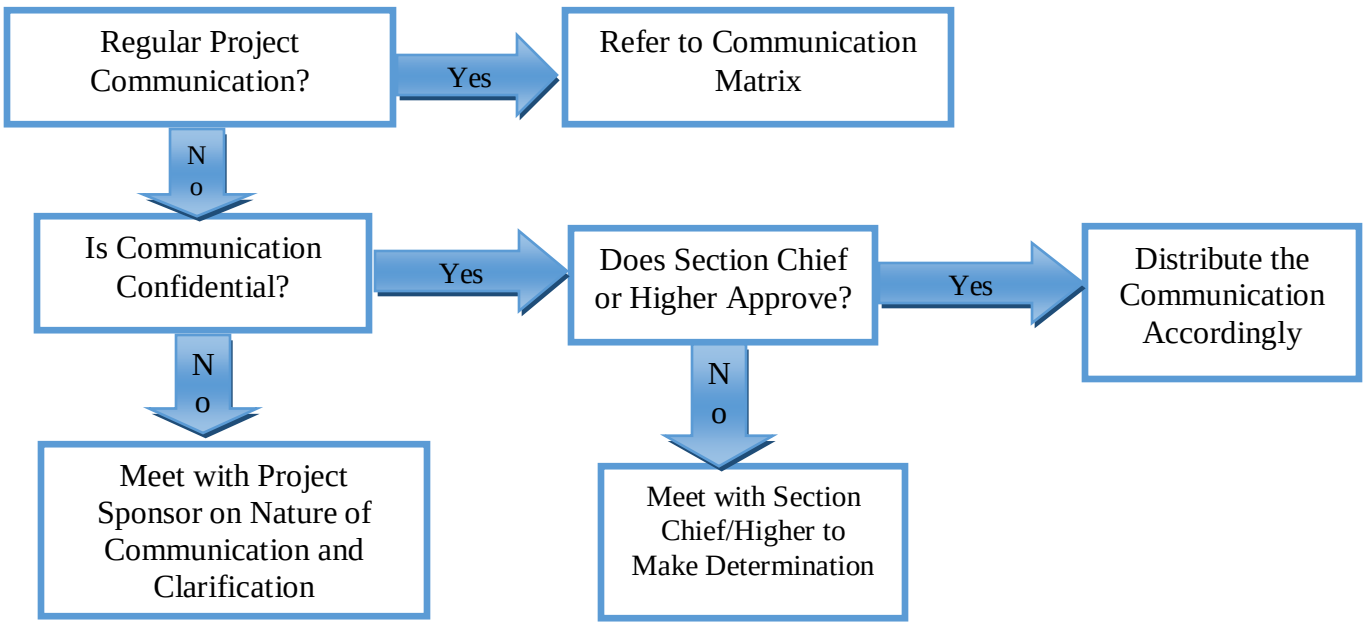
Project Manager
Section Chief
Project Sponsor
Project Team
Government Regulatory Agencies
Consultants
Subcontractors
Financial Analyst
Site Workers

COMMUNICATION MATRIX

See Castries Market Redevelopment Project Communication Matrix attached.

COMMUNICATION FLOWCHART

The communication flowchart below was created to aid in project communication. This flowchart provides a framework for the project team to follow for the project. However, there may be occasions or situations which fall outside of the communication flowchart where additional clarification is necessary. In these situations, the Project Manager is responsible for discussing the communication with the Project Sponsor and making a determination on how to proceed.



COMMUNICATION STANDARDS

There are currently no organizational communication standards.

COMMUNICATION ESCALATION PROCESS

Efficient and timely communication is the key to successful project completion. As such, it is imperative that any disputes, conflicts, or discrepancies regarding project communications are resolved in a way that is conducive to maintaining the project schedule, ensuring the correct communications are distributed, and preventing any ongoing difficulties. The table below defines the priority levels, decision authorities, and time frames for resolution.

Priority	Definition	Decision Authority	Time frame for Resolution
Priority 1	Major impact to project. If not resolved quickly there will be a significant adverse impact to project schedule.	Chief Executive Officer/Project Manager	Within 3 hours
Priority 2	Medium impact to project which may result in some adverse impact to schedule	Project Sponsor	Within one business day
Priority 3	Slight impact which may cause some minor scheduling difficulties with the project.	Section Chief	Within two business days
Priority 4	Insignificant impact to project but there may be a solution	Section Chief	Work continues and any recommendations are submitted via the project change control process

GLOSSARY OF COMMUNICATION TECHNOLOGY

Term	Definition
Communication	The effective sending and receiving of information. Ideally, the information received should match the information sent. It is the responsibility of the sender to ensure this occurs.
Communications Management Plan	Element of the Project Management Plan which details how project communication will be conducted, who will participate in communication, frequency of communication and methods of communication.
Escalation	The process which details how conflicts and issues will be moved up the management chain for resolution as well as the time frame to achieve resolution.
Stakeholder	Individuals or groups involved in the project or whose interests may be affected by the project's execution or outcome.

SPONSOR ACCEPTANCE

Approved by:

_____ Date: _____

<Project Sponsor>
<Project Sponsor Title>

Figure 34 Castries Market Redevelopment Project Communications Management Plan. Adapted from Project Management Docs. Retrieved August 25, 2020 from https://www.projectmanagementdocs.com/template/project-planning/communications-management-plan/#axzz6WWcisiWF

4.8 Project Risk Management

Project Risk Management was the final knowledge area focused on during the planning of the redevelopment of the Castries Market, although project risks were identified during the formation of the Project Charter and considered while planning Project Schedule Management and Project Cost Management.

As specified in Section 1.2.5.8, to effectively identify and plan for the project risks, Risk Management was planned, then the project risks were identified, qualitatively analyzed and finally responses were planned for each identified risk. Risks were not quantitatively analyzed due to a lack of tools that would be required during the process.

Although Project Risk Management was the final knowledge area focused on during the development of the Project Management Plan, the Project Manager and Section Chief were actively managing the risks that were identified and which evolved during Project Management Planning.

As described in the PMBOK ® Guide, the previously developed subsidiary plans, including the Project Charter and Stakeholder Register, were used as inputs to the Plan Risk Management process. The tools and techniques used were data analysis, meetings and expert judgement. The output formulated was the Risk Management Plan depicted in **Figure 35**. The plan outlines how risks will be identified, managed, assessed, planned for and monitored and controlled during the project life cycle (Project Management Institute, 2017, p. 401).

RISK MANAGEMENT PLAN
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

27 AUGUST 2020

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INTRODUCTION

The Risk Management Plan briefly describes the purpose, terminology and process of Risk Management for the project. This document establishes the framework in which the project team will identify risks and develop strategies to mitigate or avoid those risks.

BACKGROUND

- This document is intended for use by the Project Manager and Section Chief.
- Risks are positive or negative events or conditions that may or may not occur during the project life cycle and can have an impact on project objectives.
- Impact is defined as the ability to increase or decrease the probability of an event or condition.
- Trigger is defined as an event that marks the occurrence of a risk.
- A contingency plan is a plan designed to take account of a possible future event or circumstance.
- Risks are controlled by watching for triggering events of risks and executing the corresponding response plan.

RISK IDENTIFICATION

In the first instance, risks will be identified while developing the Project Charter. However, during the creation of the subsidiary plans, a comprehensive Risk Register will be compiled. Finally, during risk identification, the Risk Register will be reviewed to include or remove any risks that may or may no longer be applicable to the project. The Risk Register will be created and maintained by the Section Chief, under the supervision of the Project Manager.

ANALYZING RISKS

The impact and probability of risks will be evaluated using a probability and impact matrix during Qualitative Risk Analysis. A response plan will be developed for all risks identified as having an impact on the project, positive or negative.

PLANNING RISK RESPONSES

The project management team, including consultants, vendors and contractors, will identify and assist with planning risk responses. However, the Project Manager will be responsible for collaborating with the Section Chief to plan risk responses and manage data collection and storage.

MONITORING AND CONTROLLING RISKS

The Section Chief will monitor the status of risks by comparing the data collected during project execution with the Risk Register and Risk Analysis Summary. The Risk Register will be updated weekly and communicated to the Project Sponsor and project management team during project status meetings. The Project Manager is responsible for deciding when to execute a risk response.

SPONSOR ACCEPTANCE

Approved by:

_____ Date: _____

<Project Sponsor>
<Project Sponsor Title>

Figure 35 Castries Market Redevelopment Project Risk Management Plan. Adapted from Project Management Docs. Retrieved August 27, 2020 from https://www.projectmanagementdocs.com/template/project-planning/risk-management-plan/#axzz6WWcisiWF

The Risk Management Plan, Cost Management Plan, Quality Management Plan, Schedule Management Plan, Resource Management Plan, Activity Cost and Duration Estimates, Scope Baseline, Procurement Documentation and Stakeholder Register were used as inputs to the Identify Risks process. The tools and techniques employed were expert judgement and document analysis. The Risk Register below is the output from this process. A few elements have been added to the chart as it will be utilized during project execution to control risks.

Chart 7 Risk Register (Source: R. Branch, The Author, August 2020)

Risk ID	Risk Description	Category	Date	Status	Responsible Individual	Probable Cause of Risk	Prevention Strategy	Trigger Event	Contingency Plan	Contingency Plan Activation Date	Planned Resolution Date	Risk Close Date	Comments
1	Delays in approval by Ministry of Infrastructure	Scheduling	28-Aug-20	Open	Project Manager								
2	Delays in the supply or availability of required materials	Scheduling	28-Aug-20	Open	Section Chief								
3	Adverse weather conditions	Scheduling	28-Aug-20	Open	Section Chief								
4	Damage or theft of equipment	Scheduling	28-Aug-20	Open	Site Foreman								
5	Issues with suppliers and subcontractors	Scheduling	28-Aug-20	Open	Section Chief								

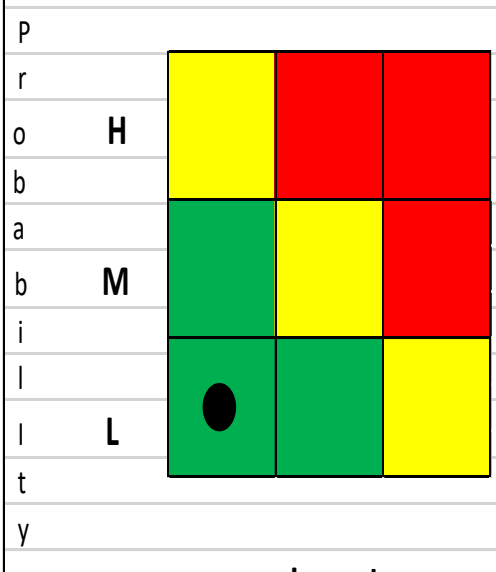
6	Labour shortages	Scheduling	28-Aug-20	Open	Project Manager								
7	Managing change orders	Scheduling	28-Aug-20	Open	Project Manager								
8	Non-compliangt contractor	Scheduling	28-Aug-20	Open	Project Manager								
9	Unexpected price increase on materials over time	Financial	28-Aug-20	Open	Section Chief								
10	Underestimation of Project Cost	Financial	28-Aug-20	Open	Project Manager								
11	Accidents on site	Financial	28-Aug-20	Open	Site Foreman								
12	Damage to materials on site	Financial	28-Aug-20	Open	Site Foreman								
13	Stakeholder unauthorized involvement in the project	Stakeholder	28-Aug-20	Open	Project Manager								
14	Regulatory demands not consistent with approved drawings	Planning	28-Aug-20	Open	Project Manager/Architect								

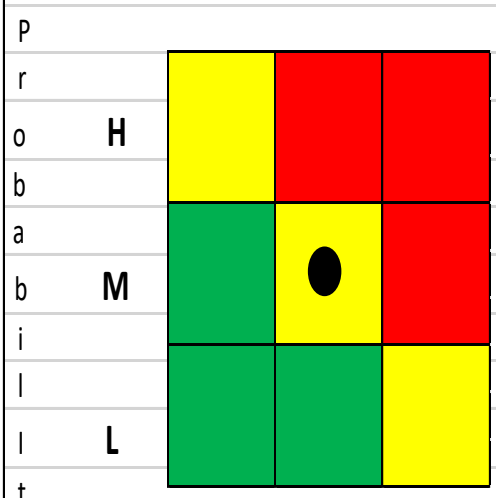
In addition to outlining a list of identified risks and risk responses, the Risk Register will be used to capture information regarding how each risk will be prioritized by analyzing its probability of occurrence and impact, which are both aspects of Qualitative Risk Analysis. The Risk Register and Risk Management Plan were used to perform Qualitative Risk Analysis. Microsoft Excel 2016 was used as a tool to capture the information portrayed in **Chart 7** above and was also used to produce **Figure 36** below. The tools and techniques employed during this process were expert judgement, meetings and risk probability and impact assessment. Additionally, a 3x3 probability and impact matrix was used to prioritize each risk for planning risk responses.

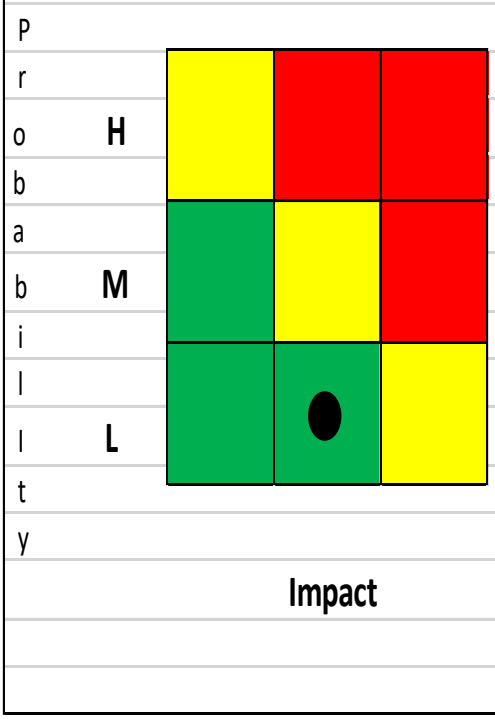
A black circle is placed in the expected risk position based on the probability of each risk occurring and its possible impact on the project. The red area represents high risks, the yellow area represents moderate risks and the green area represents low risks. Meetings were conducted with Mr. Lake in an effort to decipher which risks should be classified as having a high, medium or low probability of occurrence and having a high, medium, low impact on the project.

