UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

THE DEVELOPMENT OF A PROJECT MANAGEMENT PLAN FOR THE IMPLEMENTATION OF THE SIERRA WORKFORCE SOLUTION TIME MANAGEMENT SYSTEM PROJECT AT THE ANTIGUA PUBLIC UTILITIES AUTHORITY

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This Final Graduation Project was approved by the University as partial fulfillment of the requirements to opt for the Master in Project Management (MPM) Degree

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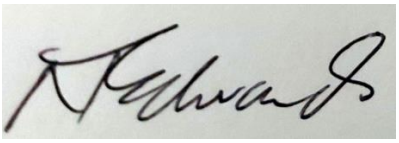

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DEDICATION

I would like to dedicate my Final Gradation Project to my employer, the Antigua Public Utilities Authority, who have supported me throughout my entire Masters journey and gave me access to the information needed to complete this final project.

Also, I would like to give gratitude to my colleagues at work, especially Mr. Simon and Ms. Clarke who have always supported me and my development goals.

To my mother, and my sisters, they have always encouraged me to do the best that I can despite the challenges and to never give up. Their assistance during this program, especially with the added uncertainty of the COVID-19 pandemic helped me greatly.

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Notwithstanding, the numerous setbacks, most of which were caused by the pandemic, I am truly thankful to everyone who contributed to the creation and completion of my Final Graduation Project.

ABSTRACT

The objective of this paper is to develop a comprehensive Project Management Plan for the implementation of the Sierra Workforce Solutions Time Management Software System at the Antigua Public Utilities Authority in an effort to improve employee productivity, accountability and reduce associated costs to include overtime. This software is needed and will play a vital role in streamlining payroll activities within the Authority and assist the Human Resources Department with its strategic objectives for 2021. Presently, the current software is unusable as it is incompatible with the current payroll system, and monotonous use of paper has increased operational costs and allowed some employees to be dishonest about their time at work.

The final product of this project will consist of the project management plan and all subsidiary plans to be used for the successful completion of the software implementation. Consequently, an analytical and observational methodology and the Project Management Institute's (PMI) PMBOK Guide will be used for developing the project management plans and other subsidiary plans.

INDEX OF CONTENTS

INDEX OF FIGURES

INDEX OF TABLES

INDEX OF CHARTS

ABBREVIATIONS AND ACRONYMS

- Antigua Public Utilities Authority (APUA
- Final Graduation Project (FGP)
- Fiber-to-the-Home (FTTH)
- Project Management (PM)
- Project Management Institute (PMI)
- Project Management Office (PMO)
- Project Management Book of Knowledge (PMBOK)
- Risk Breakdown Structure (RBS)
- Work Breakdown Structure (WBS)

EXECUTIVE SUMMARY

The Antigua Public Utilities Authority is one, if not only, the largest employer in Antigua and Barbuda. With a staff complement of over eight hundred employees working across more than ten locations, management of its prime resource was a costly challenge.

Numerous attempts were made to encourage employees to be honest about time paid for time worked. However, this was easier said than done. Buddy punching was an issue, and even after implementing a biometric software to improve productivity and accuracy in the payroll, it was later revealed that this software was not compatible with the current payroll system. As a result, employees recorded their work times in books and time sheets. This posed a monthly challenge for the Payroll and Accounts Department who were tasked with processing salaries and wages on time.

Therefore, this document will describe the development of the Project Management Plan for the implementation of the Sierra Workforce Solutions Time Management Software Software at the Antigua Public Utilities Authority. This will be necessary for accurate and efficient time management of the Authority's staff complement.

The general objective was to develop a Project Management Plan according to the Project Management Institute's (PMI) standards and framework to successfully manage the implementation of the Sierra Workforce Time Management System Project at the Antigua Public Utilities Authority. The specific objectives were: (1) To create the project charter that formally authorizes the project, and to gives the pProject mManager the authority to use/utilize resources within the Antigua Public Utilities Authority to prepare the Project Management Plan; (2) To develop a project management plan to define how the project will be initiated, planned, monitored and controlled, and closed; (3) To create a Scope Management Plan to ensure that all the work, and only the work required is done according to the plan, and to ensure the successful completion of the project; (4) To create a Time Management Plan to ensure that all work is completed within time constraints; (5) To create a Cost Management Plan to plan, manage and control the project's budget; (6) To create a Quality Management Plan to identify quality requirements in order to ensure deliverables meet expectations; (7) To develop a Resource Management Plan to ensure that all resources are identified and managed efficiently for the successful completion of the project; (8) To develop a Communications Management plan to ensure the timely, accurate and effective communication to all stakeholders; (9) To create a Risk Management Plan to identify and examine risks and create responses and management to these risks to ensure the successful completion of the project; (10) To develop a Procurement Management plan to ensure the correct products, services and results are procured by the project; and (11) To create a stakeholder management plan to identify and manage all project stakeholders' expectations and to ensure efficient and effective stakeholder engagement throughout the life of the project.

The research methodology for the Final Graduation Project was analytical and observational. To add, both primary and secondary sources of information were utilized for data collection and analysis. Wherein the main sources used to gather

information included A Guide to Project Management Body of Knowledge (PMBOK Guide) Sixth Edition, PMI's online resources, interviews and meetings that were held with key stakeholders within the organization and the time management software development company. Consequently, the information was analyzed to create each subsidiary plan used to develop the Project Management Plan for the implementation of the Sierra Workforce Solutions Time Management Software System at the Authority.

Hence, the development of the Project Management Plan for the Sierra Workforce Solutions Time Management Software Project will cover all project knowledge areas. Moreover, this is the first attempt to the creation of a robust and comprehensive Project Management Plan for any project within the Antigua Public Utilities Authority and will form part of the Authority's overall strategic objective in realizing business value from future projects, by documenting and leading projects successfully according to the plan.

Lastly, it will be extremely important for the Authority to establish a Project Management Office to support the various Business Units with their project's efforts. This office will provide Project Manaement Training to the Engineers/Project Managers and their Teams with a focus on successfully managing projects within the Authority. Also, implementing a change control process, which is overseen by a Change Control Board will be critical for ensuring all projects are managed efficiently and effectively, and that any changes to any aspect of the project is approved (or denied) before being implemented. Also, project communication is key for ensuring all stakeholders are kept abreast of the project's performance, and it is the Project Manager's responsibility to ensure that information is communicated at the right time, to the right persons and via right medium. Properly documented meeting minutes with action points can assist the Project Manager with communicating the project's status to all stakeholders and inform project team members of their assigned tasks to be completed. Finally, the creating of a lessons learned repository would be ideal for use as a reference for future projects.

1. INTRODUCTION

1.1 Background

On July 4th, 1973, the Antigua Public Utilities Authority (APUA) was created as a tripartite Government Statutory Corporation under the Public Utilities Act No. 10 of 1973 to ensure consumers receive reliable and quality services in telecommunications (including mobile & internet), electricity and water services (APUA, 2011). This allowed the company to conduct the following activities in the State of Antigua and Barbuda: (1) the generation, distribution, supply and sale of electricity; (2) the provision of telephone services for calls originating and ending within the State; (3) the supply, distribution, maintenance and sale of water services and (4) any incidental services relative to the above.

As the largest employer on the island, the Authority found it prudent to find a more efficient way to record the attendance of all its eight hundred and three (803) employees across all Business Units. Currently, the Authority uses antiquated and outdated methods to record employee daily attendance, i.e., paper timesheets and sign-in books. Efforts in the past were made by the Human Resources Department to implement a time management system, however, that attempt failed due to the fact that the system could not be integrated with the current payroll software, and a proper strategy and project management plan were not in place.

As a result of the lax of time recording, some employees have exploited the Authority by recording incorrect arrival and departure from work or have even participated in “buddy punching” for other employees. This has become a major concern for the

Human Resources Department because of the great loss in employee productivity, efficiency and increased costs due to unapproved overtime.

Hence, the successful completion of the implementation of the Sierra Workforce Solutions Time Management Software Software Project would be critical as it would increase the accuracy of the payroll, reduce time theft, prevent buddy punching, improve reporting capabilities and reduce costs.

The Antigua Public Utilities Authority considers this project a low hanging fruit (short-term goal), and a medium sized project. Consequently, by referring to the Project Management Plan, and other subsidiary plans created as a result of this research project, it is anticipated that the project will be completed successfully once followed accordingly. Therefore, if this project is successful, it will be first project to be properly documented, managed and executed within the Authority.

1.2 Statement of the Problem

Each Business Unit within the Antigua Public Utilities Authority are responsible for undertaking their own projects. However, the proper management approach is absent, and each project has suffered negatively due to lack of project management expertise, project tools and techniques to successfully deliver project products, services or results. Hence, due to the importance for the successful implementation of the time management software throughout the company, it is imperative that that a Project Management Plan, along with all subsidiary plans are created.

1.3 Purpose

Many projects fail to live up to their promises and produce disappointing results and outcomes upon completion (Symonds, 2011). In fact, some of these projects are

known for exceeding their budgets, deadlines or both. At the Antigua Public Utility Authority, these issues are prevalent. Due to the absence of proper project management, subsidiary plans, tools and techniques over the years, most of the projects at the Antigua Public Utilities Authority have failed to meet requirements or have been completed over budget and schedule. As a result, the purpose of this research project is to develop a Project Management Plan, along with the other subsidary plans to be used as a guide to strategically and effectively plan, manage, and execute the implementation and all other aspects of the Sierra Workforce Solutions Time Management Software System Project at the Authority to ensure the project is completed successfully within scpoe, budget, schedule and quality requirements. The first of its kind to be developed and used within the Authority, the Project Manager will follow the Project Management Institute's (PMI) framework to create the plans that will ensure proper coordination between all stakeholders. Also, these plans will be added to create the Authority's organizational process assets to be used as a reference for future projects.

1.4 General Objective

To create a project management plan according to the Project Management Institute's standards and framework to successfully manage the implementation of the Sierra Workforce Time Management System Project at the Antigua Public Utilities Authority.

1.5 Specific Objectives

The FGP's specific objectives are as follows:

1. To create the pProject cCharter that formally authorizes the project, and to gives the project manager the authority to use/utilize resources within the Antigua Public Utilities Authority to prepare the project management plan.
2. To develop a Project Management Plan to define how the project will be initiated, planned, monitored and controlled, and closed.
3. To create a scope management plan to ensure that all the work, and only the work required is done according to the plan, and to ensure the successful completion of the project.
4. To create a time management plan to ensure that all work is completed within time constraints.
5. To create a cost management plan to plan, manage and control the project's budget.
6. To create a quality management plan to identify quality requirements in order to ensure deliverables meet expectations.
7. To develop a resource management plan to ensure that all resources are identified and managed efficiently for the successful completion of the project.
8. To develop a communications management plan to ensure the timely, accurate and effective communication to all Stakeholders.
9. To create a risk management plan to identify and examine risks and create responses and management to these risks to ensure the successful completion of the project.
10. To develop a procurement management plan to ensure the correct products, services and results are procured by the project.

11. To create a stakeholder management plan to identify and manage all project stakeholders' expectations and to ensure efficient and effective stakeholder engagement throughout the life of the project.

2. THEORETICAL FRAMEWORK

2.1 Company/Enterprise Framework

2.1.1 Company/Enterprise background

Conceived in 1973, APUA is a state-owned entity, which is governed by the Utilities Act of 1973. Considered unique in the region, the company is the sole utility company in Antigua and Barbuda that provides water, electricity, landline, and mobile services to its customers. The company employs more than 800 employees across four Business Units.

Electricity Business Unit

APUA's Electricity Business Unit exists to provide quality, safe, reliable and affordable electricity services to the people of Antigua & Barbuda. Committed to fulfilling the mandate of providing electricity service, APUA's aim is to stay ahead of consumers' demands, while increasing consistency and efficiency. The Electricity Business Unit's focus is to "be the leading OECS Utility Company in providing environmentally friendly reliable and marketable electricity" (APUA, n.d.).

The primary functions of the Electricity Business Unit are to generate, transmit and distribute electricity to approximately 40,000 households in Antigua and 200 in Barbuda. APUA provides electricity to about 98% of the populace. With a peak demand of 53 MW of electricity generated daily from the Blackpine Power Plant located at the Crabbs Peninsula in Parham; and unfortunately, the Wadadli Power Plant was decommissioned in September 2020 due to its inoperability. APUA supplies electricity to both residential and commercial customers through a network consisting of 11 Kv and 69Kv lines. Currently, the company is at the embryo stage of planning the construction of a MW Liquid Natural Gas Plant.

Water Business Unit

APUA Water Business Unit's mandate is to provide safe, drinkable, potable water to the residents of Antigua and Barbuda. Through the careful management of water sources such as ponds, dams, reservoirs, wells and the ocean, and the distribution infrastructure, which includes the construction and expansion of water mains and repairing broken pipes this is mandate is fulfilled.

To combat the water supply shortage on Antigua, APUA commissioned a reverse osmosis plant at Camp Blizzard in 2007, which produces approximately 600,000 imperial gallons per day. In 2011, an additional reverse osmosis plant was commissioned with a comparable production capacity as the Ffryes Bay Plant. In 2017, the Shell Beach Reverse Osmosis Plant, renamed the Ivan Rodrigues Reverse Osmosis Plant was completed. This plant increased the water production capacity on the island by 2 million gallons.

Two new reverse osmosis plants are expected to be constructed at the Fort James and the Willoughby Bay area in Bethesda. This forms part of the Company's strategy to produce water using 95 % desalination. APUA uses other catchments such as the Potswork and Hamilton Reservoir; however, due to drought conditions these water resources have been empty.

Telecoms Business Unit

The Telecoms Business Unit within APUA had many beginnings so to speak. In 2004, the company launched the first GSM network on island and offered free incoming calls. This quickly torpedoed the Company as the leading contender in the telecoms market. However, failure to keep up with customer demands, and lack of leadership

caused the Company to lose its customers and its market share to the other two competitors. In 2011, the Company rebranded; however, this effort failed to secure new customers, and retention of the handful of customers dwindled due to lack of planning and resources. Then in 2018, the new telecoms brand “inet” was born. This brand’s success was evident from day one because the company was the only company offering 4G LTE advanced technology and Fiber-To-The-Home internet services. Its focus on all thinks “local” quickly gained support from customers who were proud of their heritage and the message from the state-owned brand.

Head Office

The Head Office is considered the backbone of the Company as it provides common services to both internal and external customers. The Finance and Accounts Department, the Human Resource Department, the Customer Service Department, the Planning and Maintenance Department and the Executive Management falls under this umbrella.

2.2 Mission and Vision Statements

APUA’s promise is, “We will earn the trust of each customer, every day; We will make each life better, by becoming better, every day; We will protect the future for everyone, by what we do and how we do it. (APUA, n.d.).

The Mission and Vision Statements for APUA are as follows:

Mission

“Providing residents with electrical power, telecommunications and water services that are reliable, affordable and of international quality.” (APUA, n.d.)

Vision

"A highly engaged and responsive utility company with a knowledgeable and respected work force contributing fully to national, social and economic sustainable development." (APUA, n.d.)

2.3 Organizational Structure

As a Statutory Corporation, the Minister responsible for Public Utilities has the overall oversight of APUA. The Board of Commissioners, selected by the Government are responsible for collectively overseeing the management of APUA, and to provide feedback with regards to the company's policies. The General Manager, who reports to the Board, is responsible for the day-to-day operations and he ensures the company's policies are implemented as directed by the Board.

The Management Team is responsible for the day-to-day management of their respective Business Units. Complemented by middle managers, supervisors, clerks, and technicians etc., the various departments work synchronously and harmoniously to provide the islands with sufficient and reliable products and services. Figure 1 below gives illustrates the organizational structure of the Antigua Public Utilities Authority. Each Business Unit and Department is managed by a functional manager who is responsible for the overall oversight of the Business Unit/Department.

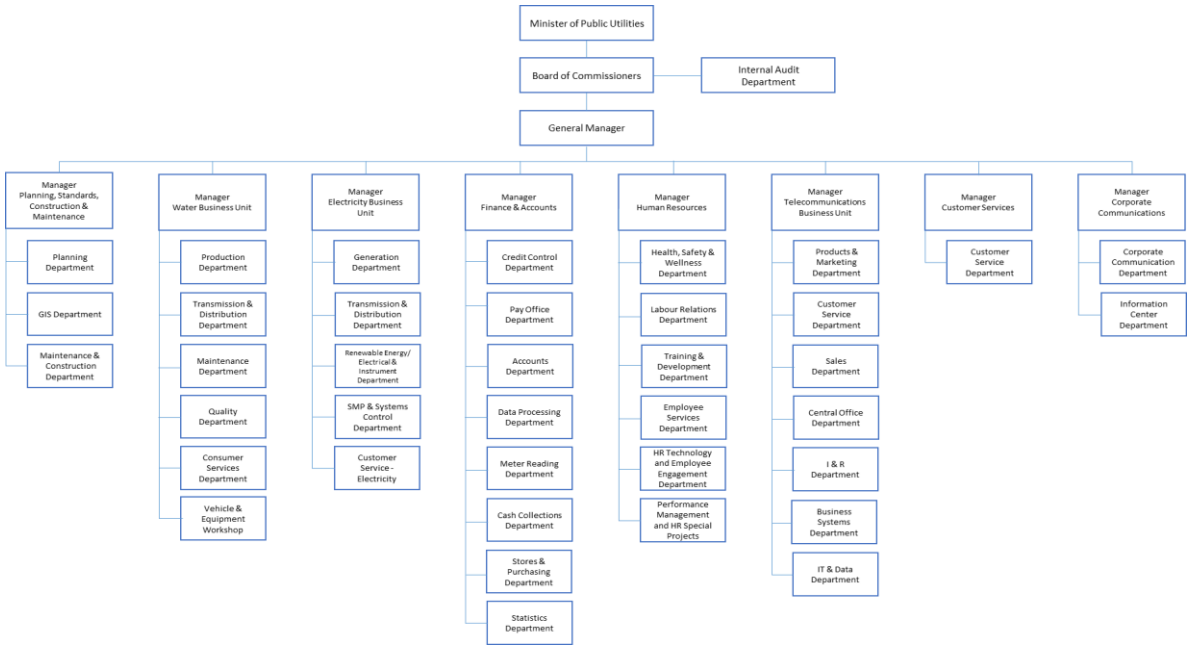


Figure 1. *APUA Organizational Chart.*

Source: N. Edwards (Author)

2.4 Products Offered

APUA is the sole provider of electricity and water in Antigua and Barbuda. The company is responsible for the generation, transmission, distribution and sale of electricity in Antigua and Barbuda. In addition, APUA installs and maintains solar and LED streetlights on the islands as well as vegetation management to safeguard against service interruptions caused by overgrown trees and shrubs.