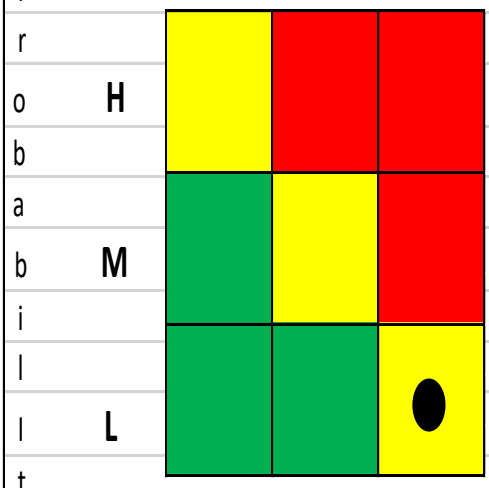
Finally, Risk Responses were planned for each risk to reduce the threat to project objectives. The Risk Register and Risk Management Plan were used as inputs to this process. The tools and techniques utilized were strategies for threats and opportunities, expert judgement and contingent response strategies. The Risk Responses for each risk can be captured in the Risk Register, but were outlined in Figure 36, the Qualitative Risk Analysis Summary (Project Management Institute, 2017, p. 437).

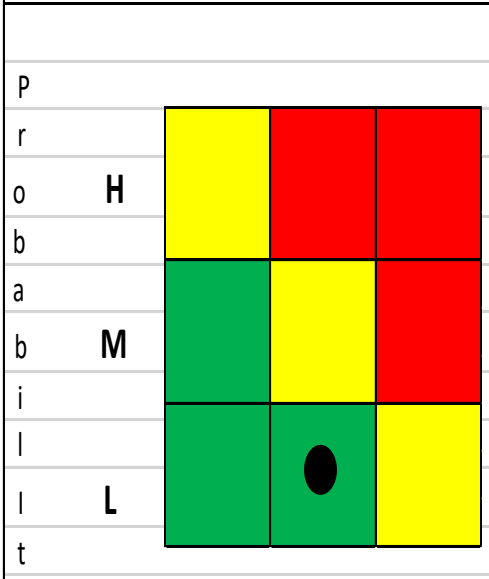
Project Name: Castries Market Redevelopment Project

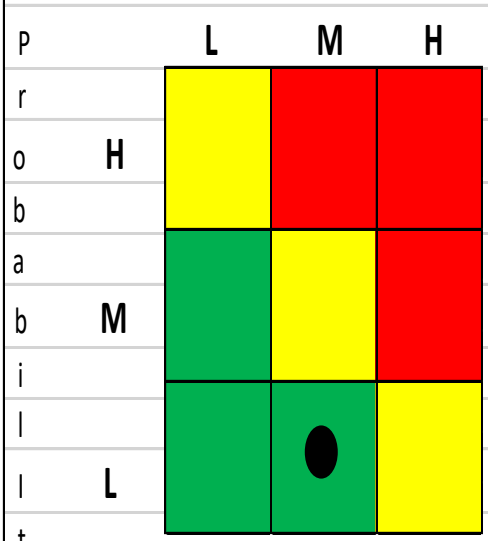
Risk ID # 1. Delays in approval by Ministry of Infrastructure	
Description of Risk Event:	Prevention Strategies
Delays in approval of design by Ministry of Infrastructure	Ensure that Ministry officials are available to complete the approval. Communicate daily to ensure approval will be granted within the specified time frame.
Probable Causes	Risk Response/Contingency Plan
Ministry official underestimated the time required to grant approval	Risk Response: To avoid approval delay by ensuring that there is enough planned time in the schedule
	Contingency Plan: To have another official assist the designated Ministry official to complete the review of documents in a timely manner
Risk Matrix	Triggers Events
	Missed approval deadline

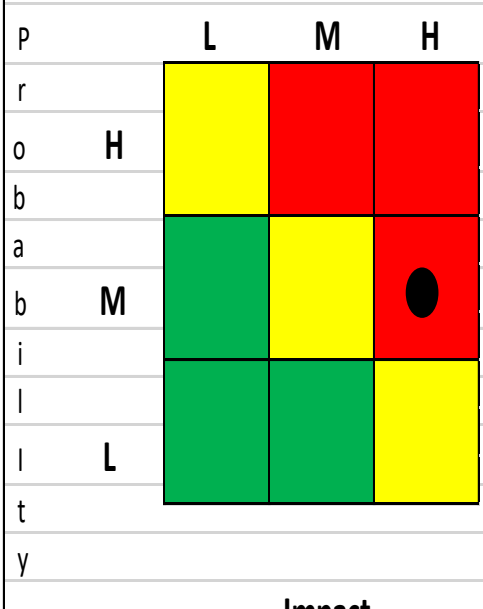
Risk ID # 2. Delays in the supply or availability of required materials	
Description of Risk Event:	Prevention Strategies
Schedule delays resulting from project materials missing shipping dates	Include consequences of delay in contract with suppliers and allocate three-week scheduling contingency
Probable Causes	Risk Response/Contingency Plan
Human error	Risk Response: To mitigate the likelihood of this risk by having all items scheduled to be shipped no less than 4 weeks before use and communicating with all vendors daily to ascertain the status of procured goods
	Contingency Plan: To add lead time as schedule contingency
Risk Matrix	Triggers Events
	Shipping dates of material delayed

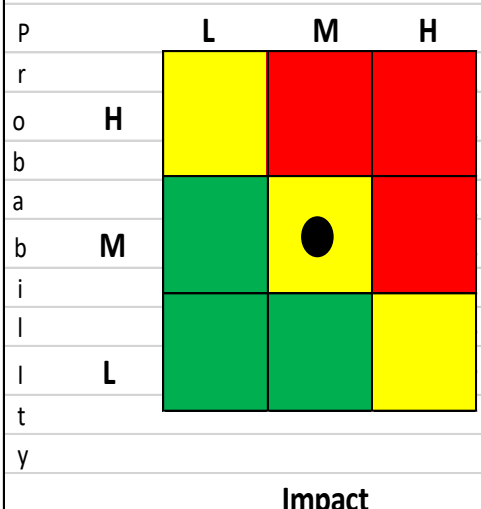
Risk ID # 3. Adverse weather conditions	
Description of Risk Event:	Prevention Strategies
Weather conditions persisting more than one day that cause scheduling delays	The only way to prevent this risk is to cover the entire construction site. That would be out of budget and therefore, this risk will be accepted and dealt with if the need arises
Probable Causes	Risk Response/Contingency Plan
Act of Nature	Risk Response: To accept that acts of nature and in this case the funds allocated for the budget will not allow for the desired prevention strategy
	Contingency Plan: A time contingency has been included
Risk Matrix	Triggers Events
	Weather reports

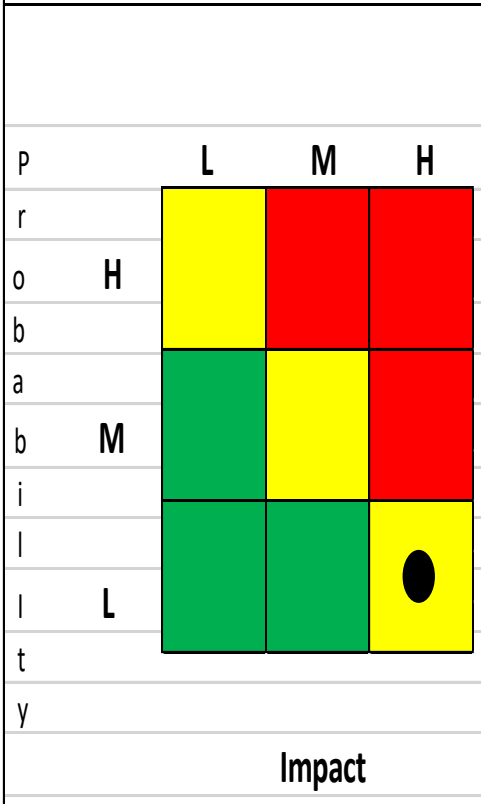
Risk ID # 4. Damage or theft of equipment	
Description of Risk Event:	Prevention Strategies
Equipment damaged or stolen on site	Ensure proper storage of equipment when not in use. Also ensure that workers are sufficiently trained to handle equipment
Probable Causes	Risk Response/Contingency Plan
Improper storage, handling, weather conditions or human error	Risk Response: Avoid/Transfer Contingency Plan: All Risk Builder's Insurance
Risk Matrix	Triggers Events
	The occurrence of stolen or damaged equipment, repurchasing equipment

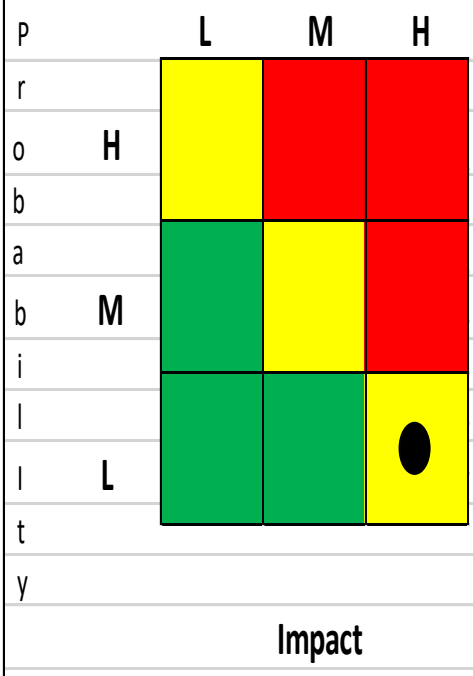
Risk ID # 5. Issues with suppliers and subcontractors	
Description of Risk Event:	Prevention Strategies
Delay in supplies or subcontractors' services	Select suppliers and subcontractors that have experience. Communicate daily to ensure that specifications and requirements are understood
Probable Causes	Risk Response/Contingency Plan
Human error	Risk Response: To mitigate the likelihood of this risk occurring by communicating with suppliers and subcontractors daily
	Contingency Plan: Contract enforcement and time contingency included in schedule
Risk Matrix	Triggers Events
	Missed deadlines

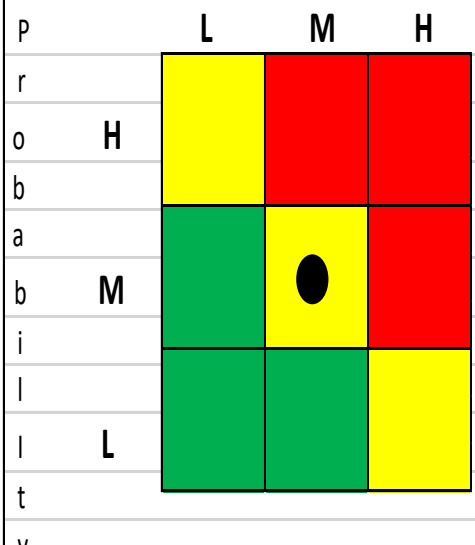
Risk ID # 6. Labour shortage	
Description of Risk Event:	Prevention Strategies
Insufficient qualified candidates to perform the job	Outsource labour
Probable Causes	Risk Response/Contingency Plan
Economic conditions, influx of jobs as a new industry emerges	Risk Response: To mitigate the likelihood of this risk occurring by hiring workers one month before commencement of project
	Contingency Plan: Review contract terms and agreement with hired workers
Risk Matrix	Triggers Events
	Insufficient manpower

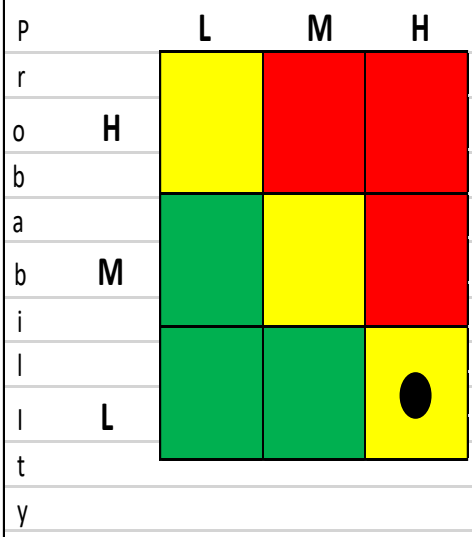
Risk ID # 7. Managing change orders	
Description of Risk Event:	Prevention Strategies
Change or adjustment to the original scope of the project that can affect project schedule and cost	Negotiate and take command of the issues that can and do cause the change order process to spiral out of control.
Probable Causes	Risk Response/Contingency Plan
Poorly defined scope	Risk Response: To mitigate the likelihood of this risk occurring by ensuring that all change orders are approved Contingency Plan: Change orders need to be approved in writing
Risk Matrix	Triggers Events
	Schedule delays, increase in project cost

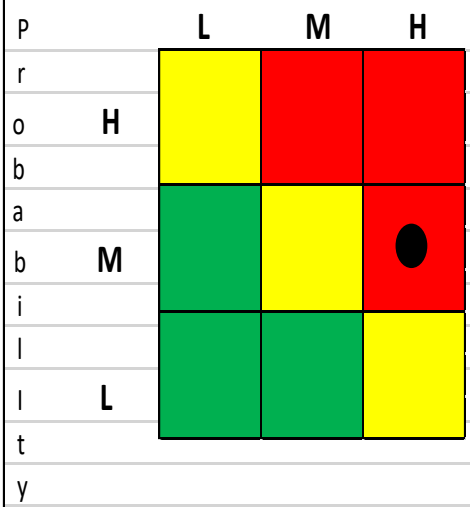
Risk ID # 8. Non-compliant contractor	
Description of Risk Event:	Prevention Strategies
The contractor does not perform according to the contract or defaults on the contract.	Ensure the selected contractor has the experience and financial resources to perform the task before selecting him or her.
Probable Causes	Risk Response/Contingency Plan
The contractor underestimated the task or project, unable to secure proper employees to perform the task or has unforeseen financial conditions that prevent the contractor from completing the project.	Risk Response: To avoid this risk by detailing specific criteria to ensure that contractor can perform and is financially prepared to complete the project. Contingency Plan: To use one of the qualified but unselected contractors to complete the task or project.
Risk Matrix	Triggers Events
	Data shows that the contractor is falling behind established limits or does not have the resources to complete the project.

Risk ID # 9. Unexpected price increase on materials over time	
Description of Risk Event:	Prevention Strategies
Price of materials being purchased increases as the project progresses.	Procurement contracts must be Firm Fixed Price (FFP)
Probable Causes	Risk Response/Contingency Plan
Inflation	Risk Response: Avoid/Mitigate
	Contingency Plan: Contact sellers and meet regarding contract terms and agreements
Risk Matrix	Triggers Events
	Increase in purchase price of items being procured

Risk ID # 10. Underestimation of Project Cost	
Description of Risk Event:	Prevention Strategies
Project budget not accurately calculated, resulting in insufficient funds to complete project	Project Manager and Section Chief will both review the budget more than three times to ensure accuracy
Probable Causes	Risk Response/Contingency Plan
Human error	Risk Response: Avoid Contingency Plan: Contingency added to budget
Risk Matrix	Triggers Events
	Data shows that there are cost deviations (increase)

Risk ID # 11. Accidents on site	
Description of Risk Event:	Prevention Strategies
Incidents that can occur resulting in bodily injury or damaged project materials	Ensure proper site management and supervision. Plan for adequate site help and hire only experienced subcontractors or workers who are covered under All Risk Builder's Insurance
Probable Causes	Risk Response/Contingency Plan
Weather conditions or human error	Risk Response: Avoid/Transfer Contingency Plan: Injury or waste to be at the expense of the contractor's or subcontractor's All Risk Builder's Insurance
Risk Matrix	Triggers Events
	Human injury and material damage

Risk ID # 12. Damage to materials	
Description of Risk Event:	Prevention Strategies
Materials damaged once in care of project team members	Ensure proper storage trailers, adequate site management and onsite supervision. Also, ensure that Site Supervisors train and enforce proper handling and care for project materials.
Probable Causes	Risk Response/Contingency Plan
Improper storage, handling, weather conditions or human error	Risk Response: Avoid/Transfer Contingency Plan: All Risk Builder's Insurance
Risk Matrix	Triggers Events
	The occurrence of physical injuries, material waste or repurchasing materials

Risk ID # 13. Stakeholder unauthorized involvement in the project	
Description of Risk Event:	Prevention Strategies
Stakeholder making or communicating project decisions without permission to do so	Discuss and include stakeholder expected involvement in project agreement, review often and detail consequences of non-conformance.
Probable Causes	Risk Response/Contingency Plan
Ineffective stakeholder management	Risk Response: Mitigation
	Contingency Plan: To review Stakeholder contract with Sponsors, and if damages or delays result from their actions, contract conditions will be reinforced
Risk Matrix	Triggers Events
	Stakeholder communicating with project personnel or making decisions that they are not authorized to make

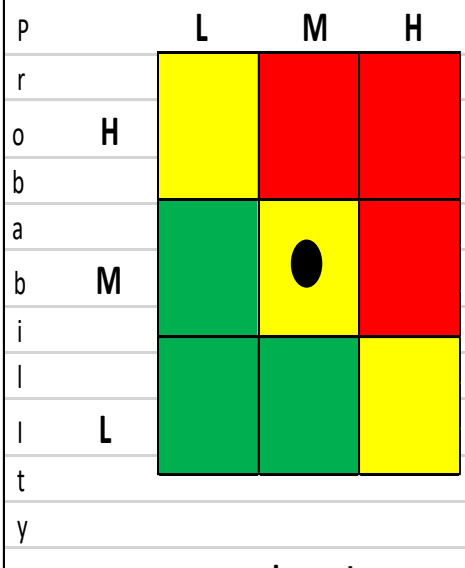
Risk ID # 14. Regulatory demands not consistent with approved drawings	
Description of Risk Event:	Prevention Strategies
Regulatory bodies do not provide deliverable approvals even though the details in the drawings have been approved by their counterparts	Meet with representatives from the regulatory bodies more than once to review requirements and compare with deliverables before formal inspection
Probable Causes	Risk Response/Contingency Plan
Human error	Risk Response: Accept Contingency Plan: Contingency added to budget for rework or to complete works
Risk Matrix	Triggers Events
	Denied permits and/or inspections even though specifications were adhered to

Figure 36 Qualitative Risk Analysis Summary. Adapted from Project Management Skills. Retrieved August 27, 2020 from **https://www.project-management-skills.com/qualitative-risk-analysis.html**

4.9 Project Procurement Management

Following Project Cost Management, Project Schedule Management and Project Resource Management, Project Procurement Management was conducted. A template was used to develop a Procurement Management Plan. The Project Charter, Risk Register, Stakeholder Register and Requirements Documentation were the inputs used in the process as stated in the PMBOK ® Guide. The tools and techniques utilized were expert judgement and meetings in the form of a personal interview with the Project Manager (Project Management Institute, 2017, p. 466).

The Procurement Management Plan depicted in **Figure 37** details how procurement will be addressed by the project team throughout the project life cycle. It outlines the Procurement Management Approach, types of contracts which will be used, identifies procurement risks and Procurement Risk Management, cost determination, procurement constraints, procurement metrics, the contract approval process, decision criteria and Vendor Management Approach.

As Procurement Management is essential for the success of the project and is subject to financial and scheduling constraints, all items being purchased by the project team had to be done effectively and efficiently. This provided adequate time for delivery within budget and of an acceptable standard of quality. Since the majority of the materials for the project had to be purchased from international suppliers, it was imperative that the Procurement Management Plan identified the items that would be outsourced and the date they were required as outlined in the Procurement Definition, a subset of the plan.

In this project, a Procurement Statement of Work was not formulated. Additionally, the Procurement Management Plan identifies Procurement Documents and a sample check sheet was used to evaluate vendor performance.

PROCUREMENT MANAGEMENT PLAN

CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

28 AUGUST 2020

TABLE OF CONTENTS

INTRODUCTION

The Procurement Management Plan outlines the procurement framework for the Castries Market Redevelopment Project. It will be used as a guide for managing procurement throughout the life of the project and will be updated as acquisition needs change. A make-or-buy analysis will not be used for this project as some of this information is portrayed in the architectural specifications and requirements defined during project initiation. Additionally, due to the vast experience and technical expertise of the project management team, the items to be purchased, made or constructed on site are already known. This plan identifies and defines the items to be procured, the types of contracts to be used in support of this project, the contract approval process and the source selection criteria. The importance of coordinating procurement activities, establishing firm contract deliverables and utilizing metrics in measuring procurement activities is included. Other items included in the Procurement Management Plan are procurement risks and Procurement Risk Management considerations, how costs will be determined, procurement constraints and how standard Procurement Documentation will be used.

PROCUREMENT MANAGEMENT APPROACH

The Project Manager will provide oversight and management for all procurement activities in this project. The Section Chief will collaborate with the Project Manager to identify all items to be procured for the successful completion of the project. The Project Manager will then review the procurement list prior to the purchasing which will be done by the Section Chief. The Project Manager will review the procurement items, determine whether it is advantageous to make or purchase the items, will begin the vendor selection, purchasing and the contracting process.

PROCUREMENT DEFINITION

The following procurement items and/or services have been determined to be integral for project completion and success. The following list of items, justification and timeline are pending the review of the Project Manager for onward transmission to the Section Chief for the commencement of purchases:

Item	Justification	Needed By
Concrete	This is a mixture resulting from sand and aggregate bound by cement that has chemically reacted with water.	5/1/2021
Timber	Will be used to produce formwork and to reinforce some aspects of the buildings	5/1/2021
Screws and Nails	Fasteners	5/1/2021
Reinforced Steel	Used to reinforce all concrete components	6/1/2021
Ceilings	Used to separate floor levels	28/2/2021
Faux Mouldings	Form moulding used to mimic known architectural profiles	8/1/2021
Electrical Transformers	Used to regulate the current into the building	17/3/2021

Item	Justification	Needed By
Bat Insulation	Used to maintain the temperature produced by the chilled water air conditioning system in the building	17/3/2021
Locks	Used to secure vendors' stalls	20/3/2021
PVC Ceiling Tiles	Will be used to produce ceilings	22/3/2021
Plywood	Will be used to produce formwork and in some instances as a substrate	7/1/2021
Windows and Doors	Used for ventilation and for entrance and exit	25/3/2021
Gutter System	Plastic system used to divert water into down leaders	10/1/2021
Chairs	To sit	25/5/2021
Plumbing Fixtures	Used for receiving water and/or waste matter that will direct these substances into a sanitary drainage system.	19/2/2021
Chilled Water Air Conditioning System	Designed to provide forced air into the building and to regulate the temperature	22/2/2021
Tables	For dining and lounge purposes	25/4/2021
Cement Finishes	Used to set concrete forms	1/2/2021
Telephone System Equipment	Used to provide telephone communications into the building	30/4/2021
Umbrella Tables	For dining and lounge purposes	25/4/2021
Concrete Floor System	Structural component used to uphold the dead weight and live weight of a floor system	12/1/2021
Fluorescent Tubes	Light fixtures for buildings	23/10/2019
Light Emitting Diode Light Bulbs	Used for street lights	9/1/2021
Razor Wire Timber Fencing	Used for boundary wall	27/3/2021
Building Automation System	Climate control system used to provide control over heating, cooling, lighting and other critical building systems	16/3/2021

In addition to the above list of procurement items, the following individuals are authorized to approve purchases for the project team:

Name	**Role**
A. Lake	Project Manager
I. Henry	Section Chief
Ms. Organizer	Office Attendant
Ms. Administrative Assistant	Administrative Assistant

TYPE OF CONTRACT TO BE USED

Services required for work such as electrical, masonry and roofing to be procured for this project will be solicited under a Labour Only Contract. Other services such as automation and management and integration are to be solicited under a Firm Fixed Price Contract. The project team will work with the Section Chief to define the item types, quantities, services and required delivery dates. The Section Chief will then solicit bids from various vendors. Once the vendor is selected, procurement of the items will commence within the required time frame and at a reasonable cost, based on contract conditions. All additional items to be procured for this project will be solicited under a Materials Only Contract.

PROCUREMENT RISKS

All procurement activities carry some potential for risk which must be managed to ensure project success. While all risks will be managed in accordance with the project's Risk Management Plan, there are specific risks which pertain specifically to procurement which must be considered:

- Unrealistic schedule and cost expectations from vendors
- Manufacturing capacity capability of vendors
- Conflicts with current contracts and vendor relationships
- Configuration management for upgrades and improvements of purchased technology
- Potential delays in shipping and impacts on cost and schedule
- Questionable past performance of vendors
- Potential that final product does not meet required specifications

These risks are not all-inclusive and the standard Risk Management process of identifying, documenting, analyzing, mitigating and managing risks will be utilized.

PROCUREMENT RISK MANAGEMENT

Project risks will be managed in accordance with the Risk Management Plan. However, for risks related specifically to procurement, there must be additional consideration and involvement. Project procurement efforts involve external organizations and potentially affect current and future business relationships as well as internal supply chain and vendor management operations. Due to the sensitivity of these relationships and operations, the project team will include the Project Sponsor/Client in all project meetings and status reviews.

Additionally, any decisions regarding procurement actions must be approved by the Project Sponsor/Client and Project Manager before implementation. Any issues concerning procurement actions or any newly identified risks will be immediately communicated to the project management team as well as the Project Sponsor.

COST DETERMINATION

For the Castries Market Redevelopment Project, a Request for Quote (RFQ) will be issued in order to solicit proposals from various vendors which describe how they will meet requirements and the cost of doing so. All proposals will include vendor support for all items listed in the Procurement Definition as well as the base and out-year costs. The vendors will identify how the work will be accomplished, who will perform the work, vendors' experience in providing these goods, customer testimonials, backgrounds and résumés of employees performing the work and a line-item breakdown of all costs involved. Additionally, the vendors will be required to submit work breakdown structures and work schedules to show their understanding of the work to be performed and their ability to accomplish the project schedule.

All information must be included in each proposal, as the proposals will be used as the foundation of the selection criteria. Proposals which omit solicited information or contain incomplete information will be discarded from consideration.

STANDARDIZED PROCUREMENT DOCUMENTATION

The Procurement Management process consists of numerous steps as well as ongoing management of all procurement activities and contracts. In this dynamic and sensitive environment, the goal must be to simplify Procurement Management by all necessary means in order to facilitate successful completion of all contracts and the project. To aid in simplifying these tasks, standard documentation will be used for all steps of the Procurement Management process. These standard documents will be developed and revised over a period of time in an effort to continuously improve procurement efforts in the future. The documents should provide adequate levels of detail which allow for easier comparison of proposals, more accurate pricing, more detailed responses and more effective management of contracts and vendors.

The Section Chief will develop and maintain a repository on the company's shared drive which will contain standard project management and procurement documentation that will be used for this project. The following standard documents will be used for project procurement activities:

- Standard Request for Proposal Template to include
    - Background
    - Proposal process and timelines
    - Proposal guidelines
    - Proposal formats and media
    - Source selection criteria
    - Pricing forms
    - Statement of work
    - Terms and conditions

- Internal Source Selection Evaluation Forms
- Non-Disclosure Agreement
- Letter of Intent
- Contract Types
- Procurement Audit Form
- Procurement Performance Evaluation Form
- Lessons Learned Form

PROCUREMENT CONSTRAINTS

There are numerous constraints that must be considered as part of the project's Procurement Management Plan. These constraints will be included in the RFQ and communicated to all vendors in order to determine their ability to operate within these constraints. These constraints apply to several areas which include schedule, cost, scope, resources and technology:

Schedule:

- Project schedule is not flexible and the procurement activities, contract administration and contract fulfillment must be completed within the established project schedule.