The company is also responsible for producing, distributing and selling potable, drinkable water. Heavily reliant on reverse osmosis, the company produces approximately 7 million gallons of water daily to meet customers' demand. In addition, the company sells bulk water from the main distribution plant.

The APUA Telecoms Business Unit, affectionately known as inet (and one of three competitors) is now the leading telecoms provider in Antigua and Barbuda. inet mobile

provides 4G LTE Advance Technology mobile services to approximately 20,000 customers. In addition to its mobile offering, APUA provides home broadband, i.e., Fiber-To-The-Home (FTTH), ADSL services, landline services, PABX and other commercial services to its customers.

2.5 Project Management Concepts

2.5.1 Project

According to the PMBOK Guide (PMI, 2017), “a project is a temporary endeavor undertaken to create a unique product, service or result.” In contrast, the Association of Project Management defined a project as “a unique, transient endeavour, undertaken to achieve planned objectives, which could be defined in terms of outputs, outcomes or benefits.” (Association of Project Management, 2017).

Critical to the realization of an organization's business strategy, projects are a means by which these strategies can be implemented (PM Study, n.d). In addition, they can be done at all organizational levels and are usually initiated to accomplish the Company’s objectives by producing tangible or intangible deliverables. Specifically, projects have an explicit beginning and an ending, i.e., they have a limited duration. It is important to note that projects are different from the day-to-day operations of the Company.

This Final Graduation Project (FGP) is considered a project because it a temporary endeavor that will take three months to be completed. Also, the project mentioned in the FGP refers to the implementation of the Sierra Workforce Solutions Time Management Software System at the Antigua Public Utilities Authority. The successful implementation of the Sierra Workforce Solutions Time Management Software Project will realize the

company's objective to reduce wastage; costs associated with the payroll and create business value and benefits. Hence, the creation of the Project Management Plan for that project would be critical to ensure its success.

2.5.2 Project Management

Project Management, according to the PMBOK Guide (PMI, 2017, p. 10) is "the application of knowledge, skills, tools and techniques to project activities to meet the project requirements." In addition, it is accomplished through the adequate application and integration of the project management processes identified for a project. Also, it enables organizations to complete their projects effectively and efficiently. Dr. Martin Barnes, President of the Association of Project Management stated that "At its fundamental, project management is about people getting things done." (Association of Project Management, 2017).

Project management is the art of managing resources and leading specialized teams so that the work performed accumulates into a multidisciplinary team effort. This will in turn achieve the desired objectives within scope, budget and schedule (Caspe, 1976). Efficient and effective project management allows organizations to compete efficiently in their respective markets, respond to the impact of changes within a project's business environment, and sustain the organization. Hence, the absence of project management may result in missed deadlines, poor quality, rework, and unsatisfied stakeholders (PMI, 2017).

Over the years, the Antigua Public Utilities Authority has not applied project management to their projects, hence, the successful completion of this FGP would be used as a guide to plan future projects.

2.5.3 Project Life Cycle

A project life cycle is the series of phases that a project passes through from its beginning to its completion. It provides the basic framework for managing the project, and it is applied irrespective of the unique project work involved. Generally, within a project life cycle are one or more phases that are related with the development of a product, service or a result. The phases in the project life cycle may be sequential, iterative, or overlapping, and the project life cycle can be either adaptive or predictive. Figure 2 and Figure 3 below illustrates the interrelationship between the Project Life Cycle and process groups and the structure of a project's life cycle respectively.

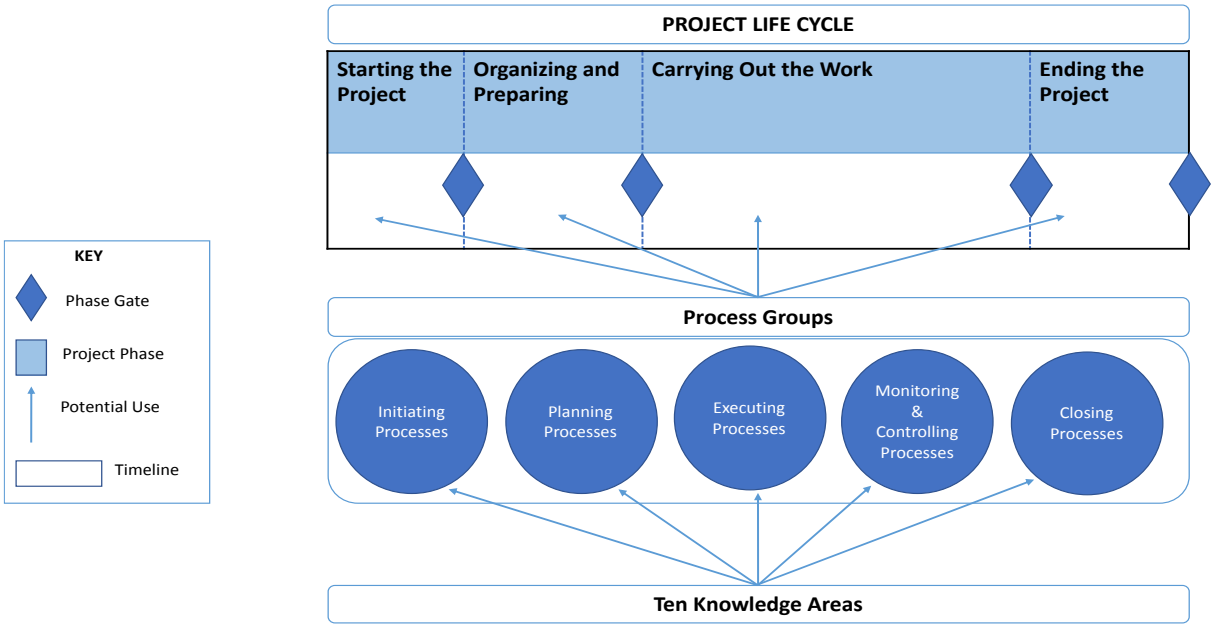


Figure 1: *Project Life Cycle.*

Note: Source: N. Edwards (Author)

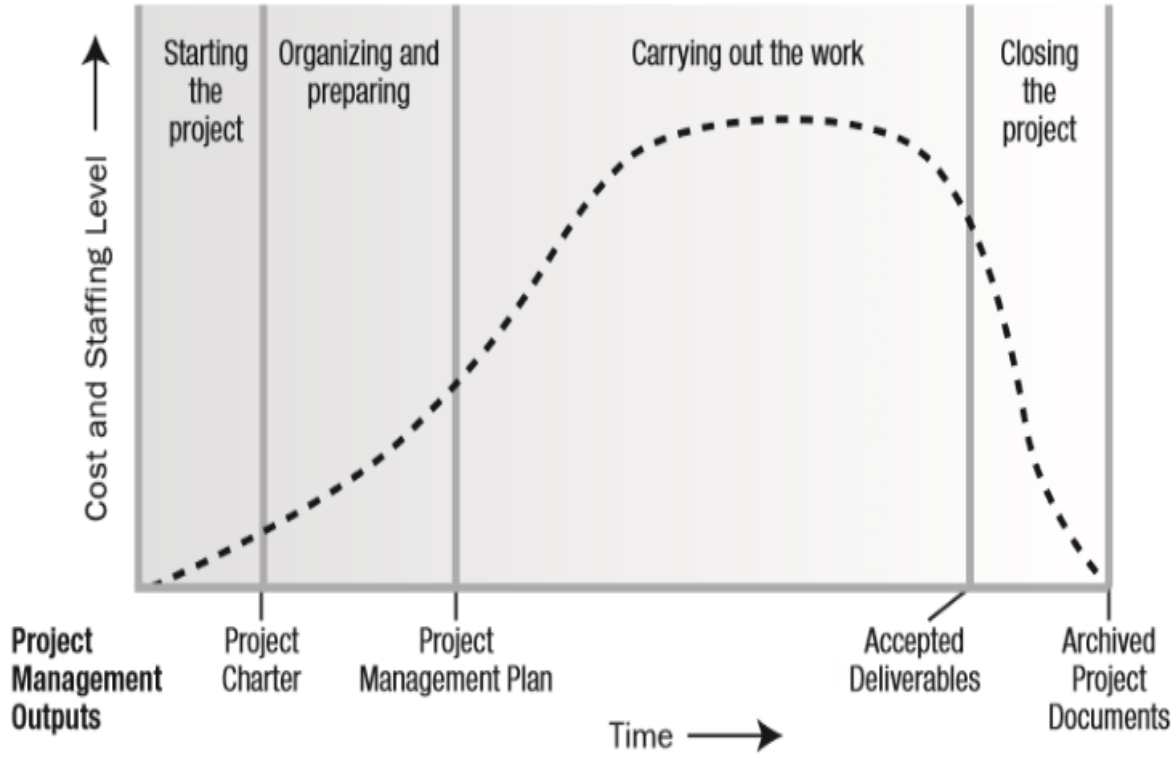


Figure 2. *Structure of the Generic Life Cycle of a Project*

Note. Reprinted from *Fig. 1 structure of the generic life cycle of a project*, by Researchgate, 2020. Retrieved from https://www.researchgate.net/figure/Structure-of-the-generic-life-cycle-of-a-project-5_fig1_332992605. Copyright 2020 by Researchgate.

2.5.4 Project Management Processes

A process is “a series of actions bringing about a result” whereas a result is a “concrete outcome” (Duncan, 1993). Therefore, the process of project management is integrative, and an action or failure to take action in one area usually affects other areas.

Project Management Processes, which can be applied across all industries globally, occur when the project life cycle is managed by performing a series of project management activities (PMBOK, 2017, p. 18). Each of these processes create one or more outputs from one or more inputs by using suitable project management tools and techniques. These processes may include overlaping activities that occur during the

project. In other words, the output of a process usually results in either an input to another process, a project's deliverable, or a project phase (PMBOK, 2017, p. 19). Hence, through proper logical application and incorporation of cogently grouped project management processes, project management is accomplished. According to the PMBOK Guide, processes are grouped into five process groups. The five basic project management processes groups are:

1. Initiating Process Group - a description or definition of the new project or phase, initial documentation of project objectives, and authorization and assignment of a project manager.
2. Planning Process Group - a documented project plan and documented updates to the plan as the project progresses.
3. Executing Process Group - verifiably completed project deliverables
4. Monitoring & Controlling Process Group - periodic measurements of progress vs. plan, corrective action when needed, and identification of when the project is completed.
5. Closing Process Group - documented acceptance of the results of the project
6. Using project management processes, tools, and techniques will create a sound foundation for organizations to achieve their goals and objectives. To develop the Project Management Plan (for the FGP) to guide the implementation of the Sierra Workforce Solutions Time Management Software Project, both the initiating and planning processes will be used. The Project Management Plan will be an assemblage of subsidiary documents created as a result of each of the initiating and planning process activities. A subsidiary

document is a document created to support the main document. Figure 4 depicts the Project Management Processes of which the selected processes will be applied during this project.

Figure 3. *Project Management Process Groups*

Note: From "*Project Management Process Groups,"* by Roseke, B., 2016. Retrieved from https://www.projectengineer.net/guide-to-the-project-life-cycle/. Copyright 2016 by Project Engineer

2.5.5 Project Management Knowledge Areas

To manage projects efficaciously, applying knowledge, skills, tools and techniques to project activities are required to meet the objectives of the project. This is achievable by performing some of the processes at various stages of the project (Vijayakumar, 2011). Processes are grouped into knowledge areas, which are identified project management areas defined by their requirements, and described according their component processes, practices, inputs, tools and techniques (PMI, 2017). In addition, each aspect

of a project is managed by using the corresponding knowledge area. There are ten knowledge areas, and forty-seven (47) project management processes.

These knowledge areas are as follows:

1. Project Integration Management – this knowledge area includes the tasks that identifies, defines, combines and unifies the overall project and integrates it into a cohesive whole. The processes within this knowledge area are Develop Project Charter, Develop Project Management Plan, Direct and Manage Project Work, Manage Project Knowledge, Monitor and Control Project Work, Perform Integrate Change Control and Close Project or Phase.
2. Project Scope Management – The primary purpose of this knowledge area to ensure that all the required work and only the required work is performed to complete the project successfully. This is done by defining, controlling what is, and what is not included in the project. The processes within this knowledge area includes Plan Scope Management, Collect Requirements, Define Scope, Create Work Breakdown Structure (WBS), Validate Scope, and Control Scope.
3. Project Time Management – The purpose of this knowledge area is to develop and control the project schedule. A project's timeline must be well managed to ensure that the project is expected completed within the set timelines. The processes within this knowledge are includes: Plan Schedule Management, Define Activities, Sequence Activities, Estimate Activity Durations, Develop Schedule and Control Schedule.
4. Project Cost Management – The primary goal of knowledge area is to estimate project costs, and to complete the project within the approved budget.

5. The processes included in this knowledge area are Plan Cost Management, Estimate Costs, Determine Budget, and Control Costs.
6. Project Quality Management – Quality is defined by the degree to which a project fulfils its objectives and requirements. This knowledge area includes the processes incorporated in the organization's quality policy regarding planning, managing, and controlling the quality requirements for the project so that stakeholders' expectations are met. The processes in this knowledge area are Plan Quality Management, Manage Quality and Control Quality.
7. Project Human Resource Management – The main purpose of this knowledge area is to obtain, develop, and manage the project team that will perform the actual project work. The processes in this area are Plan Resource Management, Estimate Activity Resources, Acquire Resources, Develop Team, Manage Team and Control Resources.
8. Project Communications Management – Communication with stakeholders is a factor (Hartney, 2016). This knowledge area includes the processes needed to ensure the timely, accurate and appropriate disposition of project information through proper planning, collection, creation, distribution, storing, retrieval, management, monitoring and controlling. The processes in this knowledge area are Plan Communications Management, Manage Communications, and Monitor Communications.
9. Project Risk Management – Managing project risks is one of the most underrated facets of project management (Hartney, 2016). This knowledge area includes the processes to conduct project risk management planning,

identification, analysis, response planning and implementation and monitoring. The processes in this knowledge area includes Plan Risk Management, Identify Risks, Perform Qualitative Risk Analysis, Perform Quantitative Risk Analysis, Plan Risk Responses, and Monitor Risks.

10. Project Procurement Management – Most projects have some form of external procurement (Hartney, 2016). The processes in this knowledge area are necessary for the purchasing and acquisition of products, services, and/or results from vendors external to the project team. The processes in this knowledge area are Plan Procurement Management, Conduct Procurements, and Control Procurements.
11. Project Stakeholder Management – This knowledge area includes the processes needed to identify the individuals, groups or organizations that may impact or be impacted by the project. Analyzing stakeholder expectations and their impact on the project, developing appropriate management strategies to effectively engage stakeholders in decisions and execution are also processes identified for successful project stakeholder management. The processes in this knowledge area are Identify Stakeholders, Plan Stakeholder Engagement, Manage Stakeholder Engagement and Monitor Stakeholder Engagement.

The knowledge areas identified above will ensure the project meets its success criteria by bring all the project processes to life. It is hoped after the successful completion of the Final Graduation Project that the Project Management Plan created for the Sierra Workforce Solutions Time Management Software Plan Project will produce the Project Management Plan, and all its subsidiary plans to be used as a guide for the project's

successful completion. Table 1 below Table 1 shows the different processes along with their respective knowledge areas and process groups.

Table 1: *Knowledge Areas and Process Groups*

Knowledge Areas	Initiating	Planning	Executing	Monitoring & Control	Closing
Integration Management	Develop Charter	Develop Project Management Plan	Direct and Manage Project Work	Monitor & Control Project Work Perform Integrated Change Control	Close Project or Phase
Scope Management		Plan Scope Management Collect Requirements Define Scope Create WBS		Validate Scope Control Scope	
Time Management		Plan Schedule Management Define Activities Sequence Activities Estimate Activity Resources Estimate Activity Durations Develop Schedule		Control Schedule	
Cost Management		Plan Cost Management Estimate Costs Determine Budget		Control Costs	
Quality Management		Plan Quality Management	Perform Quality Assurance	Control Quality	
Human Resources Management		Plan Human Resource Management	Acquire Project Team Develop Project Team Manage Project Team		
Communication Management		Plan Communications Management	Manage Communications		
Risk Management		Plan Risk Management Identify Risks Perform Qualitative Risk Analysis Perform Quantitative Risk Analysis Plan Risk Responses			
Procurement Management		Plan Procurement Management	Conduct Procurement	Control Procurement	Close Procurement
Stakeholder Management	Identify Stakeholders	Plan Stakeholder Management	Manage Stakeholder Engagement	Control Stakeholder Engagement	

Note: Source: PMBOK Guide, 2017.

3. METHODOLOGICAL FRAMEWORK

3.1 Information Sources

An information source is a place where and individual(s) gets access to knowledge or information for their use. Generally, there are three types of sources of information: (1) primary, (2) secondary, and (3) tertiary. However, for the research paper, both primary and secondary resources will used to compile this paper (Wong, n.d.).

3.1.1 Primary Sources

Primary sources of information are “immediate, first-hand accounts of a topic from people who had a direct connect with it” (Hall, n.d.). According to Wong (n.d.), primary sources are original materials in which investigative research is based. These include original written work such as interviews, photographs, speeches, survey data, diaries, scholarly and academic journals, court records etc. The primary sources that will be used in the FGP includes, but are not limited to interviews, meetings and focus groups, etc.

3.1.2 Secondary Sources

Secondary sources of information are “one step removed from primary sources, though they often quote or otherwise use primary sources” (Hall, n.d.). To add, secondary sources are those sources that analyze or describe primary sources. These includes reference material such as encyclopedias, dictionaries, textbook, articles and books. In the FGP, the secondary sources that will be used, but are not limited to are reference books including dictionaries, textbooks such as the PMBOK Guide, online resources on PMI.org website, the internet, and other journals and articles. Chart 1 below identifies the primary and secondary sources that will be used to develop the FGP.