Cost:

- Project budget has a contingency reserve built in; however, the reserve may not be applied to procurement activities. Reserves are only to be used in the event of an approved change in project scope.

Scope:

- All procurement activities and contract awards must support the approved project scope statement. Any procurement activities or contract awards which specify work which is not in direct support of the project's scope statement will be considered out of scope and disapproved.

Resources:

- All procurement activities must be performed and managed with current personnel. No additional personnel will be hired or re-allocated to support the procurement activities on this project.

Technology:

- Parts specifications have already been determined and will be included in the statement of work as part of the RFQ. While proposals may include suggested alternative material or manufacturing processes, parts specifications must closely correspond with those provided in the statement of work.

CONTRACT APPROVAL PROCESS

The first step in the contract approval process is to decipher what items or services will require procurement from external vendors. This will be determined by conducting a cost analysis of products and services which are provided internally and compared with purchase prices from vendors. Once cost analyses are complete and the list of items and services to be procured externally is finalized, the Section Chief will send out solicitations to vendors. Once solicitations are complete and proposals have been received by all vendors, the approval process begins. The first step of this process is to conduct a review of all vendor proposals to determine which meet the criteria established by the project team. Purchases less than $15,000 only require the approval of the Section Chief; whereas, purchases greater than $15,000 must be approved by the Project Manager and the Project Sponsor. For the larger purchases, the Project Manager and Project Sponsor will meet to determine which contract will be accepted.

SOURCE SELECTION CRITERIA

The criteria for the selection and award of procurement contracts in this project will be based on the following decision criteria:

- Ability of the vendor to provide all items by the required delivery date
- Quality
- Cost
- Expected delivery date
- Comparison of outsourced versus in-sourcing
- Past performance

These criteria will be measured by the Project Manager and Section Chief. The ultimate decision will be made based on these criteria as well as available resources.

VENDOR MANAGEMENT

The Project Manager is ultimately responsible for managing vendors. In order to ensure the timely delivery and high quality of products from vendors, the Project Manager or the Section Chief will meet weekly with each vendor to discuss the progress for each procured item. The meetings can be in person or by tele-conference. The purpose of these meetings will be to review all documented specifications for each product. This forum will provide an opportunity to review each item's development of the service provided in order to ensure it complies with the requirements established in the project specifications. It also serves as an opportunity to ask questions or modify contracts or requirements ahead of time in order to prevent delays in delivery and schedule. The Section Chief will be responsible for scheduling this meeting on a weekly basis until all items are delivered and are determined to be acceptable.

PERFORMANCE METRICS FOR PROCUREMENT ACTIVITIES

The following metrics are established for vendor performance for the project's procurement activities. Each metric is rated on a 1-3 scale as indicated below:

Vendor	Product Quality	On Time Delivery	Documentation Quality	Development Costs	Development Time	Cost per Unit	Transactional Efficiency
Vendor #1							
Vendor #2							

1 – Unsatisfactory
2 – Acceptable
3 – Exceptional

In addition to rating each vendor, actual values will be noted in order to build a past performance database for selecting vendors for future procurement activities.

SPONSOR ACCEPTANCE

Approved by:

_____ Date: _____

<Project Sponsor>
<Project Sponsor Title>

Figure 37 Castries Market Redevelopment Project Procurement Management Plan. Adapted from Project Management Docs. Retrieved August 28, 2020 from https://www.projectmanagementdocs.com/template/project-planning/procurement-management-plan/#axzz6WWcisiWF

4.10 Project Stakeholder Management

The identification of stakeholders involved in the redevelopment of the Castries Market was the last process to be conducted in the Initiating Process Group. As such, the initial list of stakeholders identified in the Project Charter were reviewed by the Project Manager and Section Chief to develop a more comprehensive Stakeholder Register as seen in **Chart 8** below (Project Management Institute, 2017, p. 504).

Following the identification of potential stakeholders, Stakeholder Analysis was performed. Stakeholder Analysis involved the review of the data compiled in Chart 8, in an effort to ascertain the relevant information required to select the appropriate management strategies and level of engagement for each stakeholder. This is portrayed in **Chart 9**. There are numerous persons who will have varying degrees of power, influence, interest and levels of impact on the project (Project Management Institute, 2017, p. 512). As such, these stakeholders need to be managed effectively throughout the project life cycle.

To plan Stakeholder Engagement, the inputs used were the Project Charter, the Stakeholder Register, the Resource Management Plan and the Communications Management Plan. The tools and techniques used were expert judgement and meetings. The output produced was the Stakeholder Engagement Plan seen in **Figure 38** (Project Management Institute, 2017, p. 516). Each stakeholder was identified and detailed information was provided which explained how each would be engaged throughout the redevelopment of the Castries Market.

Chart 8 Castries Market Redevelopment Project Stakeholder Register (Source: R. Branch, The Author, August 2020)

STAKEHOLDER REGISTER											
Project Name: Castries Market Redevelopment Project **Prepared by: I. Henry (Section Chief)** **Project Manager: A. Lake** **Project Sponsor: Castries Constituency Council** **Date Prepared: August 29, 2020**											
ID	**Name**	**Organization**	**Role**	**Title**	**Contact Information**	**Communication Type**	**Communication Vehicles**	**Stake In Project**	**Influence**	**Perspective Regarding Project**	**Comments**
0	Mayor	Castries Constituency Council	Key Decision Maker & Financier	Owner	(758) 458-2000 ceo@ccc.com	Meetings Personal Communication Presentations Reports Announcements	Email Telephone Face to Face	Has high interest in the project and is responsible for the funding of the project. Is most critical throughout the entire project life cycle.	High	Positive	Owns 65% of Company

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
2	Ms. D. Cash	Castries Constituency Council	Financial Controller	Accountant	account@ccc.com	Personal Communication	Email	Has high interest in the project and is highly involved with the Owner and Board of Directors. Is most critical throughout project life cycle.	Medium	Positive	Is desirous of becoming a member of the Board of Directors and is often at meetings that she should not be part of. Has been giving advice to the Owner and Board of Directors as to how much she believes the project should cost which is below market cost.

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
4	A. Lake	Fresh Start Construction	Construction	Contractor	(758) 458-8700 alake@fsc.com	Meetings Personal Communication Presentations Reports Announcements	Email Telephone Face to Face	Has high interest in the project and is highly responsible for managing subcontracts and construction for the entire duration of the project.	High	Positive	Same person is also the CEO and Project Manager
5	A. Lake	Fresh Start Construction	Project Management	Project Manager	(758) 458-8700 alake@fsc.com	Meetings Personal Communication Presentations Reports Announcements	Email Telephone Face to Face	Has high interest in the project and is highly responsible for the management of the redevelopment of the Castries Market. Is critical throughout duration of project.	High	Positive	Same person is also the CEO and Project Manager

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
7	Ms. Administrative Assistant	Fresh Start Construction	Office Admin	Admin Assistant	(758) 458-8705 adma@fsc.com	Meetings Personal Communication Presentations Reports Announcements Team Morale	Email Telephone Face to Face	Has high interest in the project. Has responsibility for managing in office communications, taking minutes, conveying messages, etc	Low	Positive	Supporting Role
8	Mr. Construction Superintendent	Fresh Start Construction	Construction	Field Superintendent	(758) 458-8712 super@fsc.com	Meetings Personal Communication Presentations Reports Announcements Team Morale	Email Telephone Face to Face	Has high interest in the project. Has responsibility for overseeing the foreman, monitors gate and check points. Is in charge of overseeing the day to day running of the project site, hosting site meetings and documenting progress	High-Medium	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
10	Ms. Organizer	Fresh Start Construction	Office Admin	Office Attendant	(758) 458-8708 org@fsc.com	Meetings Personal Communication Presentations Announcements Team Morale	Email Telephone Face to Face	A moderate level of interest in the project and has responsibility for collecting miscellaneous materials from the hardware and lumber yard and minor cleaning	Low	Neutral	
11	Mr. Draughtsman	Fresh Start Construction	Design	Draughtsman	(758) 458-8707 draught@fsc.com	Meetings Personal Communication Team Morale	Email Telephone Face to Face	Has high interest in the project. Is responsible for working alongside the architect.	Low	Positive	
12	Electrical	Subcontractor	Electrical	Electrician	(758) 456 6300 electrical@company.com	Project Announcements Personal Communication Meetings	Email Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Low	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
14	Landscaping	Subcontractor	Landscaping	Landscaper	(758) 456 6325 landscaping@company.com	Project Announcements Personal Communication Meetings	Email Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Low	Positive	
15	Finishes and Ceilings	Subcontractor	Finishes	Finishes and Ceilings Subcontractor	(758) 456 6339 ceilings@company.com	Project Announcements Personal Communication Meetings	Email Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Low	Positive	
16	Roofing	Subcontractor	Roofing	Roofing Subcontractor	(758) 456 6346 roofing@company.com	Project Announcements Personal Communication Meetings	Email Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Low	Positive	
17	Fire and Safety	Subcontractor	Fire	Fire and Safety Subcontractor	(758) 456 6399 fire@company.com	Project Announcements Personal Communication Meetings	Email Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Low	Positive	
18	Roads	Subcontractor	Roads	Road Subcontractor	(758) 456 6350 roads@company.com	Project Announcements Personal Communication Meetings	Email Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Low	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
20	Windows and Doors	Subcontractor	Finishes	Windows and Doors Subcontractor	(758) 456 6380 windowsanddoors@company.com	Project Announcements Personal Communication Meetings	Email Telephone Face to Face	Has high level of interest in the project and has responsibility as a subcontractor	Low	Positive	
21	Site Workers	Various	Various	Various	Responsibility of employer (subcontractor)	Personal Communication Meetings	Face to Face	Has a high level of interest in the project and has responsibilities to complete work on the project	Low	Positive	
22	Representative	Caribbean Metals Limited	Roof Structure	Supplier	rep@caribbeanmetalslimited.com	Personal Communication Meetings Written	Email Telephone Web Conference	Has a high level of interest in the project as a supplier and is most critical during planning and executing	Low-Medium	Positive	
23	Representative	Concrete Xpress Limited	Concrete	Supplier	rep@concretexpress.com	Personal Communication Meetings Written	Email Telephone Web Conference	Has a high level of interest in the project as a supplier and is most critical during planning and executing	Low-Medium	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
25	Representative	Saint Lu Metals and Plastic Manufacturers Limited	Windows	Supplier	rep@slumetalsandplasticman.com	Personal Communication Meetings Written	Email Telephone Web Conference	Has a high level of interest in the project as a supplier and is most critical during planning and executing	Low-Medium	Positive	
26	Representative	PGT Industries	Doors	Supplier	rep@pgtind.com	Personal Communication Meetings Written	Email Telephone Web Conference	Has a high level of interest in the project as a supplier and is most critical during planning and executing	Low-Medium	Positive	
27	Representative	Pinnacle Industrial Supplier Inc	Steel	Supplier	rep@pinnacle.com	Personal Communication Meetings Written	Email Telephone Web Conference	Has a high level of interest in the project as a supplier and is most critical during planning and executing	Low-Medium	Positive	
28	Representative	Asona Limited	Finishes and Ceilings Materials	Supplier	rep@asona.com	Personal Communication Meetings Written	Email Telephone Web Conference	Has a high level of interest in the project as a supplier and is most critical during planning and executing	Low-Medium	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
30	Representative	Shell Global	Bitumen	Supplier	rep@shell.com	Personal Communication Meetings Written	Email Telephone Web Conferenc e	Has a high level of interest in the project as a supplier and is most critical during planning and executing	Low-Medium	Positive	
31	Quantity Surveyor	Consultant	Design	Quantity Surveyor	consultant@qs.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	
32	Land Surveyor	Consultant	Topography	Land Surveyor	consultant@ls.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
34	Civil Engineer	Consultant	Design	Civil Engineer	consultant@ce.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	
35	Planning Engineer	Consultant	Design	Planning Engineer	consultant@pe.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	
36	Electrical Engineer	Consultant	Design	Electrical Engineer	consultant@ee.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
38	Plumbing Engineer	Consultant	Design	Plumbing Engineer	consultant@pe2.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	
39	Landscaping Engineer	Consultant	Design	Landscaping Engineer	consulant@le.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	
40	Building Inspector	Consultant	Design	Building Inspector	consultant@bi.com	Personal Communication Meetings Project Announcements	Email Telephone Face to Face	Has a high interest in the project as a consultant. Is most critical during initiating and project planning	Low	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
42	Consumers	None	Consumption	Consumers	None	Project Announcements	Written	Has a high interest in the project and is most critical during project planning	Low	Positive	
43	Neighbouring Businesses	Various	Commercial	Neighbouring Businesses	None	Project Announcements	Written	Has a low interest in the project and is most critical during executing	Low	Neutral	
44	Civilians	None	N/A	Civilians	None	Project Announcements	Written	Has low interest in the project	Low	Neutral	
45	Representative	World Bank	Funding	Fund Administrator	rep@worldbank.com	Personal Communication Meetings Written	Email Telephone Web Conference	Has a high interest in the project and is responsible for the administration of funds for the project. Is most critical throughout the entire project life cycle	High	Positive	

ID	Name	Organization	Role	Title	Contact Information	Communication Type	Communication Vehicles	Stake In Project	Influence	Perspective Regarding Project	Comments
47	Ministry of Physical Planning Ministry of Infrastructure Ministry of Economic Development Ministry of Tourism	Government	Regulation	Regulation	(758) 468-0000	Personal Communication Meetings	Face to Face Email Written	Has a low interest in the project and is critical during project initiating, executing and closing	Medium	Neutral	
48	Environmental Agencies	Statutory Body	Saint Lucia National Trust National Conservation Authority	Environmental Manager	ea@conservegreen.com	Personal Communication Meetings	Telephone Face to Face Email Written	Has low interest in the project. Is interested in impact assessments	Low	Neutral	