Chart 1: *Information Sources*

Objectives	**Information sources**	
	Primary	**Secondary**
To create the Project Charter that formally authorizes the Project, and to gives the Project Manager the authority to use/utilize resources within the Antigua Public Utilities Authority to prepare the project management plan.	Interviews with the Functional Manager, Project Manager and his team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To develop a Project Management Plan to define how the project will be initiated, planned, monitored and controlled, and closed.	Interviews with the Functional Manager, Project Manager and his team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To create a Scope Management Plan to ensure that all the work, and only the work required is done according to the plan, and to ensure the successful completion of the project.	Interviews with the Functional manager, Project Manager and his team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To create a Time Management Plan to ensure that all work is completed within time constraints.	Interviews with the Functional manager, Project Manager and his Team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To create a Cost Management Plan to plan, manage and control the project's budget.	Interviews with the Functional Manager, Project Manager and his Team, and other subject matter	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet

	experts, meeting minutes	
To create a Quality Management Plan to identify quality requirements in order to ensure deliverables meet expectations.	Interviews with the Functional Manager, Project Manager and his team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To develop a Resource Management Plan to ensure that all resources are identified and managed efficiently for the successful completion of the project.	Interviews with the Functional Manager, Project Manager and his Team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To develop a Communications Management Plan to ensure the timely, accurate and effective communication to all stakeholders.	Interviews with the Functional Manager, Project Manager and his Team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To create a Risk Management Plan to identify and examine risks and create responses and management to these risks to ensure the successful completion of the project.	Interviews with the Functional Manager, Project Manager and his Team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet
To develop a Procurement Management Plan to ensure the correct products, services and results are procured by the project.	Interviews with the Functional Manager, Purchasing Officer, Project Manager and his Team, and other subject matter experts, meeting minutes	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet

To create a Stakeholder Management Plan to identify and manage all project stakeholders' expectations and to ensure efficient and effective stakeholder engagement throughout the life of the project.	Interviews with the Functional Manager, Project Manager and his Team, and other subject matter experts	Reference books including the PMBOK Guide, dictionary, PMI Online Database, project management templates, and the internet

Source: N. Edwards, Author

3.2 Research Methods

Research methods as indicated by Booth (2020) are "the strategies, processes or techniques utilized in the collection of data or evidence for analysis in order to uncover new information or create better understanding of a topic." Therefore, research methods help in collecting data, and samples to find resolutions to a problem. For this Final Graduation Project, the analytical methods and the observation method will be used.

3.2.1 Analytical Method

The analytical method focuses on understanding the cause-effect relationships between two or more variables, and it involves of critical thinking skills and critical assessment of the information obtained in research. Also, it is combined with the accurate evaluation of facts and information gathered for the research that is being conducted, in an effort to break down a problem or a situation under examination into manageable sections for solving (Disability Researcher, n.d.).

3.2.2 Observational Method

According to Fuel Cycle (2019), observational research is "a qualitative research technique where researchers observe participants' ongoing behavior in

a natural situation." Hence, its main focus is to gather more trustworthy insights. This method of research is considered non-experimental. Chart 2 below identifies the research methods that will be used to develop the FGP.

Chart 2: *Research Methods*

Objectives	**Research methods**	
	Analytical	**Observation**
To create the Project Charter that formally authorizes the project, and to gives the project manager the authority to use/utilize resources within the Antigua Public Utilities Authority to prepare the project management plan.	This method will employ critical thinking skills and information gleaned from Chart 1 to successfully complete the Charter	Observation will be used to capture information to be included in the Charter.
To develop a Project Management Plan to define how the project will be initiated, planned, monitored, and controlled, and closed.	This method will employ critical thinking skills and information gleaned from Chart 1 to complete the project management plan strategically	This method will be used to observe and capture information to be used to assist in the completion of the project management plan.
To create a Scope Management Plan to ensure that all the work, and only the work required is done according to the plan, and to ensure the successful completion of the project.	This research method will be employed by using facts and information from sources identified in Chart 1. Critical thinking will be applied to ensure only the work outlined in the Scope	This research method will be applied to scope management to ensure all the processes are included in the project.

	Management Plan is done to complete the project.	
To create a Time Management Plan to ensure that all work is completed within time constraints.	The analytical method will be used by utilizing information from sources identified in Chart 1. This will drive decision making when creating the Time Management Plan and accompanying documents.	This method will be applied to time management because observation and monitoring will be applied.
To create a Cost Management Plan to plan, manage and control the project's budget.	This method will be employed by using information from sources in Chart 1 to create the Cost Management Plan and the other supporting documents	This research applies to project cost management as observation and monitoring of cost is applied.
To create a Quality Management Plan to identify quality requirements to ensure deliverables meet expectations.	The analytical method will be employed by using information from sources in Chart 1, and it will entail critical thinking when creating the Quality Management Plan	Observation method will be applied to quality management to observe and monitor whether the correct processes are used.
To develop a Resource Management Plan to ensure that all resources are identified and managed efficiently for the successful completion of the project.	This method will be employed by using information derived from sources identified in Chart 1. The results will be	This method will be applied to manage human resources and it will track the progress and behavior of the project team members.

	used to create the Human Resource Management plan	
To develop a Communications Management Plan to ensure the timely, accurate and effective communication to all stakeholders.	The analytical method will be used to employ information gathered from sources in Chart 1 and will aid in creating the Communication Management Plan and supporting documents.	Observation will be applied to communication management to observe and track the flow of communication throughout the project.
To create a Risk Management Plan to identify and examine risks and create responses and management to these risks to ensure the successful completion of the project.	This method will be employed by using information obtained from sources identified in Chart 1 and will aid in creating the Risk Management Plan and supporting documents.	This research method will be used to observe and track the probability and impact of risks on the project.
To develop a Procurement Management Plan to ensure the correct products, services and results are procured by the project.	This method will be employed by using information derived from sources identified in Chart 1, and it will involve the application of critical thinking when procuring products or services for the project.	This method will be used to observe and track the procurement of products and services for the project.
To create a Stakeholder Management Plan to identify and manage all project stakeholders'	The analytical method will be employed by using information	This method will be used to monitor behaviors and stakeholder engagement.

expectations and to ensure efficient and effective stakeholder engagement throughout the life of the project.	derived from sources identified in Chart 1. Critical thinking and the use of factual information will be used to create the Stakeholder Engagement Plan.	

Source: N. Edwards (Author)

3.3 Tools

In the PMBOK Guide (2017), a tool is defined as "something tangible, such as a template or software program used in performing an activity to produce a product or result". These tools are used to accomplish tasks and execute work related to project management. Therefore, a variety of tools will be used to during this FGP and will aid in the successful completion thereof. Chart 3 below identifies the tools that will be used to develop the FGP.

Chart 3: *Tools*

Objectives	**Tool**
To create the Project Charter that formally authorizes the project, and to gives the project manager the authority to use/utilize resources within the Antigua Public Utilities Authority to prepare the project management plan.	Expert Judgement, Meetings, Conflict Management, Data Gathering to include brainstorming, interviews and focus groups
To develop a Project Management Plan to define how the project will be initiated, planned, monitored and controlled, and closed.	Expert Judgement, Meetings, Data Gathering tools to include interviews, brainstorming and focus groups, meeting management
To create a Scope Management Plan to ensure that all the work, and only the work required is done according to the plan,	Meetings, Expert Judgement, Focus Groups, Benchmarking, Data Gathering,

and to ensure the successful completion of the project.	Decision Making, Data Analysis, Interpersonal and Team Skills
To create a Schedule Management Plan to ensure that all work is completed within time constraints.	Expert Judgement, Meetings, Critical Path Method, Resource Optimization Techniques, Schedule Compression, Precedence Diagramming Method (PDM, Leads and Lags, Performance Reviews, Analytical Techniques
To create a Cost Management Plan to plan, manage and control the project's budget.	Expert Judgement, Meetings, Bottom-up Estimating, Performance Reviews Reserve Analysis
To create a Quality Management Plan to identify quality requirements in order to ensure deliverables meet expectations.	Expert Judgement, Meetings, Cost of Quality, Benchmarking, Quality Audits, Inspection, Process Analysis, Check sheets
To develop a Resource Management Plan to ensure that all resources are identified and managed efficiently for the successful completion of the project.	Expert Judgment, Organizational Charts, Meetings, Virtual Teams, Personnel Assessment Tools, Negotiation, Conflict Management, Interpersonal Skills, Multi-criteria Decision Analysis, Observation and Conversation
To develop a Communications Management Plan to ensure the timely, accurate and effective communication to all stakeholders.	Expert Judgement, Meetings, Communication Requirement Analysis, Communication Methods and Models, Information Management Systems, Performance Reporting
To create a Risk Management Plan to identify and examine risks and create responses and management to these risks to ensure the successful completion of the project.	Expert Judgement, Meetings, Document Reviews, SWOT Analysis, Risk Probability and Impact Matrix, Quantitative Risk Analysis, Strategies for Negative Risks or Threats, and Positive Risks and Opportunities, Contingent Response Strategies, Risk Audits, Risk Assessment, Reserve Analysis
To develop a Procurement Management Plan to ensure the correct products, services and results are procured by the project.	Expert Judgement, Meetings, Make-or-Buy Analysis, Market Research, Inspection, Proposal Evaluation Techniques, Contract Change Control System, Procurement Audits, Performance Reporting, Procurement Negotiations
To create a Stakeholder Management Plan to identify and manage all project stakeholders' expectations and to ensure efficient and effective stakeholder	Expert Judgement, Meetings, Stakeholder Analysis, Analytical Techniques, Interpersonal and Management Skills, Information

engagement throughout the life of the project.	Management Systems, Communication Methods

Source: N. Edwards (Author)

3.4 Assumptions and Constraints

An assumption, according to the PMBOK Guide (2017) is “a factor in the planning process that is considered to be true, real, or certain, without proof or demonstration”. In contrast, a constraint is “a limiting factor that affects the execution of a project, program, portfolio, or process (PMBOK, 2017). As a result, the assumptions and constraints for each objective are identified in Chart 4 below.

Chart 4: *Assumptions and Constraints*

Objectives	**Assumptions**	**Constraints**
To create the Project Charter that formally authorizes the project, and to gives the project manager the authority to use/utilize resources within the Antigua Public Utilities Authority to prepare the project management plan.	The charter will be created before all other subsidiary documents and that the company will provide all the information needed to complete the Charter	Charter must be completed in a week.
To develop a Project Management Plan to define how the project will be initiated, planned, monitored and controlled, and closed.	All relevant information will be forthcoming for the successful completion of the Project Management Plan and the FGP	Delay in information and feedback may delay the process of the project management plan and the FGP.

Objectives	Assumptions	Constraints
To create a Scope Management Plan to ensure that all the work, and only the work required is done according to the plan, and to ensure the successful completion of the project needed to have one line for every objective.	APUA will provide all the information required to develop the scope, and that the Scope Management Plan will identify all and only work required for the project.	The scope of the project may change at some point in the project.
To create a Time Management Plan to ensure that all work is completed within time constraints.	The project will be completed by the stated time given by UCI.	Any delay in the project may hinder project progress.
To create a Cost Management Plan to plan, manage and control the project's budget.	APUA can finance the project.	Not enough funds are budgeted for the project.
To create a Quality Management Plan to identify quality requirements in order to ensure deliverables meet expectations.	All quality standards will be met for the successful completion of the project.	Project requirements not specified.
To develop a Resource Management Plan to ensure that all resources are identified and managed efficiently for the successful completion of the project.	There are enough human resources to complete the project. Excellent soft skills will be demonstrated in the project.	Resources may be unavailable.
To develop a Communications Management Plan to ensure the timely, accurate and effective communication to all stakeholders.	Accurate and timely information will be disseminated to Stakeholders, Sponsors, and Project Team.	All stakeholders will receive and respond to communication in a timely manner.

Objectives	Assumptions	Constraints
To create a Risk Management Plan to identify and examine risks and create responses and management to these risks to ensure the successful completion of the project.	There will be no major project risk(s).	All project risks may not be identified within the early or planning phase of the project.
To develop a Procurement Management Plan to ensure the correct products, services and results are procured by the project.	The product(s) and service(s) for the project were identified.	Products and services for the project may not be available locally and may have to be sourced regionally or internationally.
To create a Stakeholder Management Plan to identify and manage all project stakeholders' expectations and to ensure efficient and effective stakeholder engagement throughout the life of the project.	All stakeholders were identified and involved for the successful completion of the project.	Not all stakeholders were identified at the start of the project.

Source: N. Edwards (Author)

3.5 Deliverables

A deliverable is defined 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" (PMBOK, 2017). Chart 5 below lists the deliverables to be achieved from each project objective.

Chart 5: *Deliverables*

Objectives	**Deliverables**
To create the Project Charter that formally authorizes the project, and to gives the project manager the authority to use/utilize resources within the Antigua Public Utilities Authority to prepare the project management plan.	Project Charter
To develop a Project Management Plan to define how the project will be initiated, planned, monitored and controlled, and closed.	Project Management plan
To create a Scope Management Plan to ensure that all the work, and only the work required is done according to the plan, and to ensure the successful completion of the project.	Scope Management Plan
To create a Schedule Management Plan to ensure that all work is completed within time constraints.	Schedule Management Plan, Activity List, Gantt Chart
To create a Cost Management Plan to plan, manage and control the project's budget.	Cost Management Plan, Cost Baseline
To create a Quality Management Plan to identify quality requirements in order to ensure deliverables meet expectations.	Quality Management Plan
To develop a Resource Management Plan to ensure that all resources are identified and managed efficiently for the successful completion of the project.	Resource Management Plan
To develop a Communications Management Plan to ensure the timely, accurate and effective communication to all stakeholders.	Communication Management Plan, Communication Matrix
To create a Risk Management Plan to identify and examine risks and create responses and management to these risks to ensure the successful completion of the project.	Risk Management Plan, Risk Register
To develop a Procurement Management Plan to ensure the correct products, services and results are procured by the project.	Procurement Management Plan
To create a Stakeholder Management Plan to identify and manage all project stakeholders' expectations and to ensure efficient and effective stakeholder engagement throughout the life of the project.	Stakeholder Management Plan, Stakeholder Analysis, Stakeholder Register

Source: N. Edwards (Author)

4. RESULTS

In this section, the various plans will be elaborated for the implementation of the Sierra Workforce Time Management System Project at the Antigua Public Utilities Authority. These plans will be the first of its kind to be created for any project at the Authority and will form as a basis for future projects within the Organization. Unfortunately, a project methodology has never been used at the Authority, but the final project will bear proof that the efficient management of projects is necessary for actual project success. Some information for this project was considered confidential and permission was not granted to be included in this final project.

4.1 Project Charter

4.1.1 Develop Project Charter

The first objective identified in the FGP was the creation of a Project Charter for the implementation of the Sierra Workforce Time Management System at the Antigua Public Utilities Authority. The Project Charter, which is issued by the project sponsor or initiator is a high-level document that formally authorizes the existence of a project. In addition, it gives the Project Manager the authority to use organizational resources for project activities. The Project Charter for this project will ensure that all stakeholders are in agreement with key deliverables and milestones, and their roles and responsibilities on the project. Expert judgement, data gathering techniques and meetings between Human Resource Manager, Financial Manager and the Project Team were some of the tools and techniques used to develop the Project Charter for the Sierra Workforce Time Management Project.

Once the Project Charter is created, it will provide a link between the project and the strategic objectives of the Antigua Public Utilities Authority. Also, it will create a formal record that the project was authorized, and it will demonstrate the Authority's commitment to the project successful completion. After realizing the inconsistencies in the payroll which have resulted in an exorbitant salary and wage bill, the Management Team found it prudent to find strategic ways to cut cost especially during a pandemic. The Human Resources Manager then developed a business case which explicitly outlined the need for proper time management of employees and improved accountability. The business case was used as an input to develop the Project Charter. Figure 5 below illustrates the inputs, tools, techniques and output of the Develop Project Charter process.

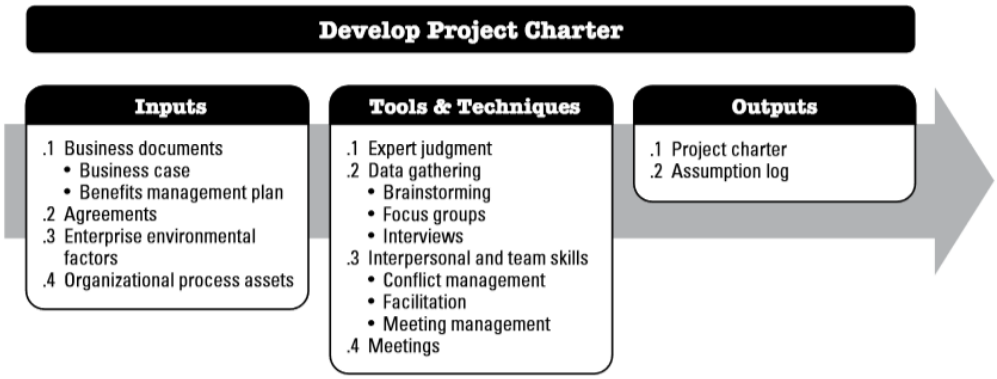


Figure 4: *Develop Project Charter*

Note: Reprinted *from* PMBOK Guide (PMI, 2017)

Given the fact that this was the first Project Charter created for a Project within the Authority, a template from *A Project Manager's Book of Forms* (Dionisio, 2017) was used to create the Project Charter.

Project Charter			
Project Title:	Implementation of the Sierra Workforce Time Management at the Antigua Public Utilities Authority		
Project Sponsor:	Human Resources Manager	**Date Prepared:**	January 2021
Project Manager:	R. Burton	**Project Customer:**	APUA

Project Purpose:

Due to inadequacies in the payroll and increased costs due to overtime paid to employees, the Authority found it prudent to find a more efficient way to accurately record employee work attendance punctuality. By eradicating the "buddy-punch" system, employees will be responsible to punch in and out of work using their fingerprint and other biometric means. This will result in paying an employee for time actually worked. Also, increasing productivity and accountability is another main purpose of implementing and installing the time management software.

High-Level Project Description:

This project includes the installation and implementation of the Sierra Workforce Solutions Time Management System. Both software and hardware i.e., biometric clocks would be installed at all locations to facilitate the ease of employees clocking in and out their scheduled work times.

An external vendor was used to acquire the time management software and hardware that has the capabilities suitable to accurately and efficiently track employee attendance and payroll and reporting purposes.

Project Boundaries:

This project will affect the Human Resources and Payroll Departments operations only. All other Business Units and Departments will not be affected.

Key Deliverables:

1. Installation, migration, and implementation of the Sierra Workforce Time Management Software.

2. Creation of Time Management User Manual and Policy Document.
3. Training of all key employees who are responsible for managing, monitoring and reporting.

High-Level Requirements:

1. Software must be able to offer sufficient user licenses to manage the payroll for approximately 800 employees.
2. Software must be able to be integrated with the current Great Plains Software.
3. All key personnel must be adequately trained to use the new software.
4. Software must be able to be customized to the Authority's needs and specifications.

Overall Project Risk:

1. Because internal resources are being used for this project, some resources may not be available to perform certain activities.
2. There may be a delay in getting approvals since the Project Manager does not have the authority to sign off on contracts and requisitions.
3. There may be some resistance from employees because of the current culture of unaccountability and unproductivity.

Project Objectives:

The project objectives include:

1. To create a User Manual Time Management Policy and Governance Document to guide approximately 800 employees.
2. To install and implement a Time Management Software and Hardware to record sign-ins and sign offs for approximately 800 employees.
3. To create and/or update customer profile information for approximately 800 employees.
4. To train all employees (key personnel) responsible for payroll and reporting for approximately 800 employees.

Summary Milestones:

1. Installation of Software
2. Installation of Biometric Clocks
3. Collection of Fingerprints
4. Creation of User Manuals and Governance Policy
5. Successful pilot run
6. Training of key personnel

Preapproved Financial Resources:	
A budget of EC$84,031.20 was allocated from the Human Resource Budget for Fiscal 2021.	
Stakeholder(s)	**Role**
Human Resources Manager	Sponsor/Originator
IT Network Administator	Project Team Member
Payroll Supervisor	Project Team Member
Employee Engagement Officer	Project Manager
HR Training Officer	Project Team Member
Sierra Workforce Team	Vendor
APUA Supervisors	Employees
APUA Staff	Employees
Executive Management Team	Management/Customer
Project Exit Criteria:	
The successful installation and implementation of the Sierra Workforce Solutions Time Management Software and the biometric time clocks at all locations.	
Project Manager Authority Level:	
The Project Manager must seek approval from the Project Sponsor for all changes requested and for additional resources.	
Staffing Decisions:	
Staff for this project include internal resources from the Human Resources, Payroll, IT Department, Corporate Communication and Accounts & Finance Departments.	
Budget Management and Variance:	

The variance threshold is +10% for the approved scope. Any indication that the project will have a greater variance must be escalated to the Human Resources Manager with a root cause analysis and proposed corrective action.

Technical Decisions:

1. The Project Manager has the authority to make all project management related decisions. He will consult with the technicians at the Sierra Workforce Time Management for further technical assistance.
2. The Project Manager will coordinate and liase with APUA's IT Department for any technical expertise and decisions.

Conflict Resolution:

1. The Project Manager will work along with the Project Team to resolve any conflicts.
2. The Project Manager will work along with the Vendors to resolve any conflicts; however, if there are any contractual implications, then legal assistance should be sought.
3. Any conflict that cannot be resolved by the Project Manager must be escalated to the Human Resources Manager.

Sponsor Authority:

The sponsor has the authority to make any decisions he/she deems appropriate for the project. He or she can stop the project.

Approvals:

_____	_____
Project Manager Signature	**Sponsor or Originator Signature**
Signature	
_____	_____
Date	**Date**

Figure 5: *Sierra Workforce Solutions Project Charter*

Source: N. Edwards (Author)

4.2 Scope Management Plan

Getting the Project Scope right and managing it effectively will ensure that the Sierra Workforce Time Management Project is successful. Therefore, by gathering requirements, defining the project and product scope, organizing same using the Work Breakdown Structure (WBS), validating and controlling the scope is a critical process.

The Scope Management Plan will be developed through collaboration by the Project Manager, Project Team and Project Sponsor.

4.2.1 Approach

The Project Manager will be responsible for the proper management of the project scope. The scope for this project will be defined by the Scope Statement, Work Breakdown Structure (WBS) and WBS Dictionary. In addition, the Project Manager, Sponsor and any other Stakeholder will create and approve documentation for measuring project scope, which will include work performance measurements. Moreover, proposed scope changes may be originated by the Project Manager, a Stakeholder or any member of the Project Team. Therefore, all project change requests must be submitted to the Project Manager who will then evaluate the request. Thereafter, once the request is accepted, the Project Manager will submit the scope change request to the Project Sponsor for acceptance. Once the request is approved by the Project Sponsor, the Project Manager will update all project documents and communicate same to all stakeholders. Consequently, the Project Sponsor is responsible for the acceptance of the final project deliverables and project scope.

4.2.2 Roles and Responsibilities

The Project Sponsor, Project Manager and the Project Team will each have their identified roles and responsibilities for managing the scope of the project. The table below identifies each stakeholder and their respective roles and responsibilities. Table 2 shows Project Scope Management Roles and Responsibilities.

Table 2: *Project Scope Management Roles and Responsibilities*

Name	Role	Responsibility
R. Simon	Sponsor/HR Manager	● Approves the Scope Management Plan ● Reviews escalated scope issues and provides direction for resolution ● Approved scope change requests ● Provides high-level scope definition
R. Burton	Project Manager	● Responsible for the management of the project scope ● Oversees the development of the Scope Management Plan ● Oversees the scope change process ● Escalates scope change issues ● Ensures that scope changes are incorporated into the appropriate project documents
Project Team: Payroll Supervisor IT Network Technician Human Resource Training Officer	Project Team	● Submit change requests for approval ● Assists in developing the project scope ● Participates in team-level scope change reviews
Sierra Workforce Solutions Team	Vendor	● Ensure that the work they are to perform is done according to the scope of the project

Source: N. Edwards (Author)

4.2.3 Project Scope Statement

The Project Scope Statement will provide an overview of the project scope and assist the Project Manager, Project Team and the Sponsor to define and develop the project and product scope for the Sierra Workforce Time Management System Project. Moreover, the requirements will provide the necessary information about the objectives, needs and expectations for the project, which is important to successfully manage the project. The project charter, and the requirements documentation were used as inputs to create the project scope statement. Figure below was created using a template from the book A Project Manager's Book of Forms (Dionisio, 2017) since this is the first time PMI's Project Management practices are being used to manage and control a project within the organization. The Project Scope Statement (Figure 7) below gives a high-level description of the Sierra Time Management Solutions Project.

PROJECT SCOPE STATEMENT			
Project Title	Implementation of the Sierra Workforce Time Management System at APUA	**Date Prepared**	January 2021

Project Scope Description

The Sierra Workforce Solutions Time Management Software Software will record the attendance times of approximately 800 employees. Biometric clocks will be installed at each location to capture each employee's clock-in and out times by using their fingerprints (biometrics). This new time management software will require training of key personnel and Super Users within the Authority; thus, training will be provided to ensure that each employee is versed on the use and functionality of the time management software. A governance policy will also be adopted as a guide for employees using the new software.

Project Deliverables

The project will complete the following activities:

- Acquisition and installation of time management software and hardware.
- Complete training of End Users and Supervisors
- Completion of policy document governing the new time management process and Training Manual.

Acceptance Criteria

The success of the implementation of the Sierra Workforce Time Management System will be realized once:

- All employees' fingerprints and personal information is captured in the new time management system.
- All equipment and software are installed and operable.
- All employee sign-ins and outs are accurately captured in the Great Plains software to enable accurate salary and wage calculations.
- The project does not exceed its budget of EC$84,031.20.
- The project is completed within the six-month schedule.
- All Users and Supervisors can use the new software to add or adjust employee work times.
- The creation and dissemination of the governance policy and training manual.

Project Exclusions

This project is focused on the successful installation and implementation of the Sierra Workforce Time Management System Software and Hardware. Any upgrade to system features and configuration is not a part of the scope of work.
Project Constraints
This project is scheduled to be executed within June 7, 2021 to December 21, 2021 despite the current COVID-19 pandemic that has affected business operation times caused by lockdowns and curfews.
Project Assumptions
It can be assumed that the project scope has been correctly identified and no additional modifications are needed.

Figure 6: *Project Scope Statement*

Source: N. Edwards (Author)

4.2.4 Work Breakdown Structure

The Work Breakdown Structure (WBS) was used to decompose all the work to be carried out by the Project Team to accomplish the objectives of the project, and to create the required deliverables.

This section contains the Work Breakdown Structure (WBS) and its related information. The WBS and the WBS Dictionary are important components of effective Scope Management. The WBS for the implementation of the Sierra Workforce Time Management System will provide a hierarchical decomposition of the total scope of work to be carried out in fulfillment of the objectives of the project. Decomposition techniques were applied in this process with the assistance of the Project Manager and the Project Team. The activities were subdivided into individual work packages to allow the Project

Manager to manage and control the scope of the project more effectively**,** while the Project Team worked on completing the necessary task to complete the project.

The WBS Dictionary was used to clearly define the work necessary to complete the project. The WBS Dictionary includes a detailed description of each WBS element. Figure below illustrates an example of a WBS Element being captured in the WBS Dictionary for this project. This WBS Dictionary was created using the PMBOK Guide (PMI, 2017) and the Project Manager's Book of Forms (Dionisio, 2017). Figure 8 and Figure 9 shos the Work Breakdown Structure (WBS) Dictionary and the WBS respectively.

WBS DICTIONARY	
Project Name:	
Control Account ID:	
Work Package Name:	
Responsible Organization:	
Work Package Deliverable Description:	
Assumptions:	**Constraint:**
Quality Metrics:	
Resources Assigned:	
Scheduled Milestones:	
Approved by:	**Date:**

Figure 7: *WBS Dictionary*

Note: Source N. Edwards (Author)

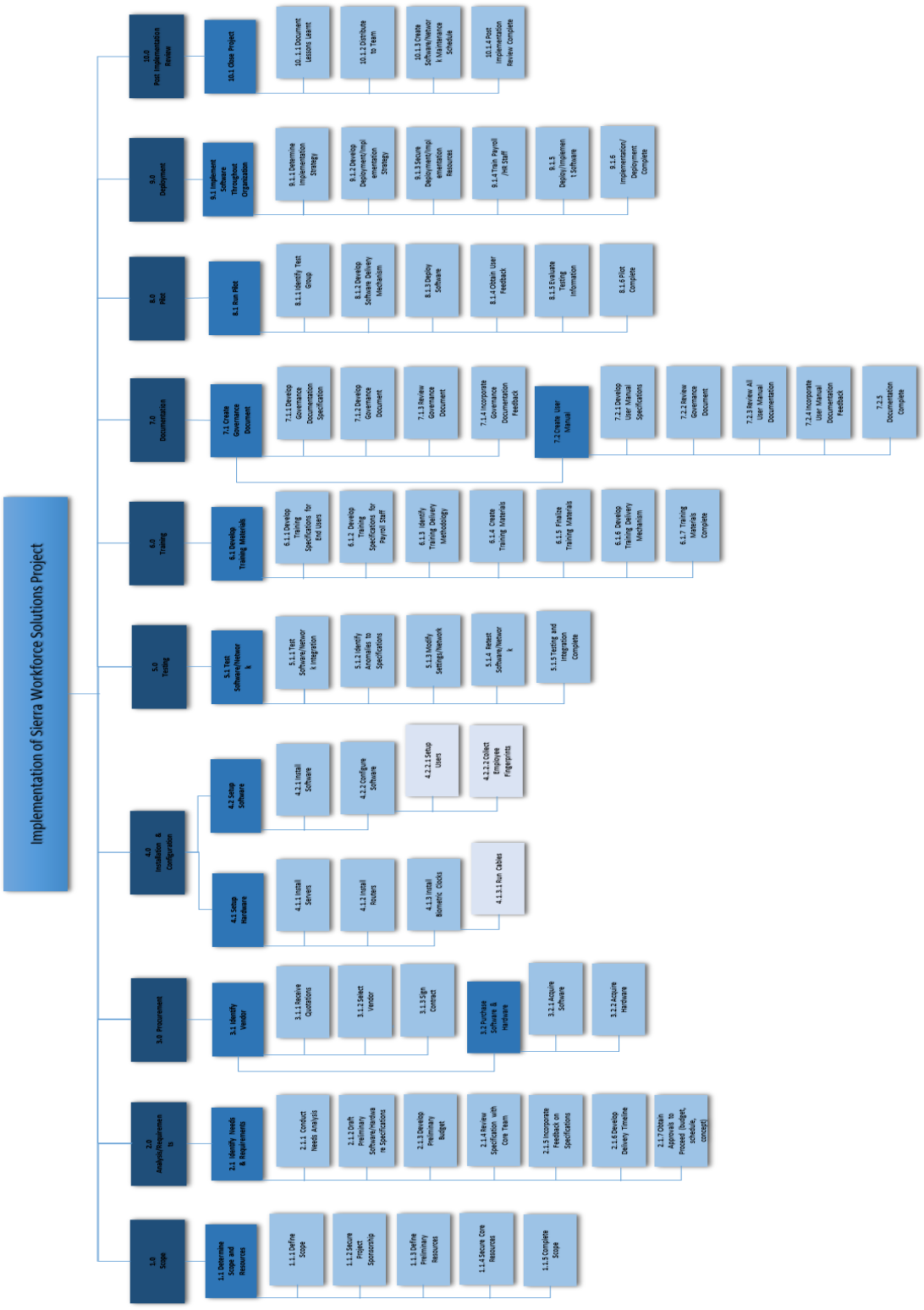


Figure 8: *Work Breakdown Structure*

Note: Source: N. Edwards (Author)

Table 3: *Work Breakdown Structure (WBS) (Table Format)*

WBS	Task Name
1	**Scope**
1.1	Determine Scope and Resources
1.1.1	Define Project Scope
1.1.2	Secure project sponsorship
1.1.3	Define preliminary resources
1.1.4	Secure core resources
1.1.5	Scope complete
2	**Analysis/Requirements**
2.1	Identify Needs and Requirements
2.1.1	Conduct needs analysis
2.1.2	Draft preliminary software/hardware specifications
2.1.3	Develop preliminary Budget
2.1.4	Review software & hardware specifications and budget with Project team
2.1.5	Incorporate feedback on software/hardware specifications
2.1.6	Develop delivery timeline
2.1.7	Obtain approvals to proceed (budget, schedule, concept)
2.1.8	Secure required resources
2.1.9	Analysis complete
3	**Procurement**
3.1	Identify Vendor
3.1.1	Receive quotations
3.1.2	Select Vendor
3.1.3	Sign Contract
3.2	Purchase Software & Hardware
3.2.1	Acquire Software
3.2.2	Acquire Hardware
4	**Installation**
4.1	Setup Hardware
4.1.1	Install Servers
4.1.2	Install Routers
4.1.3	Install Biometric Clocks
4.1.3.1	Run Cables
4.2	Setup Software
4.2.1	Install Software
4.2.2	Configure Software
4.2.2.1	Setup End Users

4.2.2.2	Collect Employee Fingerprints
5	**Testing**
5.1	Test Software & Network
5.1.1	Test software and network integration
5.1.2	Identify anomalies to specifications
5.1.3	Modify settings/network
5.1.4	Re-test
5.1.5	Testing and integration complete
6	**Training**
6.1	Develop Training Materials
6.1.1	Develop training specifications for end users/employees
6.1.2	Develop training specifications for Payroll, HR, IT Support Staff and Supervisors
6.1.3	Identify training delivery methodology (computer based training, classroom, etc.)
6.1.4	Develop training materials
6.1.5	Finalize training materials
6.1.6	Develop training delivery mechanism
6.1.7	Training materials complete
7	**Documentation**
7.1	Develop Governance Document
7.1.1	Develop Governance documentation specification
7.1.2	Develop Governance Document
7.1.3	Review Governance documentation
7.1.4	Incorporate Governance Documentation feedback
7.2	Develop User Manual
7.2.1	Develop user manuals specifications
7.2.2	Develop user manuals
7.2.3	Review all user documentation
7.2.4	Incorporate user/training documentation feedback
7.2.5	Documentation complete
8	**Pilot**
8.1	Run Pilot
8.1.1	Identify test group
8.1.2	Develop software delivery mechanism
8.1.3	Install/deploy software
8.1.4	Obtain user feedback
8.1.5	Evaluate testing information
8.1.6	Pilot complete
9	Deployment/Implementation
9.1	Implement Software Throuhout the Organization

9.1.1	Determine Implementation strategy
9.1.2	Develop deployment/implementation methodology
9.1.3	Secure deployment/implemenation resources
9.1.4	Train Payroll, HR Staff and Supervisors
9.1.5	Deploy/Implement software
9.1.6	Deployment/Implementation complete
10	Post Implementation Review
10.1	Close Project
10.1.1	Document lessons learned
10.1.2	Distribute to Project
10.1.3	Create software/network maintenance Schedule
10.1.4	Post implementation review complete

Source: N. Edwards (Author)

4.2.5 Scope Change

The Change Request Form will be used to document any change requested for any aspect of the project. This change can be pertained to the project's product, documents, cost, schedule or any other aspect. Figure 10 below illustrates the Change Request Form Template that will be used to request any changes on the project.

CHANGE REQUEST FORM			
Project Title:		**Date:**	
Requestor:		**Change No:**	

Category of Changer (Check a box to indicate the category of change)

☐ **Scope** ☐ **Quality** ☐ **Requirements**

☐ **Cost** ☐ **Schedule** ☐ **Documents**

Detailed Description of Proposed Change:

Justification for Proposed Change:

Impacts of Change:

Scope:	☐ **Increase**	☐ **Decrease**	☐ **Modify**
Description:			
Quality	☐ **Increase**	☐ **Decrease**	☐ **Modify**
Description:			
Requirements	☐ **Increase**	☐ **Decrease**	☐ **Modify**
Description:			
Cost:	☐ **Increase**	☐ **Decrease**	☐ **Modify**
Description:			
Schedule	☐ **Increase**	☐ **Decrease**	☐ **Modify**

Description:		
Project Documents:		
Comments:		
Disposition: ☐ **Approve** ☐ **Defer** ☐ **Reject**		
Justification:		
Change Control Board Signature		
Name	**Role**	**Signature**
Date:		

Figure 9: *Change Request Form Template*

Source: N. Edwards (Author)

4.2.6 Scope Control

The project scope will be monitored and controlled by the Project Manager through frequent meetings, inspections and reviewing status and progress reports prepared by the Project Team to see if there were any variances from what was planned. Performing variance analysis was significant for this process.