Chart 9 Stakeholder Analysis and Level of Engagement (Source: R. Branch, The Author, August 2020)

Project Name: Castries Market Redevelopment Project					
Stakeholder Name/Group	**Key interests or stake in the change and degree of impact (H, M or L?)**	**Level of influence over the change (H, M or L?)**	**Present attitude to the change (in favour or opposed?)**	**Stakeholder Management Strategies**	**Key points for Stakeholder Engagement and Management Plan**
Mayor (Castries Constituency Council)	Interest High Impact High	H	Favour	Consult, involve and keep informed	Two-way engagement essential
Client Representative ,Board of Directors (Castries Constituency Council)	Interest High Impact High	H	Favour	Consult, involve and keep informed	Two-way engagement essential
Financial Analyst (Castries Constituency Council)	Interest High Impact Medium	M	Favour	Keep informed and support	One-way communication and support essential
A. Lake, CEO/Project Manager/Contractor (Fresh Start Construction)	Interest High Impact High	H	Favour	Consult, involve and keep informed	Two-way engagement essential
I. Henry, Section Chief (Fresh Start Construction)	Interest High Impact High-Medium	M	Favour	Involve and keep informed	Two-way engagement essential
Fresh Start Construction Team	Interest High Impact High	L	Favour	Involve and keep informed	One-way communication
Subcontractors	Interest High Impact High	M	Favour	Consult, involve and keep informed	Two-way engagement essential
Suppliers	Interest High Impact High	M	Favour	Consult, involve and keep informed	Two-way engagement essential
Consultants	Interest High Impact High	M	Favour	Consult and involve	Two-way engagement essential

Stakeholder Name/Group	Key interests or stake in the change and degree of impact (H, M or L?)	Level of influence over the change (H, M or L?)	Present attitude to the change (in favour or opposed?)	Stakeholder Management Strategies	Key points for Stakeholder Engagement and Management Plan
Vendors	Interest High Impact High	H	Favour	Consult and keep informed	Two-way engagement essential
Agencies (International and Regional)	Interest High Impact High	H	Favour	Consult, involve and keep informed	Two-way engagement essential
Regulatory Bodies	Interest Low Impact High	M	Neutral	Consult and involve	Two-way engagement essential
Community	Interest Low Impact High	L	Neutral	Keep informed	One-way communication

STAKEHOLDER ENGAGEMENT PLAN
CASTRIES MARKET REDEVELOPMENT PROJECT

FRESH START CONSTRUCTION
GROS ISLET, SAINT LUCIA

30 AUGUST 2020

TABLE OF CONTENTS

INTRODUCTION

Stakeholder Management consists of the processes required to identify the people, groups and organizations that can affect or be affected by the project, to analyze stakeholder expectations and their impact on the project and to develop appropriate strategies and tactics for effectively engaging stakeholders in a manner which is suitable for the stakeholders' interest and involvement in the project. The Stakeholder Engagement Plan helps ensure that stakeholders are effectively involved in project decisions and execution (PMBOK ® Guide 6th Edition) throughout the life cycle of the project, support is gained for the project and resistance, conflict or competing objectives is anticipated. The plan also helps with the maximization of resources required to complete the project.

The Stakeholder Engagement Plan includes the following:

- **Identify Stakeholders** – Identification of project stakeholders regularly and the analysis and documentation of relevant information regarding their interests, involvement, interdependencies, influence and potential impact on the project.

- **Plan Stakeholder Engagement** – Identification of the strategies and mechanisms that will be used to achieve the greatest support of stakeholders and minimize resistance.

- **Manage Stakeholder Engagement** – Outlines the processes and steps that will be undertaken to execute the planned strategies.

- **Monitor Stakeholder Engagement** – Describes the methods that will be employed to monitor stakeholder engagement and alert the project team if problems are surfacing.

Early identification and communication with stakeholders is imperative to ensure the success of the Castries Market Redevelopment Project, by gaining support and input for the project. Some stakeholders may have interests which may be positively or negatively affected by the Castries Market Redevelopment Project. By initiating early and frequent communication and stakeholder engagement, these interests can be better managed and balanced while accomplishing all project objectives.

IDENTIFY STAKEHOLDERS

In order to formulate an effective plan for engaging stakeholders, they must first be clearly identified and assessed. Stakeholders will be identified by performing a Stakeholder Analysis in which potential stakeholders and relevant information (interests, involvement, interdependencies, influence and potential impact on project success) are gathered, documented and analyzed (PMBOK ® Guide 6th Edition). To assist with stakeholder identification an analysis, the project team has developed and is completing a Stakeholder Engagement Assessment Matrix categorized by stakeholder group.

The Stakeholder Engagement Assessment Matrix captures the following information:

- Group Name
- Name of Stakeholders in the Group
- Description of the Group
- Level of Impact on the Project
- Impact Level of Project on Group
- Current Change Readiness State
- Desired Change Readiness State
- Issues, Risks and Opportunities associated with each Group
- Strategies and Actions to address Issues, Risks and Opportunities

A sample of the Stakeholder Engagement Assessment Matrix is shown below.

Impact is measured by High (H), Medium (M) or Low (L). State of change readiness is assessed using the measures from the PMBOK ® Guide as follows:

U – Unaware – This group has no information about the project
R – Resistant – Aware of the project and potential impacts but resistant to any changes that may occur as a result of the work or outcomes of the project
N – Neutral – Aware of the project but neither supportive nor unsupportive
S – Supportive – Aware of the project and potential impacts and supportive of the work and its outcomes
L – Leading – Aware of the project and potential impacts and actively engaged to ensure the project's success

Stakeholder Engagement Assessment Matrix

Group Name	Number in Group	Description and Key Attributes	Impact on Project	Impacted by Project	Current State	Desired State	Issues, Opportunities and Risks	Mitigation Strategies and Actions
Mayor/Board of Directors (Castries Constituency Council)	6	Key decision makers Mayor and Project Sponsor	H	H	L	L	Issue: Mayor takes advice from the Financial Controller who is not an expert in the field	Mitigate through signed contracts of roles and responsibilities

Group Name	Number in Group	Description and Key Attributes	Impact on Project	Impacted by Project	Current State	Desired State	Issues, Opportunities and Risks	Mitigation Strategies and Actions
Fresh Start Construction	40	Consists of contractor, Project Manager, Section Chief (Procurement Officer), office staff	H	H	L	L	Risk: Varying levels of incompetence or low level of productivity	Incentivize (Resource Management)
Subcontractors	9	Contracted professionals	H	H	S	S	Risk: Inaccurate or inefficient designs, lack of concern and tardiness	Checkpoints and independent check person (Project Manager)
Suppliers	9	Provide materials on a contract basis	H	M	S	S	Opportunity: International products are cheaper than local products Risks: Schedule delays and faulty materials	Risk: Insurance
Consultants	10	Technical expertise	H	M	S	S	Risk: Varying levels of incompetence or low level of productivity	Checkpoints and independent check person (Project Manager)
Vendors	87	Opinions	H	H	S	S	Risk: Personal gain and unwarranted demands	Ignore, meeting
Agencies (International and Regional)	2	Administers funds and offers advice on tourism development	H	H	L	L	Opportunity: Development, increased support	N/A

Group Name	Number in Group	Description and Key Attributes	Impact on Project	Impacted by Project	Current State	Desired State	Issues, Opportunities and Risks	Mitigation Strategies and Actions
Regulatory Bodies	6	Regulate and enforce building codes and standards	H	L	N	N	Risk: Additional non constitutional items to the agenda	Compliance or negotiation
Community	3	Opinions	L	L	U	N	Risk: Nuisance	Ignore, meeting and/or legal course of action

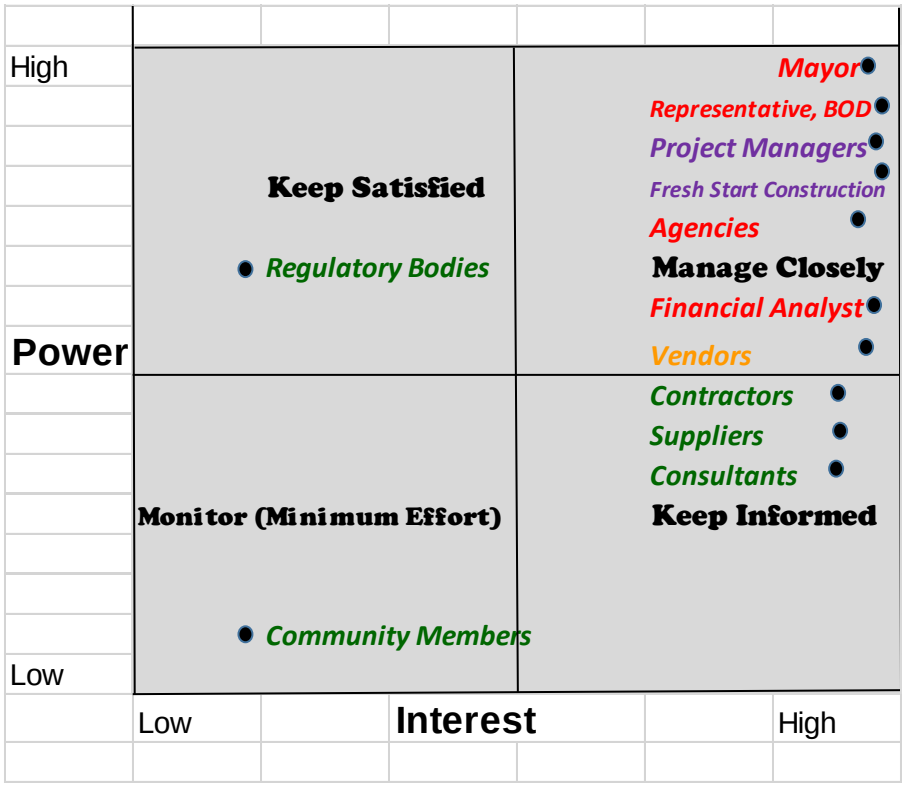
POWER/INTEREST CLASSIFICATION

As previously mentioned, the position of each group of stakeholders is analyzed, as well as their impact on the project and/or how they are impacted by the project. One purpose of this activity is to identify and categorize groups so that the required level of attention can be given to each group according to the level of engagement required.

To assist in this process, the Power/Interest Grid will be used to classify each stakeholder group. The Power/Interest Grid analyzes stakeholder groups in a visual manner to further establish stakeholders' level of interest or concern and their ability to influence project outcomes. An important outcome of the stakeholder identification and analysis, including the Power/Interest Grid, is the identification of the most influential and most impacted stakeholder groups so that a focused Stakeholder Engagement Strategy and Plan can be developed and executed.

The Power/Interest Grid with the major stakeholders and stakeholder groups for the project is shown below:

Power/Interest Grid



STAKEHOLDER INTERVIEWS

The Section Chief will conduct a series of reviews with the Mayor and other relevant parties to confirm that the Stakeholder Identification and Analysis process is accurate and complete. Additionally, optional qualitative interviews may be performed with the stakeholder groups identified as most influential or most impacted by the project to ensure that their issues and concerns have been captured accurately.

PLAN STAKEHOLDER ENGAGEMENT

Plan Stakeholder Engagement is the process of developing appropriate strategies to effectively engage stakeholders throughout the life cycle of the project based on an analysis of their needs, expectations, interest and potential impact on project success. The key benefit of this process is that it provides a clear, actionable plan to interact effectively with project stakeholders (PMBOK ® Guide 6th Edition).

Based on the information provided in the Stakeholder Analysis and Level of Engagement Plan, the Project Manager will be responsible for engaging stakeholders throughout the life cycle of the project. The level of engagement for each stakeholder may vary over the duration of the project. For example, during the initial stages of the project, it might be

necessary for the Project Manager to engage more highly with key stakeholders. Highly engaged key stakeholders in the initial stages of the project are integral for project kick-off, achieving high levels of buy-in from team members and clearing obstacles. As the project progresses, the level of engagement will shift from key stakeholders to the rest of the project team and end users.

STAKEHOLDER ENGAGEMENT

To ensure that the appropriate level of engagement is being achieved by each stakeholder, the Project Manager will analyze current levels of engagement using the Stakeholder Engagement Assessment Matrix. Each stakeholder group shall be assessed in terms of their current and desired level of engagement.

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
Mayor					C D
Client Representative, Board of Directors					C D
Project Managers					C D
Fresh Start Construction					C D
Financial Analyst		C		D	
Agencies					C D
Vendors				C D	
Regulatory Bodies			C D		
Subcontractors				C D	
Suppliers				C D	
Consultants				C D	
Community	C		D		

Key:
C – Current level of engagement
D – Desired level of engagement

MANAGE STAKEHOLDER ENGAGEMENT

Stakeholder Engagement Management is the process of communicating and working with stakeholders to meet their needs and expectations, address issues and foster appropriate stakeholder involvement in project activities throughout the duration of the project. The key benefit of this process is that it allows the Project Manager to increase support and minimize resistance from stakeholders (PMBOK ® Guide 6th Edition).

To effectively manage stakeholder engagement, the Castries Market Redevelopment Project will utilize the Communications Management Plan and strategies identified above to communicate the relevant project information to key stakeholders in a proactive and timely manner. By leveraging the information provided in the Communications Management Plan, there will be increased support from stakeholders and minimal resistance throughout the life of the project. Managing stakeholder engagement helps to

increase the probability of project success by ensuring that stakeholders clearly understand the project goals, objectives, benefits and risks,

Additionally, the project team will be actively listening and soliciting input and feedback to ensure communications are being received and understood and to capture information to help make adjustments and respond to problem areas. As a result, changes to the project scope may emerge which will be processed for review and disposition through the Change Control process. The Issue Log will also be used to document and address concerns raised by stakeholders and to identify and provide solutions for stakeholder management risks that have materialized into issues.