4.2.7 Scope Validation

Formal acceptance of completed project deliverables will be verified via inspection. This will be done periodically throughout the project as each deliverable or component is validated and accepted. Deliverables will be reviewed and assessed to ensure that the deliverable meets the specified requirements. Therefore, the Project Manager (or a

delegated representative) will inspect verified deliverables and/or work performance data so that it could be compared with information documented in either the Scope Management Plan, Scope Statement, WBS, WBS Dictionary, Requirements Documentation or Requirements Traceability Matrix.

Figure 11 below illustrates the Formal Acceptance Form that will be used to accept verified deliverables for the implementation of the Sierra Workforce Time Management System Software at the Antigua Public Utilities Authority. This form was created by referring to the PMBOK Guide (PMI, 2017) and The Project Manager's Book of Forms (Dionisio, 2017).

Figure 10: *Formal Acceptance Form*

FORMAL ACCEPTANCE FORM						
Project Title:				**Date Prepared:**		
ID	**Requirement**	**Acceptance Criteria**	**Validation Method**	**Status**	**Comments**	**Sign-off**

Source: N. Edwards (Author)

4.2.8 Plan Approval

The Scope Management Plan will be reviewed and approved by the Project Sponsor and the Project Manager as depicted in Table 4 below.

Table 4: *Scope Management Plan Approval*

Approved by	**Title**	**Signature**	**Date**

REVISION HISTORY			
VERSION	**DATE**	**REASON**	**EXECUTIVE SPONSOR SIGN-OFF**

4.3 Schedule Management Plan

The Schedule Management Plan will form part of the Project Management Plan. It will specify how the project's schedule will be developed, monitored, and controlled.

The project schedule will be the roadmap that directs how the Sierra Workforce Time Management System Project will be executed. Schedules are a very important part of any project as it provides the Project Manager and his Team, the Project Sponsor, and any other Stakeholders a holistic view of the status of the project schedule at any given time. Notwithstanding, the ultimate objective of the Schedule Management Plan is to define the approach in which the Project Manager and the Project Team will use to create the project schedule. Moreover, this plan will also include how the Project Team will monitor and control the project schedule and manage any changes after the schedule baseline has been approved by the Project Sponsor/Human Resource Manager. Identifying, analyzing, documenting, prioritizing, approving or rejecting, and publishing all schedule-related changes will be included.

4.3.1 Schedule Management Approach

The Project Manager will identify the individual work packages which must be executed to complete each deliverable for this project. Therefore, to determine the order of each work package, and to establish relationships between project activities, activity sequencing will be utilized, while to calculate the number of work periods required to complete work packages, the Project Manager and the Project Team will use activity duration estimating. Wherein, resource estimating will be used to allocate resources to work packages in an effort to complete schedule development.

Hence, once an initial schedule has been developed, it will be reviewed by the Project Manager and the Project Team so that resources can be tentatively allocated to project tasks and activities. The Project Manager and the Project Team along with the resources assigned must be in agreement with the proposed work package assignments, schedule and durations. Thereafter once all parties agree, the Project Sponsor will evaluate and accept the schedule, to be baselined.

To create, manage and control the project schedule, Microsoft Project 2016 will be used by the Project Manager and the Team.

4.3.2 Roles and Responsibilities

Each key stakeholder would have a critical role to play when it comes to managing and controlling the project schedule. Table 5 below describes the key stakeholder roles and their responsibilities for managing the project schedule

Table 5: *Project Schedule Management Roles and Responsibilities*

Names/Roles	**Responsibilities**
Project Sponsor/Human Resource Manager	● Responsible for validating the project schedule in synergy with the Project Manager and the Project Team ● Participates in proposed schedule reviews and approves the final schedule prior to being baselined
Project Manager	● Responsible for facilitating work package definition, sequencing, and estimating resources and duration ● Create the project schedule using MS Project 2016, and validate the schedule with the Project Sponsor, Project Team, and other Stakeholders,

	● Secures schedule approval from the project sponsor and baseline the schedule
Project Team Members	● Prepares all the requisite documentation to supplement the management of the project schedule ● Participates in reviews of the proposed project schedule and collaborates with its validation
Sierra Workforce Time Management Team	● Responsible for executing tasks and activities according to the schedule

Source: N. Edwards (Author)

4.3.3 Scheduling Method

The Critical Path Method (CPM) will be the scheduling tool used for this project. It will calculate the minimum project duration as well as determine the amount of scheduling flexibility on the logical network paths within the schedule model.

4.3.4 Scheduling Process

Deliverables identified in the WBS will be used to create the project schedule in Microsoft Project 2016. Activity definition will identify work packages that must be performed in order to complete each deliverable. Therefore, through activity sequencing, the order of these work packages will be ascertained, and relationships will be assigned between the activities of this project. Moreover, to calculate the number of work periods required to complete each work package, activity duration estimation will be used, and resource estimating will be used to assign resources to the relative work packages that must be completed. Upon the successful creation of the project schedule, the Project

Sponsor will approve it so that it could be baselined. Consequently, only the Project Manager and the Team Member assigned can edit or alter the schedule.

Information from past similar projects, the WBS and expert judgement were used to develop the project schedule.

The WBS was used to prepare the activity listed in Table 6 below.

Table 6: *Activity List*

WBS	Task Name	Duration	Start Date	Finish Date	Predecessors
1.1.1	Define Project Scope	2 days	Mon 6/7/21	Tue 6/8/21	
1.1.2	Secure project sponsorship	1 day	Wed 6/9/21	Wed 6/9/21	3
1.1.3	Define preliminary resources	1 day	Thu 6/10/21	Thu 6/10/21	4
1.1.4	Secure core resources	1 day	Fri 6/11/21	Fri 6/11/21	5
1.1.5	Scope complete	0 days	Fri 6/11/21	Fri 6/11/21	6
2.1.1	Conduct needs analysis	5 days	Mon 6/14/21	Fri 6/18/21	7
2.1.2	Draft preliminary software/hardware specifications	3 days	Mon 6/21/21	Wed 6/23/21	10
2.1.3	Develop preliminary budget	2 days	Thu 6/24/21	Fri 6/25/21	11
2.1.4	Review software & hardware specifications and budget with Project team	4 hrs	Mon 6/28/21	Mon 6/28/21	12
2.1.5	Incorporate feedback on software/hardware specifications	0.5 days	Mon 6/28/21	Mon 6/28/21	13
2.1.6	Develop delivery timeline	1 day	Tue 6/29/21	Tue 6/29/21	14
2.1.7	Obtain approvals to proceed (budget, schedule, concept)	4 hrs	Wed 6/30/21	Wed 6/30/21	15
2.1.8	Secure required resources	1 day	Wed 6/30/21	Thu 7/1/21	16
2.1.9	Analysis complete	0 days	Thu 7/1/21	Thu 7/1/21	17
3.1.1	Receive quotations	2 days	Wed 6/30/21	Fri 7/2/21	18
3.1.2	Select Vendor	5 days	Mon 7/5/21	Fri 7/9/21	21
3.1.3	Sign Contract	5 days	Mon 7/12/21	Fri 7/16/21	22
3.2.1	Acquire Software	15 days	Mon 7/19/21	Fri 8/6/21	23
3.2.2	Acquire Hardware	15 days	Mon 7/19/21	Fri 8/6/21	25
4.1.1	Install Servers	1 day	Mon 8/9/21	Mon 8/9/21	26

4.1.2	Install Routers	1 day	Tue 8/10/21	Tue 8/10/21	26
4.1.3.1	Run Cables	2 days	Wed 8/11/21	Thu 8/12/21	30
4.2.1	Install Software	1 day	Fri 8/13/21	Fri 8/13/21	32
4.2.2	Configure Software	1 day	Mon 8/16/21	Mon 8/16/21	34
4.2.2.1	Setup End Users	1 day	Mon 8/16/21	Mon 8/16/21	35
4.2.2.2	Collect Employee Fingerprints	5 days	Tue 8/17/21	Mon 8/23/21	36
5.1.1	Test software and network integration	5 days	Fri 9/17/21	Thu 9/23/21	39
5.1.2	Identify anomalies to specifications	2 days	Fri 9/24/21	Mon 9/27/21	40
5.1.3	Modify settings/network	3 days	Tue 9/28/21	Thu 9/30/21	41
5.1.4	Re-test	2 days	Fri 10/1/21	Mon 10/4/21	42
5.1.5	Testing and integration complete	0 days	Mon 10/4/21	Mon 10/4/21	43
6.1.1	Develop training specifications for end users/employees	3 days	Tue 10/5/21	Thu 10/7/21	43
6.1.2	Develop training specifications for Payroll, HR, IT Support Staff and Supervisors	3 days	Tue 10/5/21	Thu 10/7/21	43
6.1.3	Identify training delivery methodology (computer based training, classroom, etc.)	2 days	Tue 10/5/21	Wed 10/6/21	43
6.1.4	Develop training materials	2 wks	Fri 10/8/21	Thu 10/21/21	47,33,48,49
6.1.5	Finalize training materials	3 days	Fri 10/22/21	Tue 10/26/21	50
6.1.6	Develop training delivery mechanism	2 days	Wed 10/27/21	Thu 10/28/21	51
6.1.7	Training materials complete	0 days	Thu 10/28/21	Thu 10/28/21	52
7.1.1	Develop Governance documentation specification	1 day	Fri 10/29/21	Fri 10/29/21	52
7.1.2	Develop Governance Document	2 wks	Mon 11/1/21	Fri 11/12/21	56

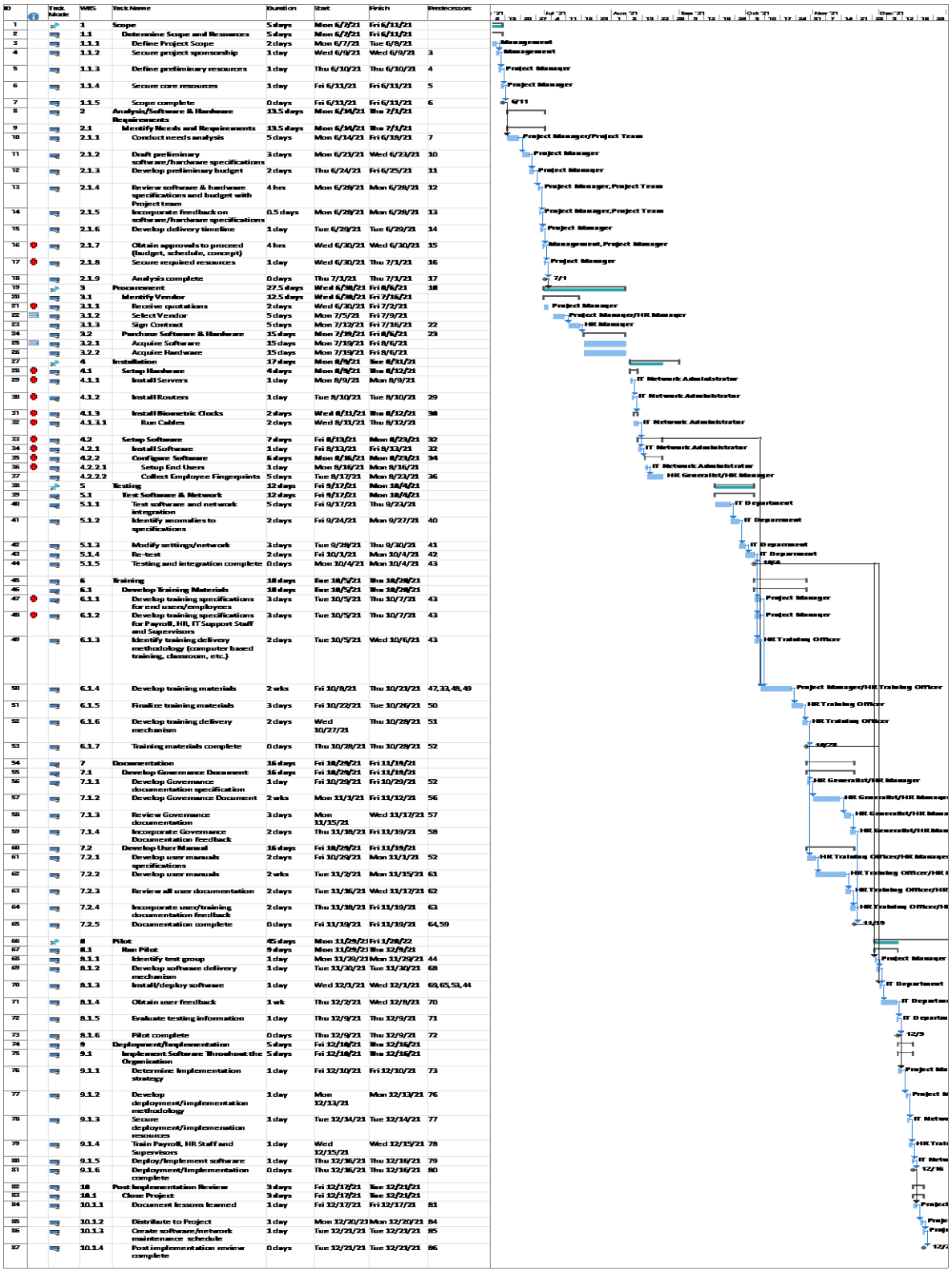
7.1.3	Review Governance documentation	3 days	Mon 11/15/21	Wed 11/17/21	57
7.1.4	Incorporate Governance Documentation feedback	2 days	Thu 11/18/21	Fri 11/19/21	58
7.2.1	Develop user manuals specifications	2 days	Fri 10/29/21	Mon 11/1/21	52
7.2.2	Develop user manuals	2 wks	Tue 11/2/21	Mon 11/15/21	61
7.2.3	Review all user documentation	2 days	Tue 11/16/21	Wed 11/17/21	62
7.2.4	Incorporate user/training documentation feedback	2 days	Thu 11/18/21	Fri 11/19/21	63
7.2.5	Documentation complete	0 days	Fri 11/19/21	Fri 11/19/21	64,59
8.1.1	Identify test group	1 day	Mon 11/29/21	Mon 11/29/21	44
8.1.2	Develop software delivery mechanism	1 day	Tue 11/30/21	Tue 11/30/21	68
8.1.3	Install/deploy software	1 day	Wed 12/1/21	Wed 12/1/21	69,65,53,44
8.1.4	Obtain user feedback	1 wk	Thu 12/2/21	Wed 12/8/21	70
8.1.5	Evaluate testing information	1 day	Thu 12/9/21	Thu 12/9/21	71
8.1.6	Pilot complete	0 days	Thu 12/9/21	Thu 12/9/21	72
9.1.1	Determine Implementation strategy	1 day	Fri 12/10/21	Fri 12/10/21	73
9.1.2	Develop deployment/implementation methodology	1 day	Mon 12/13/21	Mon 12/13/21	76
9.1.3	Secure deployment/implementation resources	1 day	Tue 12/14/21	Tue 12/14/21	77
9.1.4	Train Payroll, HR Staff and Supervisors	1 day	Wed 12/15/21	Wed 12/15/21	78
9.1.5	Deploy/Implement software	1 day	Thu 12/16/21	Thu 12/16/21	79
9.1.6	Deployment/Implementation complete	0 days	Thu 12/16/21	Thu 12/16/21	80
10.1.1	Document lessons learned	1 day	Fri 12/17/21	Fri 12/17/21	81

10.1.2	Distribute to Project	1 day	Mon 12/20/21	Mon 12/20/21	84
10.1.3	Create software/network maintenance schedule	1 day	Tue 12/21/21	Tue 12/21/21	85
10.1.4	Post implementation review complete	0 days	Tue 12/21/21	Tue 12/21/21	86

Source: N. Edwards (Author)

4.3.5 Develop Schedule

Developing the schedule will involve analyzing activity sequences, durations, resource requirements, and constraints. The Project Manager along with the Project Team, the Project Sponsor and other Stakeholders will provide feedback to ensure that the schedule established is correct and doable. Figure 12 below illustrated the project schedule for the Sierra Workforce Solutions Time Management Project.



ID	Task Mode	WBS	Task Name	Duration	Start	Finish	Predecessors
1		1	Scope	5 days	Mon 6/7/21	Fri 6/11/21	
2		1.1	Determine Scope and Resources	5 days	Mon 6/7/21	Fri 6/11/21	
3		1.1.1	Define Project Scope	2 days	Mon 6/7/21	Tue 6/8/21	
4		1.1.2	Secure project sponsorship	1 day	Wed 6/9/21	Wed 6/9/21	3
5		1.1.3	Define preliminary resources	1 day	Thu 6/10/21	Thu 6/10/21	4
6		1.1.4	Secure core resources	1 day	Fri 6/11/21	Fri 6/11/21	5
7		1.1.5	Scope complete	0 days	Fri 6/11/21	Fri 6/11/21	6
8		2	Analysis/Software & Hardware Requirements	13.5 days	Mon 6/14/21	Thu 7/1/21	
9		2.1	Identify Needs and Requirements	13.5 days	Mon 6/14/21	Thu 7/1/21	
10		2.1.1	Conduct needs analysis	5 days	Mon 6/14/21	Fri 6/18/21	7
11		2.1.2	Draft preliminary software/hardware specifications	3 days	Mon 6/21/21	Wed 6/23/21	10
12		2.1.3	Develop preliminary budget	2 days	Thu 6/24/21	Fri 6/25/21	11
13		2.1.4	Review software & hardware specifications and budget with Project team	4 hrs	Mon 6/28/21	Mon 6/28/21	12
14		2.1.5	Incorporate feedback on software/hardware specifications	0.5 days	Mon 6/28/21	Mon 6/28/21	13
15		2.1.6	Develop delivery timeline	1 day	Tue 6/29/21	Tue 6/29/21	14
16		2.1.7	Obtain approvals to proceed (budget, schedule, concept)	4 hrs	Wed 6/30/21	Wed 6/30/21	15
17		2.1.8	Secure required resources	1 day	Wed 6/30/21	Thu 7/1/21	16
18		2.1.9	Analysis complete	0 days	Thu 7/1/21	Thu 7/1/21	17
19		3	Procurement	27.5 days	Wed 6/30/21	Fri 8/6/21	18
20		3.1	Identify Vendor	12.5 days	Wed 6/30/21	Fri 7/16/21	
21		3.1.1	Receive quotations	2 days	Wed 6/30/21	Fri 7/2/21	
22		3.1.2	Select Vendor	5 days	Mon 7/5/21	Fri 7/9/21	
23		3.1.3	Sign Contract	5 days	Mon 7/12/21	Fri 7/16/21	22
24		3.2	Purchase Software & Hardware	15 days	Mon 7/19/21	Fri 8/6/21	23
25		3.2.1	Acquire Software	15 days	Mon 7/19/21	Fri 8/6/21	
26		3.2.2	Acquire Hardware	15 days	Mon 7/19/21	Fri 8/6/21	
27		4	Installation	17 days	Mon 8/9/21	Tue 8/31/21	
28		4.1	Setup Hardware	4 days	Mon 8/9/21	Thu 8/12/21	
29		4.1.1	Install Servers	1 day	Mon 8/9/21	Mon 8/9/21	
30		4.1.2	Install Routers	1 day	Tue 8/10/21	Tue 8/10/21	29
31		4.1.3	Install Biometric Clocks	2 days	Wed 8/11/21	Thu 8/12/21	30
32		4.1.3.1	Run Cables	2 days	Wed 8/11/21	Thu 8/12/21	
33		4.2	Setup Software	7 days	Fri 8/13/21	Mon 8/23/21	32
34		4.2.1	Install Software	1 day	Fri 8/13/21	Fri 8/13/21	32
35		4.2.2	Configure Software	6 days	Mon 8/16/21	Mon 8/23/21	34
36		4.2.2.1	Setup End Users	1 day	Mon 8/16/21	Mon 8/16/21	
37		4.2.2.2	Collect Employee Fingerprints	5 days	Tue 8/17/21	Mon 8/23/21	36
38		5	Testing	12 days	Fri 9/17/21	Mon 10/4/21	
39		5.1	Test Software & Network	12 days	Fri 9/17/21	Mon 10/4/21	
40		5.1.1	Test software and network integration	5 days	Fri 9/17/21	Thu 9/23/21	
41		5.1.2	Identify anomalies to specifications	2 days	Fri 9/24/21	Mon 9/27/21	40
42		5.1.3	Modify settings/network	3 days	Tue 9/28/21	Thu 9/30/21	41
43		5.1.4	Re-test	2 days	Fri 10/1/21	Mon 10/4/21	42
44		5.1.5	Testing and integration complete	0 days	Mon 10/4/21	Mon 10/4/21	43
45		6	Training	18 days	Tue 10/5/21	Thu 10/28/21	
46		6.1	Develop Training Materials	18 days	Tue 10/5/21	Thu 10/28/21	
47		6.1.1	Develop training specifications for end users/employees	3 days	Tue 10/5/21	Thu 10/7/21	43
48		6.1.2	Develop training specifications for Payroll, HR, IT Support Staff and Supervisors	3 days	Tue 10/5/21	Thu 10/7/21	43
49		6.1.3	Identify training delivery methodology (computer based training, classroom, etc.)	2 days	Tue 10/5/21	Wed 10/6/21	43
50		6.1.4	Develop training materials	2 wks	Fri 10/8/21	Thu 10/21/21	47,33,48,49
51		6.1.5	Finalize training materials	3 days	Fri 10/22/21	Tue 10/26/21	50
52		6.1.6	Develop training delivery mechanism	2 days	Wed 10/27/21	Thu 10/28/21	51
53		6.1.7	Training materials complete	0 days	Thu 10/28/21	Thu 10/28/21	52
54		7	Documentation	16 days	Fri 10/29/21	Fri 11/19/21	
55		7.1	Develop Governance Document	16 days	Fri 10/29/21	Fri 11/19/21	
56		7.1.1	Develop Governance documentation specification	1 day	Fri 10/29/21	Fri 10/29/21	52
57		7.1.2	Develop Governance Document	2 wks	Mon 11/1/21	Fri 11/12/21	56
58		7.1.3	Review Governance documentation	3 days	Mon 11/15/21	Wed 11/17/21	57
59		7.1.4	Incorporate Governance Documentation feedback	2 days	Thu 11/18/21	Fri 11/19/21	58
60		7.2	Develop User Manual	16 days	Fri 10/29/21	Fri 11/19/21	
61		7.2.1	Develop user manuals specifications	2 days	Fri 10/29/21	Mon 11/1/21	52
62		7.2.2	Develop user manuals	2 wks	Tue 11/2/21	Mon 11/15/21	61
63		7.2.3	Review all user documentation	2 days	Tue 11/16/21	Wed 11/17/21	62
64		7.2.4	Incorporate user/training documentation feedback	2 days	Thu 11/18/21	Fri 11/19/21	63
65		7.2.5	Documentation complete	0 days	Fri 11/19/21	Fri 11/19/21	64,59
66		8	Pilot	45 days	Mon 11/29/21	Fri 1/28/22	
67		8.1	Run Pilot	9 days	Mon 11/29/21	Thu 12/9/21	
68		8.1.1	Identify test group	1 day	Mon 11/29/21	Mon 11/29/21	44
69		8.1.2	Develop software delivery mechanism	1 day	Tue 11/30/21	Tue 11/30/21	68
70		8.1.3	Install/deploy software	1 day	Wed 12/1/21	Wed 12/1/21	69,65,53,44
71		8.1.4	Obtain user feedback	1 wk	Thu 12/2/21	Wed 12/8/21	70
72		8.1.5	Evaluate testing information	1 day	Thu 12/9/21	Thu 12/9/21	71
73		8.1.6	Pilot complete	0 days	Thu 12/9/21	Thu 12/9/21	72
74		9	Deployment/Implementation	5 days	Fri 12/10/21	Thu 12/16/21	
75		9.1	Implement Software Throughout the Organization	5 days	Fri 12/10/21	Thu 12/16/21	
76		9.1.1	Determine Implementation strategy	1 day	Fri 12/10/21	Fri 12/10/21	73
77		9.1.2	Develop deployment/implementation methodology	1 day	Mon 12/13/21	Mon 12/13/21	76
78		9.1.3	Secure deployment/implemenation resources	1 day	Tue 12/14/21	Tue 12/14/21	77
79		9.1.4	Train Payroll, HR Staff and Supervisors	1 day	Wed 12/15/21	Wed 12/15/21	78
80		9.1.5	Deploy/Implement software	1 day	Thu 12/16/21	Thu 12/16/21	79
81		9.1.6	Deployment/Implementation complete	0 days	Thu 12/16/21	Thu 12/16/21	80
82		10	Post Implementation Review	3 days	Fri 12/17/21	Tue 12/21/21	
83		10.1	Close Project	3 days	Fri 12/17/21	Tue 12/21/21	
84		10.1.1	Document lessons learned	1 day	Fri 12/17/21	Fri 12/17/21	81
85		10.1.2	Distribute to Project	1 day	Mon 12/20/21	Mon 12/20/21	84
86		10.1.3	Create software/network maintenance schedule	1 day	Tue 12/21/21	Tue 12/21/21	85
87		10.1.4	Post implementation review complete	0 days	Tue 12/21/21	Tue 12/21/21	86

Figure 11: *Project Schedule*

Source: N. Edwards (Author)

4.3.6 Control Schedule

The project schedule will be reviewed and updated as necessary on a weekly basis with actual start, actual finish, and completion percentages which will be provided by task owners. The Project Manager is responsible for holding weekly schedule updates/reviews, determining impacts of schedule variances, submitting schedule change requests, and reporting schedule status in accordance with the project's communications plan. The Project Team is responsible for participating in weekly schedule updates/reviews; communicating any changes to actual start/finish dates to the project manager; and participating in schedule variance resolution activities as needed. The Project Sponsor will maintain awareness of the project schedule status and review/approve any schedule change requests submitted by the Project Manager.

4.3.7 Schedule Changes and Thresholds

If a Project Team Member decides that a change to the project schedule is needed, then the Project Manager and the Project Team will meet to review and evaluate the change. Further, it is critical that a determination is made as to which tasks will be impacted, any variance as a result of the possible change, and if any options or variance resolution activities employed would affect the scope, schedule, and resources of the project. Thereafter, Iif and when this evaluation is completed, the Project Manager will determine the change to the schedule will exceed the established schedule baseline; if it does, then a schedule change request must be submitted for approval.

Once the change request has been reviewed and approved by the Project Sponsor, the Project Manager will be responsible for adjusting the schedule and

communicating all changes and impacts to the Project Team, Stakeholders and the Project Sponsor. All change requests will be archived in the project records repository.

4.3.8 Report Schedule

The Project Manager along with the Project Team Member assigned to assist with the schedule will review and update same weekly. Thus, to effectively and efficiently control the project's schedule performance, the actual progress must be compared to the planned progress in a timely and regular manner; and taking the necessary corrective actions when needed, as soon as possible.

Consequently, the Project Manager with the assistance of the assigned Team Member will produce progress reports that will give details on the actual start and finish dates of activities, and the remaining duration (time) of the unfinished activities. Also, variance analysis will be utilized to compare planned date with actual performance to ascertain if there will be any schedule delays or variations in the project's schedule.

4.3.9 Risks

All risks with regards to the project schedule will be documented in the Risk Management Plan. These risks will be analyzed, evaluated and updated frequently to avoid any project/schedule delays.

4.3.10 Schedule Management Plan Approval

The signatures of Project Sponsor and the Project Manager indicates that an understanding in purpose and content of this document was agreed thereto. By signing this document, it is agreed that this is the formal Schedule Management Plan for the implementation of the Sierra Workforce Solutions Time Management System Project.

Table 7: *Project Schedule Management Plan Approval*

APPROVED BY	TITLE	SIGNATURE	DATE
R. Simon	Project Sponsor		
R. Burton	Project Manager		

REVISION HISTORY			
Version	**Date**	**Reason**	**Executive Sponsor Sign-off**

4.4 Cost Management Plan

The Cost Management Plan will define the methodology by which costs associated with the implementation of the Sierra Workforce Time Management System project will be managed. As a result, the plan will follow the recommendations set forth in the PMBOK Guide (PMI, 2017).

4.4.1 Project Cost Approach

The Project Manager will be tasked with managing and reporting on the project's cost throughout the life of the project. In addition, the Project Manager will meet with the Human Resource Manager to present and review the project's cost performance for the preceding month, wherein cost performance will be measured using the earned value method. Also, the Project Manager will be responsible for any cost deviations and furnish the Project Sponsor with options for getting the project back on track (budget). Therefore, the Project Sponsor has the power to make changes to the project to bring the budget

back in line with what was planned. The funds allocated for the project will come from the Human Resources approved fiscal budget 2021 and are limited to EC$84,031.20.

Costs for this project will be managed with the activities identified in the Work Breakdown Structure (WBS), see Scope Management Plan. Thus, the cost estimate amount will come from the inputs provided by subject matter experts, such as the IT Network Technician, and Payroll Officer, who are both members of the Project Team. In addition, historic information will be reviewed.

To measure and manage the project's financial performance, earned value calculations will be performed, and any cost variances must be identified and reported immediately so that corrective action could be made by the Project Manager in an effort to bring project costs back in line with the budget.

4.4.2 Roles and Responsibilities

To successfully complete this project, the Cost Management Plan must be strictly adapted and adhered to by all key project stakeholders. The following key stakeholders' roles and responsibilities for managing the Cost Management process are listed in Table 8 below.

Table 8: *Project Cost Management Roles and Responsibilities*

Names/Roles	**Responsibilities**
Project Sponsor/Human Resource Manager	● Responsible for the approval of the Cost Management Plan ● Responsible for approving the project's budget, any correction actions, additional funding (if needed)
Project Manager	● Responsible for the day-to-day management of project funds

	● Applies metrics and variance analysis tools to be used to provide status updates
Project Team Members: IT Network Technician Payroll Supervisor Human Resource Training Officer	● Assists the Project Manager with the application of variance analysis tools and metrics in an effort to ensure all project deliverables are completed within the stipulated budget ● Performs assigned tasks and activities according to the Cost Management Plan
Sierra Workforce Time Management Team Members (External)	● Responsible for providing cost estimate for software, equipment, configuration and consultation ● Responsible for performing tasks and activities according to the approved budget and funding requirements

Source: N. Edwards (Author)

4.4.3 Measuring Project Costs

To establish the cost of activities for this project, analogous estimation and expert judgement will be used. Hence, individual activities and work packages will be summed, and the approved cost baseline will be determined.

The total project cost authorized to execute this project is EC$84,031.20. The cost baseline, excluding any Management Reserves will be considered the approved budget, and will be used to measure planned cost performance against actuals in an effort to monitor and control the budget in a timely fashion. Therefore, the Project Manager will be responsible for actively monitoring and controlling project costs for this project. The Contingency Reserves were calculated at 10% based on the Authority's standards.

Project Costs Definitions

Cost Estimate: Total cost for work packages/activities

Cost Baseline: The Cost Estimate + Contingency Reserve

Budget: Cost Baseline + Management Reserves

Management Reserves: The amount of the project budget reserved for unforeseen work that is within the scope of the project. Management Reserves are added to the Cost Baseline which will result in the total project budget.

Table 9 and Table10 shows the Cost Baseline and Management Reserve calculations respectively.

Table 9: *Cost Baseline*

WBS Code	Activity	Cost Estimate	Contingency Reservce (10%)
3.1.3	Sign Contract	$4,000.00	$400.00
3.2.1	Acquire Software	$18,960.00	$1,896.00
3.2.2	Acquire Hardware	$20,000.00	$2,000.00
4.2.2	Configure Software	$11,700.00	$1,170.00
6.1.4	Develop Training Materials	$2,000.00	$200.00
7.1.2	Develop Goverance Document	$2,000.00	$200.00
7.2.1	Develop User Manual	$2,000.00	$200.00
6.2.1	Close Contract	$3,000.00	$300.00
	Total Cost Estimate	**$63,660.00**	$6,366.00
	Cost Baseline	**$70,026.00**	$12,732.00
	Management Reserve	**$14,005.20**	

Sierra Workforce Time Management System Project Budget	**$84,031.20**	

Source: N. Edwards (Author)

Table 10: *Management Reserve Calculation*

Risk	**Probability**	**Impact if it occurs (EC$)**
Force Majeure/natural events (hurricans and earthquakes)	5%	$3,501.30
Equipment/Shipment Delays	10%	$7,002.60
Rework	5%	$3,501.30
Total Management Reserve		**$14,005.20**

Source: N. Edwards (Author)

4.4.4 Reporting Format

Project cost status reports will be done bi-weekly during Project Team Meetings. All cost variances outside of the thresholds identified in this Cost Management Plan will be reported on and will include any corrective actions which are planned. Also, change requests which are triggered based upon project cost overruns will be identified and tracked in this report. Status reports will include updates on the budget with particulars relating to the cost variance (CV), and the Cost Performance Index (CPI) with the objective of maintining a CPI of >1. Therefore, all cost variances identified outside of the established limits will be reported to the relevant stakeholders so that corrective action can be taken.

4.4.5 Cost Variance Process

Cost variances that are outside of the recommended thresholds will be identified, reported and corrected as soon as possible to ensure they are brought back inline within the acceptable limits. The control thresholds for this project is a CPI or SPI of less than 0.8 or greater than 1.2. Therefore, if the project reaches one of the control thresholds mentioned above, then a Cost Variance Corrective Action Plan will be required. Consequently, the Project Manager will confer the options necessary to correct the variance to the Project Sponsor/Human Resource Manager. The Cost Variance Corrective Action Plan will detail the actions necessary to bring the project back within budget and the means by which the actions' effectiveness in the plan will be measured. Therefore, once the Cost Variance Corrective Action Plan is accepted, it will be included as part of the project plan; and the project will be updated to reflect the corrective actions that were taken.

4.4.6 Cost Change Control Process

The cost change control process will follow the established project change request process. Therefore, project budget/cost changes must be approved by the Project Sponsor.

4.4.7 Cost Management Plan Approval

The signatures of Project Sponsor and the Project Manager indicates that an understanding in purpose and content of this document was agreed thereto. By signing this document, it is agreed that this is the formal Cost Management Plan for the implementation of the Sierra Workforce Time Management System Project. Table 11 shows the Project Cost Management Plan Approval

Table 11: *Project Cost Management Plan Approval*

APPROVED BY	TITLE	SIGNATURE	DATE
R. Simon	Project Sponsor		
R. Burton	Project Manager		
REVISION HISTORY			
Version	**Date**	**Reason**	**Executive Sponsor Sign-off**

4.5 Quality Management Plan

The Quality Management Plan for Sierra Workforce Time Management System Project will establish the processes, procedures and activities, for ensuring a quality product upon the close of the project.

4.5.1 Quality Management Approach

The Sierra Workforce Time Management's quality management's approach will be to ensure that quality is planned for both the processes and product. Therefore, it is imperative that this project meets its quality objectives by using an integrated quality approach to define quality standards, measure quality and unceasingly improve quality.

The Authority's current standards and criteria software installation will be used to define the product quality for this project. Hence, to ensure the product meets the established quality standards and the stakeholder's satisfaction, standards and criteria will be utilized to ensure the focus will be on the project's deliverables. Therefore, establishing quality standards will ensure that all activities follow the organizational standard, which will result in the successful delivery of the product.

The Project Manager will define and document all project specific standards, which will form part of the Project Management Plan. In addition, quality improvements may be identified by the Project Manager or the Project Team. Consequently, if an improvement is implemented, the Project Manager will update all project and organizational documentation.

4.5.2 Quality Requirements

The product quality requirements and standards will be determined by the Project Manager and the Project Team. These standards will primarily be based on the Authority's documented standards for software and network installation. Therefore, the project must meet or exceed the quality requirement criteria, and if it does not, the adequate corrective or preventive measures should be taken. Also, there may be product-specific quality standards identified that are not currently part of the documented organizational standards. In this case, the Project Manager will review these newly identified standards and include them into organizational documentation if approved. The Project Team will also document any newly identified quality standards into the project plan and ensure communication with all stakeholders. The Project's Quality Factors are identified in Table 12 below.