MONITOR STAKEHOLDER ENGAGEMENT

Monitoring Stakeholder Engagement is the process of monitoring overall project stakeholder relationships and tailoring strategies for engaging stakeholders through modification of engagement strategies and plans. This process involves collecting data, assessing the level of engagement and using insights from the data collection to modify strategies and tactics for engaging effectively with stakeholders. As stated in the Communications Management Plan and the Risk Management Plan, the Castries Market Redevelopment Project will have mechanisms to receive ongoing direct feedback from key stakeholders, including email, personal communication, site meetings, status meetings and community meetings. Individual stakeholders will be encouraged to participate, ask questions and raise concerns, with the most serious issues and concerns that are raised being addressed in a formal, rigorous process through the Issue Log.

As stated in the Scope Management Plan, the project will solicit broad participation in the collection and validation of requirements, which will uncover issues and concerns at an early stage, so they can be addressed.

Stakeholders are critical to the project's success. The project team will plan for and will work to involve, engage and listen to all key stakeholders throughout the project life cycle.

STAKEHOLDER PLAN UPDATES

The Stakeholder Engagement Plan and associated project documents are not unchanging. The stakeholders identified and the information documented in the Stakeholder Register will be reviewed at least monthly to ensure that the plan is meeting project expectations and to make modifications if necessitated.

APPROVAL

Signature indicates approval of this Stakeholder Engagement Plan.

Approved by:

_____ Date: _____

Mayor, Castries Constituency Council

Prepared by:

_____ Date: _____

Section Chief, I. Henry
Project Manager, A. Lake

Figure 38 Castries Market Redevelopment Project Stakeholder Engagement Plan. Adapted from the Department of Information Technology, Maryland. Retrieved August 30, 2020 from http://doit.maryland.gov/SDLC/FormServerTemplates/Stakeholder%20Management%20Plan.doc

5 CONCLUSIONS

1) The Project Management Plan which will be used as a developmental tool for the Redevelopment of the Castries Market Project Management team, was created using the analytical research methodology and the Sixth Edition of A Guide to the Project Management Body of Knowledge (PMBOK® Guide).

2) The Project Charter was the first subsidiary component of the Project Management Plan, which was created as the deliverable for the first specific objective. A template was used as a guide to capture and organize the business needs and objectives, project description, preliminary scope statement, initial project risks, project deliverable, summary milestones and project budget. The Project Charter also included identification of the Project Manager and the Project Sponsor's authorization for the project to commence.

3) The Scope Management Plan, which was created as the deliverable for the second specific objective, defined and specified the scope of the project. The plan as well as the WBS, WBS Dictionary, Requirements Management Plan, Requirements Documentation and Requirements Traceability Matrix, were developed from a table or template and captured information collected during meetings with project stakeholders and from project document reviews.

4) The Schedule Management Plan, which was the output from the third specific objective, was created along with the Activity list, Schedule Network Diagram, Resource Assignment Table and Activity Duration Table and Project Gantt Chart, in order to adequately identify and orchestrate each project activity to ensure the project's completion within the time constraints.

5) The Cost Management Plan, which was the output from the fourth specific objective, was created using a template. The plan will guide the development of cost management performance measures and documents including the Cost Baseline and the Project Funding Requirements.

6) A template was used to develop the Quality Management Plan, which is the output from the fifth specific objective. The plan was used to identify the project's Quality Management Approach, quality requirements and/or standards, Quality Assurance, Quality Control and the quality control measures which will be utilized throughout the project, in an effort to ensure that quality is built into the project's processes and product.

7) To address the sixth objective, the Resource Management Plan was developed in which all the resources required to complete the project were identified and classified in a comprehensive list.

8) A template was used to create the Communications Management Plan, which is the output of the seventh specific objective. Additionally, a Communications Matrix was developed which outlined all project stakeholders and the mode of communication which would be used to ensure that information disseminated is done so at the appropriate time, in the most suitable format, to the right people and by the right person.

9) The deliverable for the eighth specific objective, the Risk Management Plan, was created using a template. Additionally, a Risk Register was developed along with Qualitative Risk Analysis, to capture and classify project risks so that effective risk responses could be planned. Quantitative Risk Analysis was not performed during this process as the tools were not available for use.

10) The Project Management Plan deliverable, which was created for the ninth specific objective, was developed using a template to identify the project's Procurement Management Approach, the types of contracts used and the contract approval process. The plan is comprehensive as is outlines procurement risks and constraints and how these issues, as well as vendors, will be managed effectively.

11) The Stakeholder Engagement Plan which was developed for the tenth specific objective was also created using a template. In addition to the plan which detailed how stakeholders will be identified, classified, managed and engaged throughout the project, the Stakeholder Register and Stakeholder Analysis and Level of Engagement were also developed to provide more information for effective stakeholder engagement.

12) Although Construction Management has been used as a guide at Fresh Start Construction for many years, the Sixth Edition of the PMBOK® Guide provided a set of sound project management practices which the project team can use to develop a thorough Project Management Plan and to improve the way the company will manage future projects.

6 RECOMMENDATIONS

1) Fresh Start Construction should employ formal Project Management methods or formal Construction Management methods to increase the likelihood of project success in the completion of construction projects.

2) Fresh Start Construction should develop standard project management initiating and planning documents prior to the execution of construction projects.

3) All projects managed by Fresh Start Construction should be led by a project management team, using developed standard project planning documentation tailored for the project.

4) Fresh Start Construction should invest in the tools required to complete Quantitative Risk Analyses for all projects.

5) Fresh Start Construction should use a Project Management Guide or Framework to direct the development of all project management tools.

6) The Chief Executive Officer of Fresh Start Construction should ensure that the project management team is hired and in place prior to the execution of any project and ensure that this team conducts all project planning related activities in order to enhance the proper management of the project during its life cycle.

7) Fresh Start Construction’s project management team should utilize a document management and storage system to organize and store all documents created for future use and review.

8) Fresh Start Construction’s project management team should exercise care and caution during the development of each subsidiary plan of the Project Management Plan to ensure that all planning subsets for each knowledge area or respective application area are thorough and accurate.

9) The project management team of Fresh Start Construction should consider the use of the planning process and templates created during the development of the Project Management Plan for the Redevelopment of the Castries Market, as a foundation for implementing a methodology to be used by the company for future projects.

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8 APPENDICES

Appendix 1: FGP Charter

PROJECT CHARTER	
Date:	**Project Name:**
February 24, 2020	Project Management Plan for the redevelopment of a vendors market
Knowledge Areas / PM Processes:	**Application Area (Sector / Activity):**
Knowledge Areas: Project Integration Management, Project Scope Management, Project Schedule Management, Project Cost Management, Project Quality Management, Project Resource Management, Project Communications Management, Project Risk Management, Project Procurement Management, Project Stakeholder Management PM Processes: Initiation, Planning	Construction/Commercial
Project Start Date:	**Project Finish date:**
February 24, 2020	September 1, 2020
Project Objectives (General and Specific):	
General Objective:	
To develop a Project Management Plan framed within the standards of the Project Management Institute to manage the redevelopment of a vendors market	
Specific Objectives:	
1) To create a Project Charter to describe the project, its rationale, its goals, the main stakeholders and grant the project manager with the authority to assign resources to project activities.	
2) To create a Scope Management Plan to ensure that it includes all the work required to successfully complete the project.	
3) To create a Schedule Management Plan to define how the project schedule will be managed throughout the project life cycle to ensure the project is completed within specified time frame.	
4) To create a Cost Management Plan to outline the project's estimation, allocation and control of costs for the required resources to complete all project activities within the budget constraints.	
5) To develop a Quality Management Plan to describe how quality will be managed throughout the project life cycle to ensure that results meet stakeholder expectations within time, cost and scope constraints.	
6) To develop a Resource Management Plan to provide guidance on how human resources should be categorized, allocated, managed and released effectively to complete the project within time, cost and scope constraints.	
7) To create a Communications Management Plan to define the communication requirements of the project and how information will be disseminated in a timely and effective manner.	
8) To create a Risk Management Plan to identify and examine specific risks and develop risk mitigation strategies to minimize the likelihood of the risks and ensure the successful completion of the project.	
9) To develop a Procurement Management Plan to describe how the goods, services or results required for the project will be obtained.	
10) To create a Stakeholder Management Plann to ensure each stakeholder is involved in project decisions and execution throughout the project life cycle according to their needs, interest and impact.	

Project purpose or justification (merit and expected results):

The aim of the Final Graduation Project (FGP) is to develop a Project Management Plan for the redevelopment of a vendors market. The Project Management Plan will provide the necessary structure to execute the project successfully. It will help to assign roles and specific tasks throughout the life cycle of the project while also communicating important milestones to keep the Project Management Team on track during the executing, monitoring and controlling and closing processes. The project for the redevelopment of the vendors market is critical to transform the image and business of vending in the city. It will encourage comfort and a structured approach to vending and will create an environment which is conducive to economic development. The Project Manager and Project Management Team understand that project planning plays an essential role in helping guide stakeholders, sponsors, teams, and the Project Manager through other project phases. Planning is needed to identify desired goals, reduce risks, avoid missed deadlines, and ultimately deliver the agreed product, service or result.

Description of Product or Service to be generated by the Project – Project final deliverables:

The Project Management Plan for the Redevelopment of a Vendors Market will be generated by this project. This plan wil consist of all the components and subsidiary documents of a Project Management Plan. The Project Management Plan will address all good practices recommended in relevant bibliographical sources such as the Project Body of Knowledge (PMBOK 6th Edition). Specific deliverables associated with each specific objective include 1. Project Charter, 2. Scope Management Plan, 3. Schedule Management Plan, 4. Cost Management Plan, 5. Quality Management Plan, 6. Resource Management Plan, 7. Communications Management Plan, 8. Risk Management Plan, 9. Procurement Management Plan and 10. Stakeholder Management Plan

Assumptions:

1. It is assumed that all the necessary information to execute this Final Graduation Project will be readily available. 2. It is assumed that the project can be completed within three (3) months. 3. It is assumed that the project can be completed by one (1) individual. 4. It is assumed that the quality of the information available for the development of the Project Management Plan will be best.

Constraints:

1. The pre-established time frame stated by the university for the completion of each of the Final Graduation Project phases. 2. There will only be one (1) person which is the Project Manager, available to develop the Final Graduation Project.

Preliminary Risks:

1. If the schedule for the completion of milestones is not adhered to, the Project Management Plan may not be completed in three (3) months. 2. If the necessary support required from the supervisor is not prompt, the Project Management Plan may not be completed on time.

Budget:

$500 (five hundred U.S dollars). This budget will constitute the financial resources required to print, bind and ship the Final Graduation Project to Costa Rica.

Milestones and dates:

Milestone	**Start date**	**End date**
Final Graduation Project Start	February 24, 2020	February 24, 2020
Project Charter	February 24, 2020	March 1, 2020
Work Breakdown Structure	February 24, 2020	March 1, 2020
Chapter I: Introduction	March 2, 2020	March 8, 2020
Final Graduation Project Schedule	March 2, 2020	March 8, 2020
Chapter II: Theoretical Framework	March 9, 2020	March 15, 2020
Chapter III: Methodological Framework	March 16, 2020	March 22, 2020
Executive Summary	March 23, 2020	March 29, 2020
Annexes	March 23, 2020	March 29, 2020
Signed Charter - Approval	March 23, 2020	March 29, 2020
Tutoring	March 30, 2020	July 26, 2020
Previous Chapters Adjustments	April 2, 2020	April 8, 2020
Chapter IV: Development (Results)	June 10, 2020	August 31, 2020
a) Charter	June 10, 2020	June 20, 2020
b) Scope Management Plan	July 10, 2020	July 24, 2020
c) Schedule Management Plan	July 27, 2020	August 8, 2020
d) Cost Management Plan	August 15, 2020	August 23, 2020
e) Quality Management Plan	August 23, 2020	August 24, 2020
f) Resource Management Plan	August 23, 2020	August 24, 2020
g) Communications Management Plan	August 25, 2020	August 29, 2020
h) Risk Management Plan	August 25, 2020	August 29, 2020
i) Procurement Management Plan	June 6, 2020	June 10, 2020
j) Stakeholder Management Plan	June 13, 2020	June 18, 2020
k) Project Integration: Project Management Plan	June 10, 2020	August 31, 2020
Chapter V: Conclusions	September 2, 2020	September 2, 2020
Chapter VI: Recommendations	September 2, 2020	September 2, 2020
Tutor Approval	September 5, 2020	September 5, 2020
FGP Submission to Reviewers	September 7, 2020	September 7, 2020
Review	September 10, 2020	September 21, 2020
Adjustments	September 13, 2020	October 3, 2020
Presentation to Board	October 4, 2020	October 10, 2020

Relevant historical information:	
Not applicable	
Stakeholders:	
Direct stakeholders: Final Graduation Project Lecturer: Mr. Carlos Brenes, Tutor, Project Manager: Ruan Branch Indirect stakeholders: Academic Assistant: Gabriela Zúñiga, Reviewers	
Approval:	
Project Manager: Ruan Branch	Signature: 
Authorized by:	Signature:

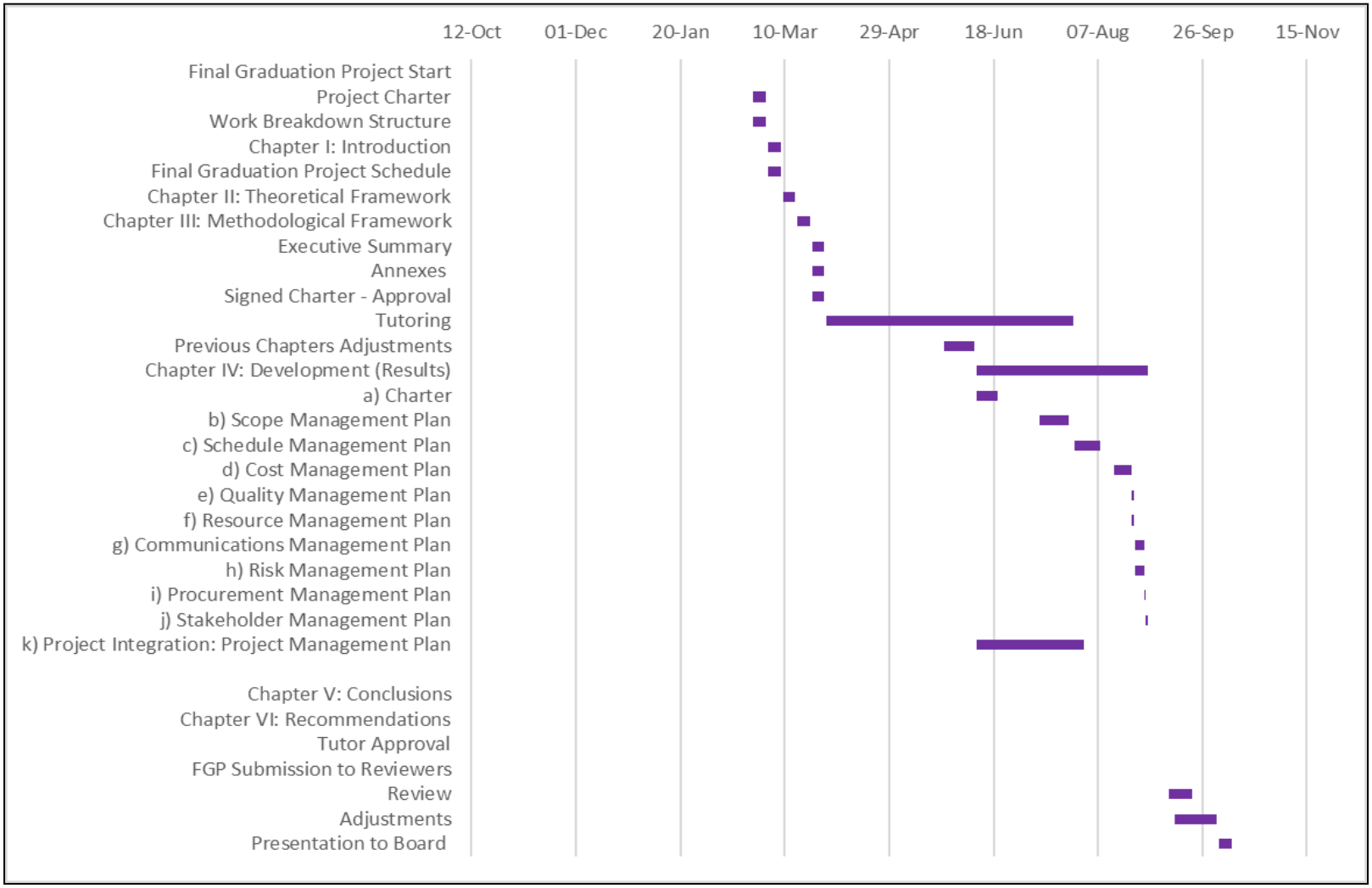
Appendix 2: FGP WBS

Final Graduation Project Work Breakdown Structure

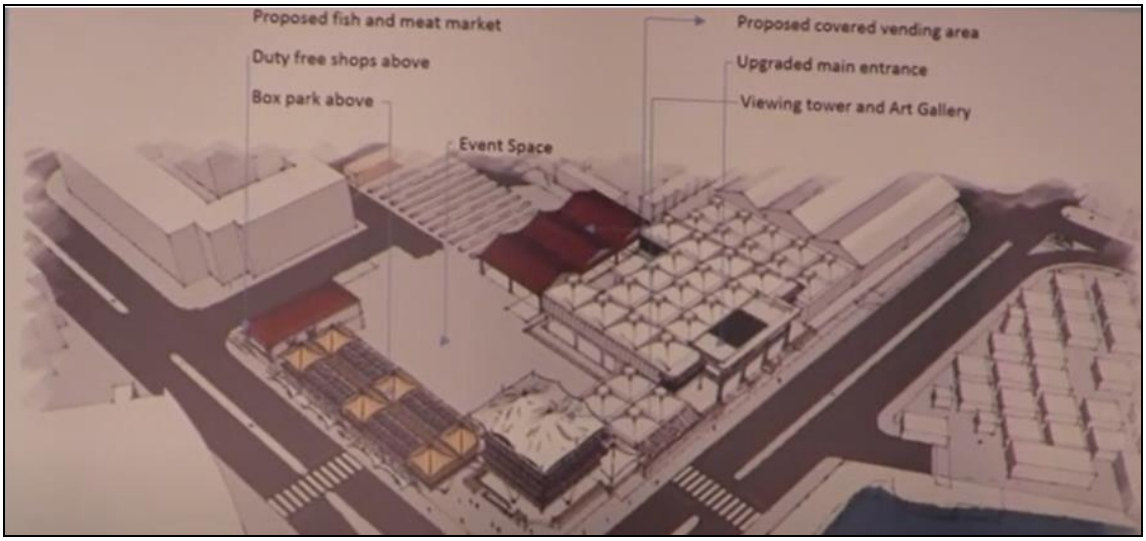
Project Start
1. Graduation Seminar
1.1 Final Graduation Project (FGP) Deliverables
1.1.1 Project Charter
1.1.2 Work Breakdown Structure (WBS)
1.1.3 Chapter I: Introduction
1.1.4 Chapter II: Theoretical Framework
1.1.5 Chapter III: Methodological Framework
1.1.6 Annexes - Bibliography, Schedule
1.2 Graduation Seminar Approval
2. Tutoring Process
2.1 Tutor
2.1.1 Tutor Assignment
2.1.2 Communication
2.2 Previous Chapters Adjustments
2.3 Chapter IV: Development
2.3.1 Initiation Phase
2.3.1.1 Project Charter
2.3.1.2 Stakeholder Management
2.3.2 Planning Phase
2.3.2.1 Scope Management
2.3.2.2 Schedule Management
2.3.2.3 Cost Management
2.3.2.4 Procurement Management
2.3.2.5 Resource Management
2.3.2.6 Quality Management
2.3.2.7 Risk Management
2.3.2.8 Communications Management
2.3.2.9 Project Integration
2.3.2.9.1 Project Management Plan
2.4 Chapter V: Conclusions
2.5 Chapter VI: Recommendations
3. Reading by Reviewers
3.1 Reviewers assignment request
3.1.1 Assignment of two reviewers
3.1.2 Communication

3.1.3 FGP submission to reviewers
3.2 Reviewers work
3.2.1 Reviewer 1
3.2.1.1 FGP reading
3.2.1.2 Reader 1 report
3.2.2 Reviewer 2
3.2.2.1 FGP reading
3.2.2.2 Reader 2 report
4. Adjustments
4.1 Report for reviewers
4.2 FGP update
4.3 Second review by reviewers
5. Presentation to Board of Examiners
5.1 Final review by Board
5.2 FGP Grade Report

Appendix 3: FGP Schedule



Appendix 4: Castries Market Drawings and Proposed Layout



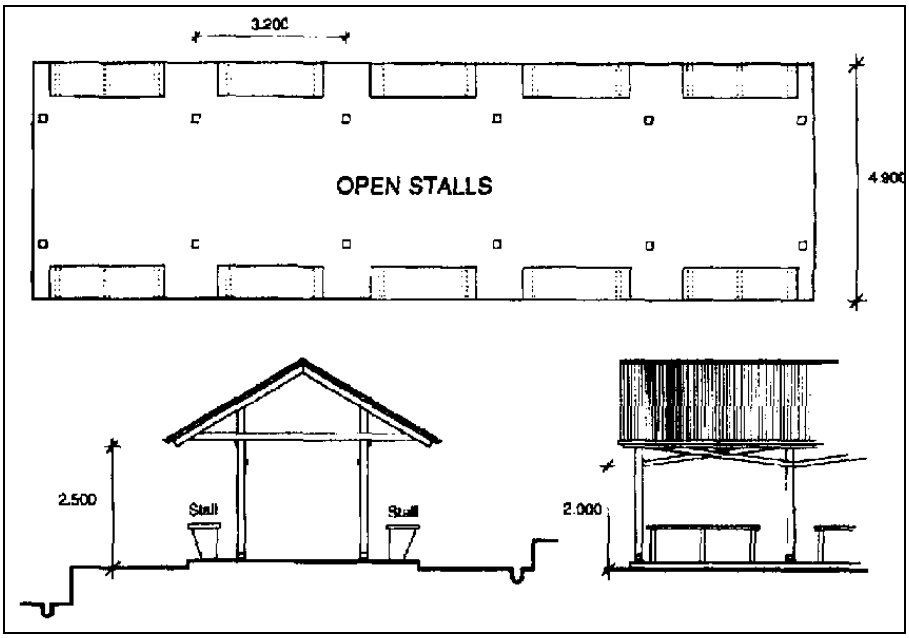
Proposed Layout of Castries Market

Phase 2 of the Redevelopment of the Castries Market

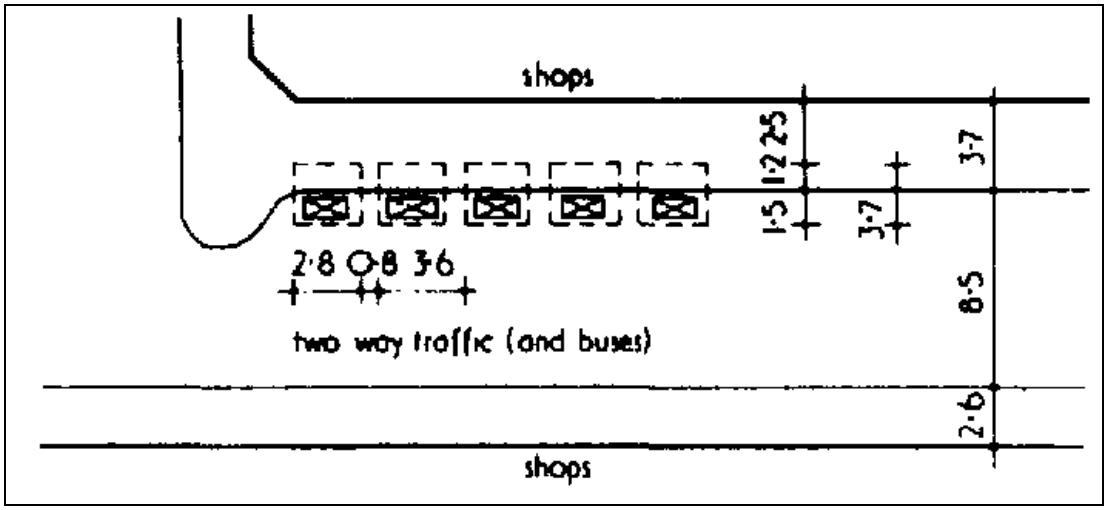
Redevelopment of the Castries Market

Redevelopment of the Castries Market

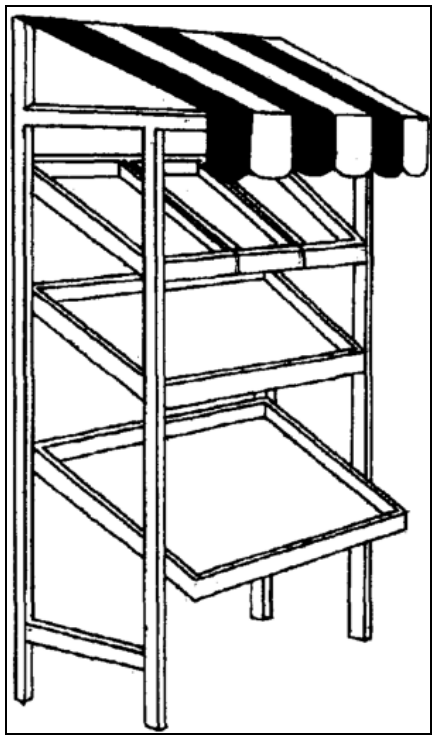
Redevelopment of the Castries Market



Market Structure Plan



Roadway and Pavement Plan



Vendor Stall

Appendix 5: Revision Dictum

CERTIFICATE OF REVIEW

FOR

RUAN NADMI BRANCH

Final Graduation Project, Master in Project Management (MPM) Degree, 'Project Management Plan for the Redevelopment of the Castries Market, Saint Lucia'