Table 12: *Quality Factors*

Group of Factor	Factor	Factor Definition	Quality Objective
Resources	Shortage of technical employees	Will require more time to have the work completed	Project Delay
Equipment	Delayed shipment of equipment due to	Will require more time to receive	Project Delay

	Covid-19, back-order etc.	equipment and have them installed	
	Faulty Equipment	Will require new equipment to be replaced or repaired	Proejct Delay
	Network failure	Will require troubleshooting	Project Delay
Software	Configuration and migration issues	Software may fail and reporting may be inaccurate	Reworks, Project Delay
	Poor communication	Poor communication of stakeholder's requirements which will cause inaccuracies of delvierables	Project Delay, Rework

Source: N. Edwards (Author)

4.5.3 Measure Project Quality

Identified desired metrics and related monitoring processes for which quality will be measured are shown in the Table 13 below:

Table 13: *Quality Metrics Overveiw*

Factor	**Metrics**	**Metric Definition**	**Expected Outcome/Result**
Shortage of technical employees	Scheduling/Overtime	Employees must be scheduled accordingly to assist with the installation of the hardware and software required for this project.	Assigned employees will be available for the installation and configuration of all hardware and software

Delayed shipment of equipment	Meetings with vendors and the Procurement Department	Requisite equipment will be requisitioned soonest to avoid shipment delays	Equipment will be delivered on time
Faulty Equipment	Meetings	Meetings with the IT Department to determine resolutions and for back-up equipment	Working equipment available
Network Failure	Meetings Training	Meetings with the IT Team to ensure there are no issues with the network	A robust and redundant network installed and configured according to specifications
Configuration and Migration Issues	Meetings Training	Meetings with the IT Team to ensure there are no issues with the software	Reports will be accurate, and employees will be paid correctly
Poor communication	Meetings	Employees will be reminded to communicate and report the progress of the project.	Communication will be improved.

Source: N. Edwards (Author)

4.5.4 Quality Assurance

This project's quality assurance will focus on the processes used to implement the Sierra Workforce Time Management System software. Therefore, to ensure project

quality is achieved, an iterative quality process will be utilized throughout the course of the project. Measuring process metrics, analyzing process data, and continuously improving the processes as necessary will be included.

The Project Manager and the Project Team will perform assessments at planned intervals throughout the project to ensure all processes are being correctly implemented and executed. Inspections and quality audits will be performed to detect errors for correction. Moreover, quality assurance results derived from performing inspections and audits must be documents, implemented and communicated to all stakeholders.

The Quality Manager will provide day to day quality management and conduct process audits on a weekly basis, monitor process performance metrics, and assure all processes comply with project and organizational standards. If inconsistencies are found, the Project Manager will meet with the Project Team to review same.

The Project Manager will schedule regularly occurring project, management, and document reviews. In these reviews, an agenda item will include a review of project processes, any discrepancies and/or audit findings from the quality manager, and a discussion on process improvement initiatives. Table 14 below is the Quality Assurance log to be completed and updated accordingly.

Table 14: *Project Key Performance Quality Metrics and Thresholds*

Process Action	**Acceptable Process Standards**	**Process Phase**	**Assessment Interval**
Software and Hardware Installation and Configuration	100% Completion	Installation and Configuration Execution	Inspections are done daily or as software and equipment are being installed

Software and Hardware Testing	Accurate calculations	Execution	Inspections are done daily to ensure accurate employee punch-in and out dates and times. Inspection and audit of payroll for accuracy at the end of month/end of the testing period
Training	>95% attendance by Supervisors/Managers	Execution	Observation will be done daily during the training period. Assessments of knowledged gleaned included.
Inspector Report	Zero (0) non-compliance	Execution and Closeout	Weekly frequency

Source: N. Edwards (Author)

The Quality Assurance Log show below in Table 15 will be used to record the current quality of deliverables. The Project Manager and the Project Team will record the current status of each deliverables produced so that the actual levels of quality achieved can be monitored and controlled. Moreover, it will allow the Project Manager and the Project Team to keep an eye on the quality achieved; and to implement any quality improvement actions as needed.

Table 15: *Quality Assurance Log*

QUALITY ASSURANCE LOG					
Inspection/ Audit #	**Date**	**Required Value**	**Acceptable (Y/N)**	**Recommendation**	**Date Resolved**

Source: N. Edwards (Author)

4.5.5 Quality Control

Quality control activities for this project will be performed to monitor and document the results of quality assurance, measure quality performance levels, and to recommend the necessary changes i.e., corrective actions to the overall Quality Management Plan. Therefore, to control project quality, the following will be done:

1. Project Team Members with specific responsibilities will be tasked to oversee and verify that requirements were delivered.
2. Weekly progress meetings and reports will be prepared and disseminated to the Project Team to ensure and/or verify that the results are accurate and in alignment with the scope of the project.
3. Results from quality audits will be analyzed; and any corrective or preventive action to be taken will be implemented in accordance with the change control process.
4. Examine planned versus actual results to monitor cost and schedule performance.

The Project Team will utilize the following tools to manage quality on the project:

1. Control tables will be used to assist with monitoring, controlling, and improving processes
2. Check sheets will be used as a data collection tool
3. Weekly project meetings will be convened

4. Audits will be done to ensure that the project is moving ahead as planned. These audits will be scheduled at a frequency at 20%, 45%, 65% and 90% of project completion. In addition, the audits will include:
    i. Analyzing quality control data gathered to ascertain if there are any quality control issues.
    ii. Identifying process improvements that will improve overall quality of the project.
    iii. Performing a root cause analysis to determine if improvements are necessary.
    iv. Determining corrective and preventative actions to deter future quality issues.

4.5.6 Quality Management Plan Approval

The signatures of Project Sponsor and the Project Manager indicates that an understanding in purpose and content of this document was agreed thereto. By signing this document, you agree to this as the formal Resource Management Plan for the implementation of the Sierra Workforce Time Management System Project. Table 16 below shows the Project Quality Management Plan Approval.

Table 16: *Project Quality Management Plan Approval*

APPROVED BY	TITLE	SIGNATURE	DATE
R. Simon	Project Sponsor		
R. Burton	Project Manager		

REVISION HISTORY

Version	Date	Reason	Executive Sponsor Sign-off

4.6 Resource Management Plan

The Resource Management Plan will provide the Project Manager and his Project Team with guidance on how the team and physical resources will be allocated, managed and released. Most of the resources will be employees of different departments within the Authority. This plan will document the methods to identify, acquire, develop, and manage the human resources and control the materials necessary to successfully complete the implementation of the Sierra Workforce Time Management System Project.

4.6.1 Roles and Responsibilities

Project staff competencies, their roles, responsibilities and materials required were identified from input gleaned from expert judgment and lessons learnt from previous similar projects. It is important that each team member is aware of his/her role and responsibilities on the project as shown in Table 17 so that project success will be realized.

Table 17: *Project Resource Management Roles and Responsibilities*

ROLES	RESPONSIBILITIES
Project Sponsor/Human Resource Manager	● Responsible for the funding of the project and is ultimately responsible for its success. ● Is involved and communicates on the project
Project Manager	• Responsible for reporting project status to all Stakeholders in accordance with the Communications Management Plan.

	• Evaluates the performance of all project team members and communicates their performance to functional managers. • Responsible for acquiring human resources for the project through coordination with functional managers. The PM must possess the following skills: leadership/management, budgeting, scheduling, and effective communication.
Project Team: Payroll Supervisor HR Training Officer IT Network Technician	● Participates in meetings and provide updates ● Ensures trainings are valid ● Perform and Behave in an ethical and appropriate manner ● Assists Project Manager in ensuring project quality and communication is sufficient
Sierra Workforce Team	● Participates in meetings and provides updates ● Perform and Behave in an ethical and appropriate manner
Human Resource Department	● Coordinate training times and locations if required ● Responsible for training all software users on the features provided by the upgrades to the existing software. ● Coordinates training times/locations with each department's training advocate. ● Provide training status to the Project Manager in accordance with the project's Communications Management Plan.

Source: N. Edwards (Author)

4.6.2 Staffing Skills and Competencies

Selecting the best resources for this project is very important. The resources required for this project will be a compliment of employees from different departments who have the skill sets to perform and carry out the work needed for the project. Notwithstanding, Project Team members capabilities and competencies required to

complete assigned activities with the stipulated time frame and proficiency are categorized in Table 18 below:

Table 18: *Staffing Capabilities and Competencies*

SKILLS	Project Manager	Human Resource Manager	Payroll Supervisor	HR Training Officer	IT Network Technician
Leadership/Management	1	1	2	2	2
Budgeting	2	1	1	2	2
Scheduling	2	1	2	2	2
Executive Communication	2	1	2	1	2
Quality Experience	2	1	2	2	2
IT Experience	1	1	4	2	1
Training Experience	2	1	3	1	2

Source: N. Edwards (Author)

4.6.3 Assumptions and Constraints

Project assumptions and constraints would be managed by the Project Manager with the assistance of the Project Team.

Table 19 below illustrates the assumptions and constraints for the project.

Table 19: *Project Resource Management Assumptions and Constraints*

Resource Type	Topic	Assumption/Constraint
Human Resources	Employee Participation	Internal staff assigned will be able to participate on the project as required

	Funding for Training	Adequate funds will be allocated for training software users, participants as required
	Regular Work Week	Monday to Friday, forty (40) hours a week will be considered a regular work week
	External Resources	External resources will be available at the requisite times proposed
Other Materials	Material availability	Materials required for administrative processes will be available. IT materials will be available at the time of project execution
	Material Specifications	Only materials required for this project will be required and will be provided by the selected vendor (external resource)

Source: N. Edwards (Author)

4.6.4 Project Organization

The Project's Organizational Chart will assist the Project Manager and the Project Team to identify and document key project team members, and other stakeholders. Figure 13 below illustrates the project's organization.

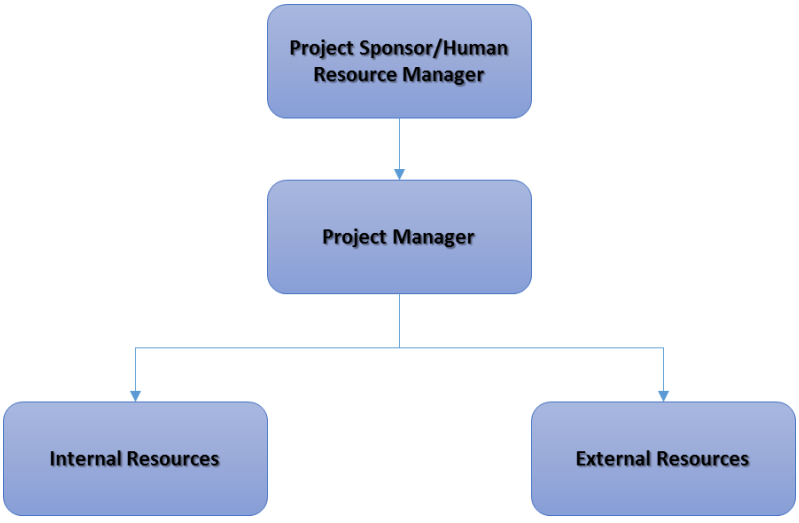


Figure 12: *Project Organizational Chart*

Source: N. Edwards (Author)

In addition, the Responsible, Accountable, Consulted and Informed (RACI) Chart (Chart 6) shows the relationship between project tasks and team members. Proposed changes to project responsibilities must be reviewed and approved by the project Manager. These changes will be proposed according to the project's change control process. Consequently, changes made to project documents will be updated and redistributed to the Team accordingly.

Chart 6: *RACI Chart*

Deliverable	**Project Manager**	**Sponsor/Human Resource Manager**	**Payroll Supervisor**	**HR Training Officer**	**IT Network Technician**
Scope	R	I	A	I	I
Analysis/Requirements	R	I	C	C	A
Procurement	R	I	C	C	A
Installation of Hardware and Software	A	I	C	C	R
Testing	A	I	C	C	R
Documentation	R	I	A	C	C
Training	A	I	C	R	C
Pilot	A	I	C	C	R

Key:
R – Responsible
A – Accountable
C – Consulted
I – Informed

Source: N. Edwards (Author)

4.6.5 Resource Estimate

Resource estimation will be performed using expert judgment and lessons learnt from previous similar projects. All materials directly related to project administration i.e., office supplies, communication equipment etc., will be available at the Head Office Stores Department and will need to be requisitioned for use.

All resources required for project execution will be defined and estimated by the Project Manager with the assistance of the Project Team Members acting in their respective professional roles. In addition, the selected vendor will be responsible for providing the necessary materials required. The Resource Table below (Table 20 gives details of the resource allocation and human resource hours per task required.

Table 20: *Resource Allocation*

Role	Number of Resources Needed	Type of Resource
Project Manager	1	Internal
Payroll	2	Internal
HR	4	Internal
IT	4	Internal
Sierra Workforce	3	External (Outsource)

Source: N. Edwards (Author)

4.6.6 Staffing Management

4.6.6.1 Staff Acquisition

Internal and external resources will be required to perform the required project activities for the implementation of the Sierra Workforce Time Management System

Project. The Project Manager, who was appointed by the Project Sponsor/Human Resources Manager will recruit personnel from key departments to form part of the Project Team. It is anticipated that the selected staff will carry out project activities during normal work hours, with the possibility of overtime and workload being absorb by other members in their department. The Project Sponsor who is also the Human Resources Manager will act in a dual role to inform the necessary department heads of the appointment of the Project Team Members.

4.6.6.2 Virtual Team Management Process

Due to the Covid-19 pandemic, face-to-face meetings were limited due to social distance protocols implemented throughout the Antigua Public Utilities Authority. As a result, project meetings, which are very integral to the project management process will be conducted virtually via platforms such as Cisco Webex, Microsoft Teams, Whatsapp Group and Zoom. All internal resources have access to all virtual hosting platforms and are required to use same when needed.

4.6.7 Resource Calendar

A Resource Calendar will be used to identify the workdays for each specific resource available. Table 21 below summarizes the resource allocation that is aligned with the proposed schedule per project task.

Table 21: *Resource Calendar*

WBS	Task Name	Duration	State Date	Finish Date	Resources
1.1.1	Define Project Scope	2 days	Mon 6/7/21	Tue 6/8/21	Management
1.1.2	Secure project sponsorship	1 day	Wed 6/9/21	Wed 6/9/21	Management
1.1.3	Define preliminary resources	1 day	Thu 6/10/21	Thu 6/10/21	Project Manager, Project Sponsor/HR Manager
1.1.4	Secure core resources	1 day	Fri 6/11/21	Fri 6/11/21	Project Manager, Project Sponsor/HR Manager
1.1.5	Scope complete	0 days	Fri 6/11/21	Fri 6/11/21	Project Manager
2.1.1	Conduct needs analysis	5 days	Mon 6/14/21	Fri 6/18/21	Project Manager/Project Team
2.1.2	Draft preliminary software/hardware specifications	3 days	Mon 6/21/21	Wed 6/23/21	Project Manager/Sierra Workforce Solutions Time Management Software Software Team
2.1.3	Develop preliminary budget	2 days	Thu 6/24/21	Fri 6/25/21	Project Manager, Project Team
2.1.4	Review software & hardware specifications and budget with Project team	4 hrs	Mon 6/28/21	Mon 6/28/21	Project Manager, Project Team
2.1.5	Incorporate feedback on software/hardware specifications	0.5 days	Mon 6/28/21	Mon 6/28/21	Project Manager, Project Team, Sierra Workforce Solutions Time Management Software Software Team
2.1.6	Develop delivery timeline	1 day	Tue 6/29/21	Tue 6/29/21	Project Manager, Projet Team,

					Sierra Workforce Solutions Time Management Software Software Team
2.1.7	Obtain approvals to proceed (budget, schedule, concept)	4 hrs	Wed 6/30/21	Wed 6/30/21	Project Sponsor/HR Manager Project Manager
2.1.8	Secure required resources	1 day	Wed 6/30/21	Thu 7/1/21	Project Manager, HR Manager
2.1.9	Analysis complete	0 days	Thu 7/1/21	Thu 7/1/21	Project Manager, Project Team
3.1.1	Receive quotations	2 days	Wed 6/30/21	Fri 7/2/21	Project Manager
3.1.2	Select Vendor	5 days	Mon 7/5/21	Fri 7/9/21	Project Manager, Project Sponsor/HR Manager
3.1.3	Sign Contract	5 days	Mon 7/12/21	Fri 7/16/21	HR Manager
3.2.1	Acquire Software	15 days	Mon 7/19/21	Fri 8/6/21	Project Manager, IT Network Administrator, Sierra Workforce Solutions Time Management Software Software Team, Purhasing and Accounts Department
3.2.2	Acquire Hardware	15 days	Mon 7/19/21	Fri 8/6/21	Project Manager, IT Network Administrator, Sierra Workforce Solutions Time Management Software Software Team, Purhasing and Accounts Department
4.1.1	Install Servers	1 day	Mon 8/9/21	Mon 8/9/21	IT Network Administrator, IT Department, Project Team

4.1.2	Install Routers	1 day	Tue 8/10/21	Tue 8/10/21	IT Network Administrator, IT Department, Project Team
4.1.3.1	Run Cables	2 days	Wed 8/11/21	Thu 8/12/21	IT Network Administrator, IT Department, Project Team
4.2.1	Install Software	1 day	Fri 8/13/21	Fri 8/13/21	IT Network Administrator, IT Department, Project Team
4.2.2.1	Setup End Users	1 day	Mon 8/16/21	Mon 8/16/21	IT Network Administrator, IT Department, Project Team, HR Department
4.2.2.2	Collect Employee Fingerprints	5 days	Tue 8/17/21	Mon 8/23/21	IT Network Administrator, IT Department, Project Team, HR Department
5.1.1	Test software and network integration	5 days	Fri 9/17/21	Thu 9/23/21	Project Team/IT Department
5.1.2	Identify anomalies to specifications	2 days	Fri 9/24/21	Mon 9/27/21	Project Team/IT Department
5.1.3	Modify settings/network	3 days	Tue 9/28/21	Thu 9/30/21	Project Team/IT Department
5.1.4	Re-test	2 days	Fri 10/1/21	Mon 10/4/21	Project Team/IT Department
5.1.5	Testing and integration complete	0 days	Mon 10/4/21	Mon 10/4/21	
6.1.1	Develop training specifications for end users/employees	3 days	Tue 10/5/21	Thu 10/7/21	Project Manager, HR Manager, Project Team
6.1.2	Develop training specifications for Payroll, HR, IT Support Staff and Supervisors	3 days	Tue 10/5/21	Thu 10/7/21	Project Manager, HR Manager, HR Training Officer, Project Team
6.1.3	Identify training delivery methodology (computer based training, classroom, etc.)	2 days	Tue 10/5/21	Wed 10/6/21	Project Team, HR Training Officer