Comments

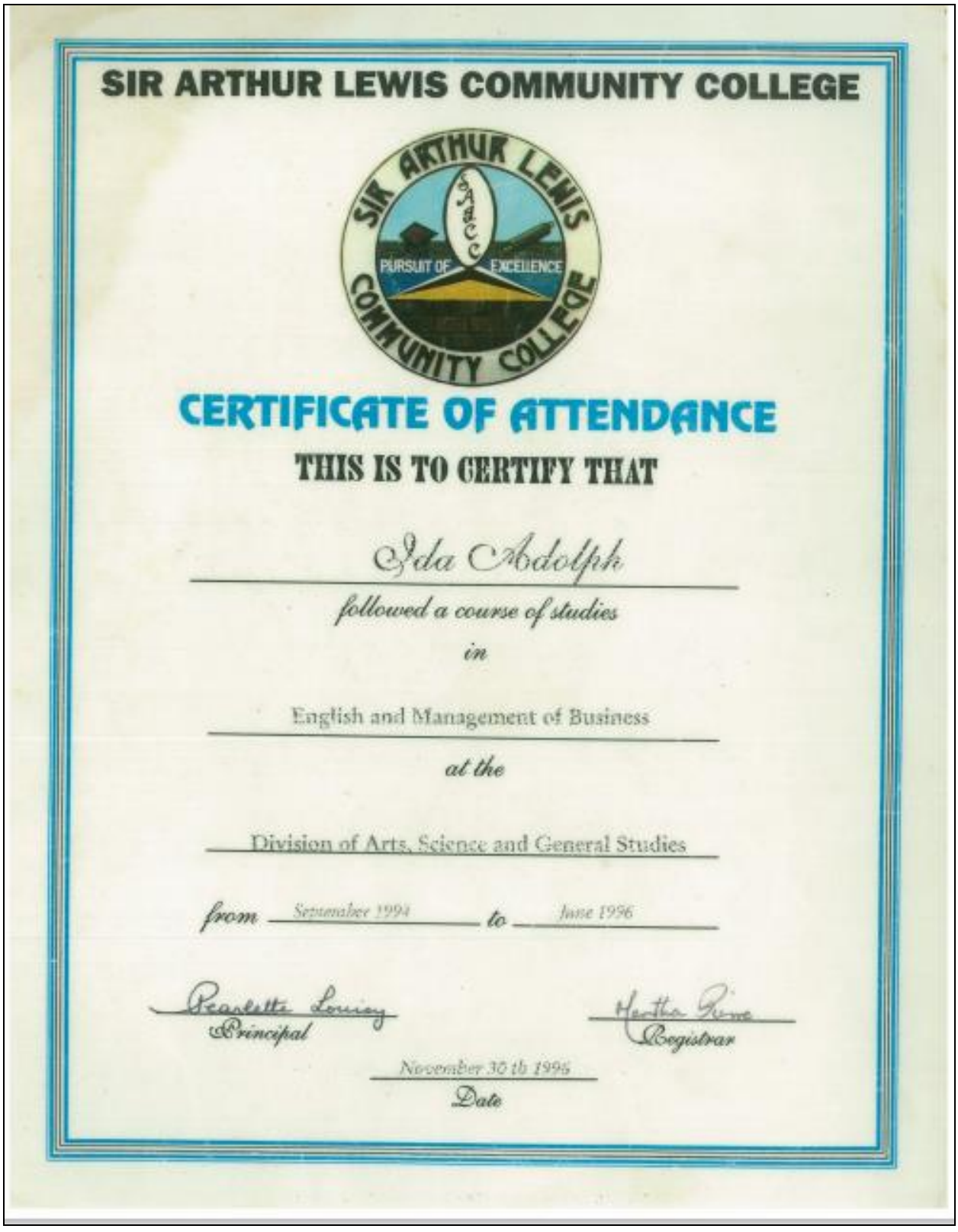
Grammatical and typographical corrections were made. A few sentences were reconstructed for reading fluency and ease of comprehension. A major strength of the writer is attention to detail, for example, in defining relevant terms, as well as presenting data in a variety of formats to reinforce correct interpretation. There is a strict adherence to structure/outline creating a general smoothness in the flow of the paper. Indeed, the analytical approach used by the writer enabled critical assessment of the presented data.

.....

Ida Adolph, B Ed

Castries, Saint Lucia

Appendix 6: Linguist Credentials



SIR ARTHUR LEWIS COMMUNITY COLLEGE

SIR ARTHUR LEWIS COMMUNITY COLLEGE
PURSUIT OF EXCELLENCE

CERTIFICATE OF ATTENDANCE

THIS IS TO CERTIFY THAT

Ida Adolph

followed a course of studies

in

English and Management of Business

at the

Division of Arts, Science and General Studies

from Septembee 1994 to June 1996

Pearlette Louisy
Principal

Hertha Pierre
Registrar

November 30 th 1996
Date

SIR ARTHUR LEWIS COMMUNITY COLLEGE

SIR ARTHUR LEWIS COMMUNITY COLLEGE
PURSUIT OF EXCELLENCE

THIS IS TO CERTIFY THAT

Ida N T Adolph

having completed the Programme of Study approved by the Academic Board and having passed the prescribed Examinations has been awarded the

ASSOCIATE DEGREE

in

General Teacher Training

(Credit)

Principal

Registrar

December 2, 2001

Date

SIR ARTHUR LEWIS COMMUNITY COLLEGE
MORNE FORTUNE, CASTRIES, ST LUCIA

Division of Teacher Education and Educational Administration

EXAMINATION RESULTS

NAME : IDA ADOLPH **STUDENT I.D.** : 2000583

PROGRAMME : Primary Teacher Education **YEAR OF ENTRY** : 1999

ACADEMIC YEAR : 1999/2000 **SEMESTER** : One

LEVEL : Associate Degree

COURSE CODE	COURSE TITLE	MARK	GRADE
EDP411	Introduction to Human Growth & Development	71	B
EDS411	Social Foundations of Education	84	A-
HFL411	Health and Nutrition	65	B-
LAM411	Introduction to Language Learning & Teaching	70	B
MMF411	Fundamentals of Mathematics Teaching	77	B+
SCB400	Basic Science	71	B
SCC411A	Matter and Change 2	81	A-
SSM411	Introduction to Social Studies Methods	71	B
POE211	Poetry	86	A

COMMENTS : Pass : (✓) .....
Supplementals : ( ) .....
Fail : ( ) .....

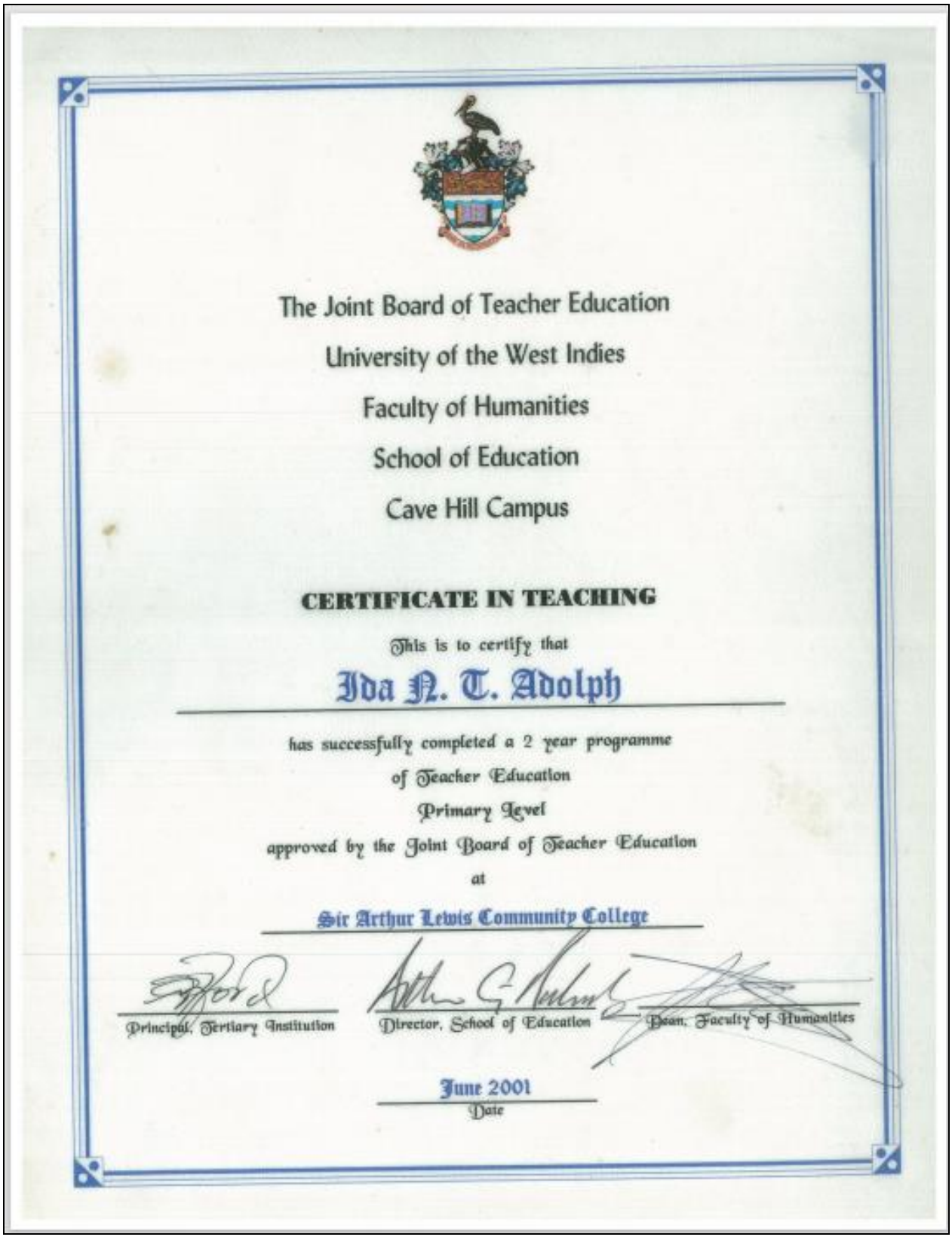
SIR ARTHUR LEWIS COMMUNITY COLLEGE SAINT LUCIA

.....
DEAN

.....
REGISTRAR

January 25, 2000
DATE

26 Jan 2000
DATE



The Joint Board of Teacher Education

University of the West Indies

Faculty of Humanities

School of Education

Cave Hill Campus

CERTIFICATE IN TEACHING

This is to certify that

Ida N. T. Adolph

has successfully completed a 2 year programme

of Teacher Education

Primary Level

approved by the Joint Board of Teacher Education

at

Sir Arthur Lewis Community College

Principal, Tertiary Institution

Director, School of Education

Dean, Faculty of Humanities

June 2001

Date

SIR ARTHUR LEWIS COMMUNITY COLLEGE
MORNE FORTUNE, CASTRIES, ST LUCIA

Division of Teacher Education and Educational Administration

FINAL EXAMINATION RESULTS
2001

NAME : Ida N. T. Adolph

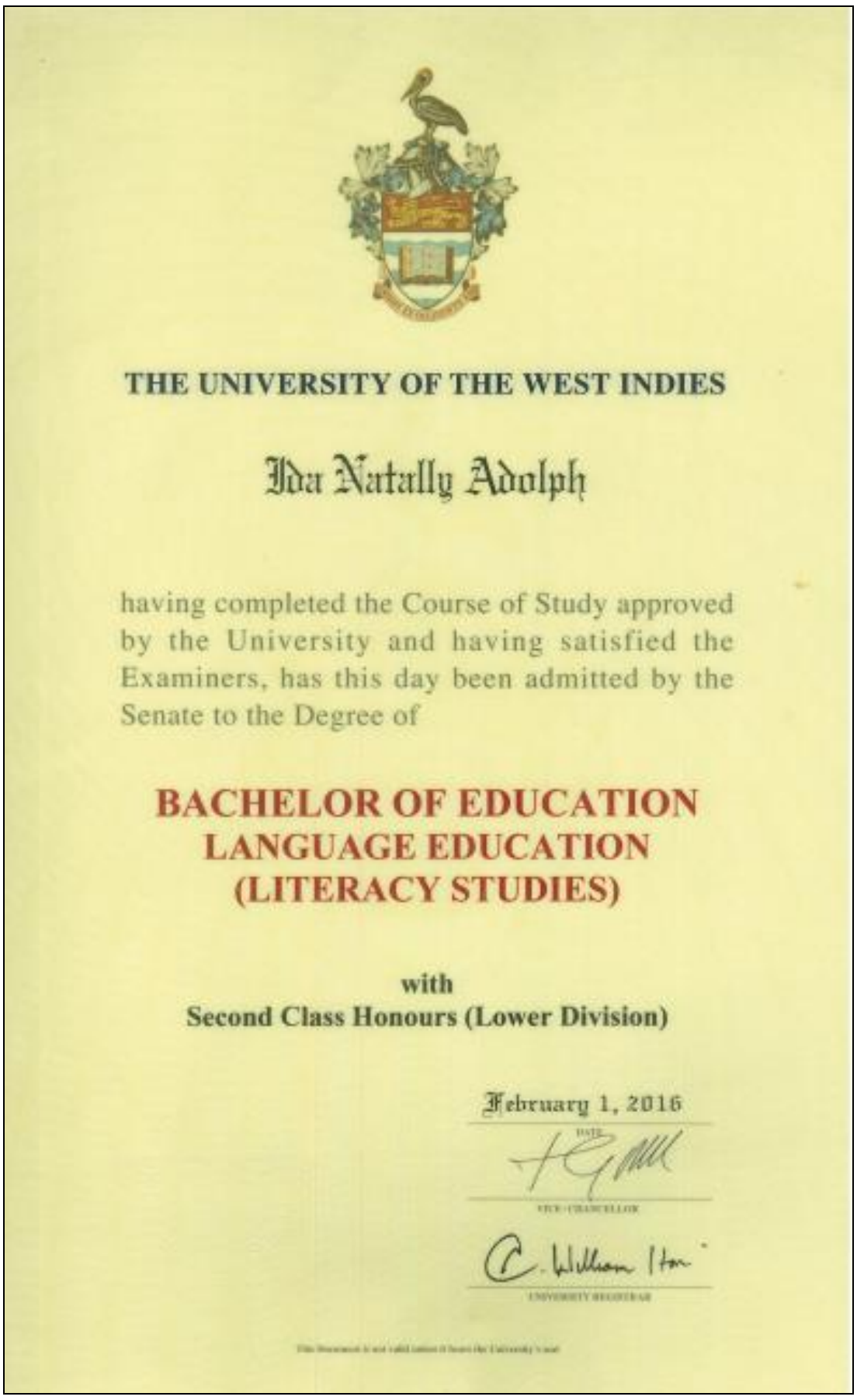
PROGRAMME : Associate Degree

REQUIRED	**GRADES**
ENGLISH LANGUAGE	B
EDUCATION THEORY	B-
MATHEMATICS	B
SCIENCE	C
SOCIAL STUDIES	C+
PRACTICAL TEACHING	B-
INDIVIDUAL STUDY	B
OPTIONAL COURSES	
DRAMA / THEATRE ARTS	A+
COLLEGE SUBJECT	
HEALTH AND FAMILY LIFE EDUCATION	A+
AVERAGE GRADE	**B**

RESULTS : PASS : (✓) _____
REFERRED : ( ) _____
FAIL : ( ) _____

DEAN : _____ **DATE** : October 25, 2001

REGISTRAR: _____ **DATE** : 30 Oct 2001



THE UNIVERSITY OF THE WEST INDIES

Ida Natally Adolph

having completed the Course of Study approved by the University and having satisfied the Examiners, has this day been admitted by the Senate to the Degree of

BACHELOR OF EDUCATION
LANGUAGE EDUCATION
(LITERACY STUDIES)

with
Second Class Honours (Lower Division)

February 1, 2016

DATE

VICE-CHANCELLOR

UNIVERSITY REGISTRAR