6.1.4	Develop training materials	2 wks	Fri 10/8/21	Thu 10/21/21	Project Manager/HR Training Officer
6.1.5	Finalize training materials	3 days	Fri 10/22/21	Tue 10/26/21	HR Training Officer
6.1.6	Develop training delivery mechanism	2 days	Wed 10/27/21	Thu 10/28/21	HR Training Officer
6.1.7	Training materials complete	0 days	Thu 10/28/21	Thu 10/28/21	Project Manager/Project Team
7.1.1	Develop Governance documentation specification	1 day	Fri 10/29/21	Fri 10/29/21	HR Manager/Project Manager/Project Team
7.1.2	Develop Governance Document	2 wks	Mon 11/1/21	Fri 11/12/21	HR Manager/Project Manager/Project Team
7.1.3	Review Governance documentation	3 days	Mon 11/15/21	Wed 11/17/21	HR Manager/Project Manager/Project Team
7.1.4	Incorporate Governance Documentation feedback	2 days	Thu 11/18/21	Fri 11/19/21	HR Manager/Project Manager/Project Team
7.2.1	Develop user manuals specifications	2 days	Fri 10/29/21	Mon 11/1/21	HR Manager/Project Manager/Project Team
7.2.2	Develop user manuals	2 wks	Tue 11/2/21	Mon 11/15/21	HR Manager/Project Manager/Project Team
7.2.3	Review all user documentation	2 days	Tue 11/16/21	Wed 11/17/21	HR Manager/Project Manager/Project Team
7.2.4	Incorporate user/training documentation feedback	2 days	Thu 11/18/21	Fri 11/19/21	HR Manager/Project Manager/Project Team
7.2.5	Documentation complete	0 days	Fri 11/19/21	Fri 11/19/21	

8.1.1	Identify test group	1 day	Mon 11/29/21	Mon 11/29/21	Project Manager, Project Team, IT Department, Payroll Office
8.1.2	Develop software delivery mechanism	1 day	Tue 11/30/21	Tue 11/30/21	Project Manager, Project Team, IT Department, Payroll Office
8.1.3	Install/deploy software	1 day	Wed 12/1/21	Wed 12/1/21	IT Department
8.1.4	Obtain user feedback	1 wk	Thu 12/2/21	Wed 12/8/21	IT Department, Project Team
8.1.5	Evaluate testing information	1 day	Thu 12/9/21	Thu 12/9/21	Project Manager, Project Team, Sierra Workforce Solutions Time Management Software Software Team
8.1.6	Pilot complete	0 days	Thu 12/9/21	Thu 12/9/21	
9.1.1	Determine Implementation strategy	1 day	Fri 12/10/21	Fri 12/10/21	Project Manager/IT Department, Project Team, HR Manager, Payroll Department
9.1.2	Develop deployment/implementation methodology	1 day	Mon 12/13/21	Mon 12/13/21	Project Manager/IT Network Administrator
9.1.3	Secure deployment/implemenation resources	1 day	Tue 12/14/21	Tue 12/14/21	Project Team, IT Department
9.1.4	Train Payroll, HR Support Staff and Supervisors	1 day	Wed 12/15/21	Wed 12/15/21	HR Training Officer, Sierra Workforce Solutions Time Management Software Software Team
9.1.5	Deploy/Implement software	1 day	Thu 12/16/21	Thu 12/16/21	IT Department, Hr Department, Payroll Department

9.1.6	Deployment/Implementation complete	0 days	Thu 12/16/21	Thu 12/16/21	
10.1.1	Document lessons learned	1 day	Fri 12/17/21	Fri 12/17/21	Project Manager, Project Team
10.1.2	Distribute to Project Team	1 day	Mon 12/20/21	Mon 12/20/21	Project Manager
10.1.3	Create software/network maintenance schedule	1 day	Tue 12/21/21	Tue 12/21/21	Project Manager
10.1.4	Post implementation review complete	0 days	Tue 12/21/21	Tue 12/21/21	

Source: Nicole D. Edwards (Author)

4.6.8 Team Development Plan

The Project Team interactions will be monitored and documented by the Project Manager. Recommendations for improvements will be done by the Project Manager.

4.6.8.1 Skills and Competence Development

Project Team Members selected to work on this project have the capabilities and experience for carrying out the assigned tasks. These team members were utilized in past projects due to their expertise in their respective fields.

4.6.8.2 Performance Reviews

Performance Reviews will be done by the Project Manager to review the overall performance of the Project. However, he will consult with the Human Resource Manager who is also the Sponsor for the Project to communicate Project Team Members performance. Ultimately, the Human Resource Manager is responsible for performance appraisals, promotions, recognitions and disciplinary actions for all employees, including Project Team Members. Notwithstanding, control project resources include employee performance appraisals and project performance. Therefore, a performance report will

provide a basis for managerial decisions to be made on how to manage the Project Team. Employee performance metrics include, but is not limited to:

- Quality of Activities Completed
    - Project Team Member's behavior at Work
- Conducting employee performance appraisals/reviews
    - The Project Manager should provide feedback to employees about the areas for improvement
    - Take corrections actions when necessary
    - Reward and recognize for stellar performance to encourage continuous excellence

4.6.8.3 Recognition and Awards

Internal Resources (Project Team) will be compensated in the form of an honorarium once the team successfully completes the project, and their performance exceeds expectations. This will be determined by the Project Manager and the Human Resource Manager. This will be separate and apart from their monthly salary and the Project's budget. Honorariums will be paid according to the HR Departement's Fiscal Budget 2021.

4.6.9 Conflict Management

Project conflicts are inevitable; therefore, they should be managed timely so that the project is not affected negatively. The Project Manager will be responsible for managing any conflict and finding resolutions to same as soon as possible. Conflict resolution techniques can be used to improve teamwork and productivity within the team.

4.6.10 Resource Management Plan Approval

4.6.10.1 Sponsor Acceptance

The signatures of Project Sponsor and the Project Manager indicates that an understanding in purpose and content of this document was agreed thereto. By signing this document, it is agreed that this is a formal Resource Management Plan for the implementation of the Sierra Workforce Solutions Time Management System Project. Table 22 shows the Project Resource Management Plan Approval.

Table 22: *Project Resource Management Plan Approval*

APPROVED BY	TITLE	SIGNATURE	DATE
R. Simon	Project Sponsor		
R. Burton	Project Manager		

REVISION HISTORY			
Version	**Date**	**Reason**	**Executive Sponsor Sign-off**

4.7 Communications Management Plan

The Communications Management Plan is a component of the Project Management which describes how project communications will be planned, structured, implemented and monitored for effectiveness. This high-level document will provide a framework for the project and will be used a guide for managing communications throughout this project by enabling the Project Manager and the Project Team to collect, report and distribute information timely and accurately to the relevant stakeholders. Most

importantly, because this project is time-sensitive and being executed in the middle of a pandemic, it would be extremely important for communication channels to be open and frequent meetings are highly encouraged.

4.7.1 Communication Management Approach

The Project Manager will make every effort to be proactive to ensure effective and efficient information is communicated throughout the project. Moreover, all communication requirements will be documented in accordance, and with the use of templates from the PMBOK Guide (PMI, 2017), PMI's website and the Project Manager's Book of Forms (Dionisio, 2017). In the event there are any changes or updates to the Communication Management Plan, the Project Manager will be responsible for managing all proposed and approved changes.

4.7.2 Communication Management Roles and Responsibilities

Table 23 below will reflect the key stakeholders' roles and responsibilities for managing project communication.

Table 23: *Project Communications Management Roles and Responsibilities*

Roles	Responsibilities
Project Sponsor	● At the executive level, Project Sponsor receives communications in summary format unless a request for more detailed communications is made. Project communications are reviewed. Any changes or issues are addressed by the Project Sponsor.
Project Manager	● Primary communicator for the project and distributes information according to this Communications Management Plan.

Project Team: Payroll Supervisor IT Network Administrator Human Resource Training Officer	● The Project Team requires a detailed level of communications which is achieved through day-to-day interactions with the Project Manager and other team members along with weekly team meetings.
Sierra Workforce Time Management Software Team (Vendor)	● Vendor communicates in a timely manner and give detailed updates on project progress

Source: N. Edwards (Author)

4.7.3 Assumptions and Constraints

The following assumptions and constraints will be considered in the Communication Management Plan. They are:

1. All deviances must be approved by Project Sponsor to ensure excessive project costs or schedule delays are not incurred.
2. All communication activities will occur according to the guidelines detailed in the communication matrix. This will be done to ensure adherence to schedule constraints
3. All communication activities for this project will occur with the stipulated approved cost, schedule and resource allocations.

4.7.4 Communication Management

Project communications will be critical for the success of this project. The Project Manager will be responsible for communicating to all Stakeholders in an effort to keep them informed and updated, especially since both internal and external resources are required for the project

4.7.4.1 Standardization Process

The Antigua Public Utilities Authority mandates the use of its organizational templates and formats for all corporate communications. As a result, the Project Manager and the Project Team will conform and use the organization's standardization tools for all project communications.

4.7.4.2 Stakeholder Communication Requirements

The Project Manager with support of the Project Team will determine the preferred frequency and communication methods for each stakeholder; and the information gathered will then be maintained by the Project Manager in the Stakeholder Register. Importantly, stakeholder communication requirements must identify the communication channels for the project and the Project Manager must make sure that the respective stakeholders have access to identified channels. Also, it is imperative that all stakeholders have access to project communication. Therefore, project communications will transpire according with the Communication Matrix. Further, stakeholder communication will be accepted and within the constraints defined for this project depending on the requirements of the stakeholder. Expert Judgment, stakeholder identification and following the organization's communication practices will be used. Consequently, once all communication requirements for all identified stakeholders are established, the Project Manager with the support of the Project Team will maintain the information in the Stakeholder Register. The Stakeholder Register along with the Communication Mix will form the basis for all communications for the project.

The following table (Table 24) identifies the communications requirements for this project.

Table 24: *Communication Matrix*

COMMUNICATIONS MATRIX							
Communication Type	**Objective of Communication**	**Medium**	**Frequency**	**Audience**	**Owner**	**Deliverable**	**Format**
Kickoff Meeting	Introduce the project team and the project. Review project objectives and management approach.	● Face to Face	Once	● Project Sponsor ● Project Team ● Stakeholders	Project Manager	● Agenda ● Meeting Minutes	Soft copy emailed and/or shared on Google Drive
Project Team Meetings	Review status of the project with the team.	● Face to Face ● Conference Call	Weekly	Project Team	Project Manager	● Agenda Meeting ● Minutes ● Project Schedule	Soft copy emailed and/or shared on Google Drive
IT and Software Update Meetings	Discuss and develop software/hardware installation and implementation plan for the project.	● Face to Face	As Needed	● Project Technical Staff	Technical Lead on Project Team	● Agenda ● Meeting Minutes	Soft copy emailed and/or shared on Google Drive
Monthly Project Status Meetings	Report on the status of the project to management.	● Face to Face ● Conference Call	Monthly	Executive Management Team	Project Manager	● PowerPoint Presentation ● Project Schedule	Soft copy emailed and/or shared on Google Drive

Project Status Reports	Report the status of the project including activities, progress, costs and issues.	● Email	Monthly	● Project Sponsor ● Project Team ● Stakeholders ●	Project Manager	● Project Status Report ● Project Schedule	Soft copy archived on SharePoint site and project website.

47.5 Communication Escalation Process

The success of this project, or any project for that matter will be dependent on the accurate, timely and efficient communication. If an issue(s) with regards to project communication is brought to the fore, and it cannot be resolved by the Project Team, then the matter can be escalated for resolution. Hence, a standard escalation model will be used to provide a framework for escalating these issues. Table 25 below defines the priority levels, decision authorities and resolution timeframes.

Table 25: *Communication Escalation Process*

COMMUNICATION ESCALATION PROCESS SUMMARY			
Priority	**Definition**	**Decision Authority**	**Timeframe for Resolution**
Priority One	Major impact to the project or business operations. If not resolved quickly, there will be a significant adverse impact to revenue and/or schedule	General Manager	Within 4 Hours
Priority Two	Medium impact to the project or business operations that may result in some adverse impact to the revenue and/or schedule	Project Sponsor	Within 1 business day
Priority Three	Slight impact that may cause some minor scheduling difficulties with the project but no impact to the business operations or revenue	Project Manager	Within 2 business days
Priority Four	Insignificant impact to the project, but there may be a better solution	Project Manager	Work continues, and any recommendations are submitted via the project change process.

Source: Project Management Docs, Retrieved from https://www.projectmanagementdocs.com/template/project-planning/communications-management-plan/#axzz6ny9zp2v3

4.7.6 Issue Log

An Issue Log will be used to document/record and monitor issues in the project. Used and maintained by the Project Manager and Project Team respectively, the assigned person will be responsible for ensuring the identified issues will not negatively impact the project. A template acquired from the Project Manager's Book of forms (Dionisio, 2017) was used to recreate the Issue Log. Figure 14 shows the Issue Log that will be used

Figure 13: *Issue Log*

ISSUE LOG				
Project Title:		**Date Prepared:**		
Issue ID	**Type**	**Issue Description**	**Priority**	**Impact on Objectives**
Responsible Party	**Status**	**Resolution Date**	**Final Resolution**	**Comments**

Source: N. Edwards (Author)

4.7.7 Project Team Directory

A Project Team Directory shown in Table 26 will be prepared and updated as necessary to ensure timely and accurate communication is disseminated.

Table 26: *Project Team Directory*

PROJECT TEAM DIRECTORY					
Role	**Name**	**Title**	**Department/ Organization**	**Email**	**Phone**

Source: N. Edwards (Author)

4.8. Risk Management Plan

The Risk Management Plan describes how risk management activities will be structured and performed for threats and opportunities on the Sierra Workforce Time Management System Project. It will provide a general description of why risk management is critical to effectively management the project. The Risk Management Plan's purpose is to establish a framework which will be used by the Project Team to identify risks and develop strategies to either mitigate or avoid said risks. Moreover, before a risk can be identified and managed, preliminary project elements must be completed and outlined in the Risk Management approach.

4.8.1 Risk Management Approach

The Project Manager and the Project Team's approach to managing the risks for this project will incorporate PMI's methodical process by which the Project Team

will identify, score, and rank the various risks. The most likely and highest impact risks will be annexed to the project schedule to ensure that the assigned Project Team Member/Risk Manager takes the requisite steps needed to implement the mitigation/risk response at the appropriate time during the project schedule. Project Team Members/Risk Managers will supply status updates on their assigned risks in the bi-weekly project team meetings. Moreover, the Project Manager will analyze each risk as well as the risk management process; and based on this analysis, will identify if any improvements made be made to the risk management process for future projects within the Authority. Cconsequently, these improvements wwill form part of the lessons learned repository.

4.8.2 Project Risks Constraints

The intent of the Sierra Workforce Time Management System Project will be to improve the overall efficiency and productivity of its employees, and the accurate processing of salary and wage payments. The introduction of a new biometric and electronic time management system will also result in the reduction in untruths created through “buddy-punching”, an exorbitant wage bill due to overtime and usage of paper for printing weekly sign-in/sign-out sheets and logbooks. The project’s constraints are listed below.

Table 27: *Project Constraints*

Constraints	
Cost	The cost budget cannot exceed EC$84,031.20
Schedule	The project must be completed on time and must be

	completed December 21, 2021 despite the COVID-19 pandemic

Source: N. Edwards (Author)

4.8.3 Roles and Responsibilities

Several roles and responsibilities will be assigned to the Project Team as part of the Risk Management process. This will ensure risks are identified and resolved soonest. The roles and responsibilities of the project's main stakeholders are listed below in Table 28.

Table 28: *Project Risks Roles and Responsibilities*

Roles	Responsibility
Sponsor	● Defines requirements and constraints to be included in the Risk Management Plan
Project Manager	● Responsible for the overall preparation, and active execution of the Risk Management Plan ● Ensures risk communication and performance reporting
Project Team	● Identifies risks ● Supports the Project Manager in documenting and defining risks ● Communicates risk status to risk owners ● Participates in Risk Management Meetings ● Provides status updates on risk response actions
Sierra Workforce Time Management Team	● Identify risks and communicate to the Project Manager at APUA as soon as possible ● Provide risk updates

Author: N. Edwards (Author)

4.8.4 Risk Management Process

To manage project risks, the Project Manager along with support of the Project Team used a methodical process to identify, score, and ranked the various project risks. The Project Team Member assigned at the Risk Manager will provide a status update during the weekly project team meetings. During the project closing process, the Project Manager will analyze each risk as well as the risk management process, and according to the finding, the Project Manager will identify any corrections that can be made to the risk management process for future projects. These correction/improvements will be documented as part of the lessons learned repository.

4.8.5 Risk Identification

Risk identification for this project will be conducted commencing from the first team/project risk assessment meeting and thereafter every two weeks. The Project Manager and the Project Team will identify project risks and opportunities through brainstorming sessions, wherein as many risks must be identified, reviewed and evaluated. Moreover, the risk will be coded and included in the Risk Breakdown Structure and the Risk Register.

4.8.6 Risk Breakdown Structure

The Risk Breakdown Structure (RBS) is a hierarchical representation of risks according to their risk categories. These risk categories identify the major categories of risks on the project and decompose them into subcategories. The RBS for the Sierra Workforce Time Management System Project will provide several insights into

the evaluation of risk exposure to be used in risk identification and the prioritization process. It will help the Project Team consider the list of exhaustive sources from which individual risks may occur. Importantly, it can be valuable when identifying risks or when categorizing identified risks. Figure 15 below shows the RBS for the Sierra Time Management Solutions Project.

Level 0	Level 1	Level 2	Level 3
All Sources of Project Risks	1.0 Financial Risks	1.1 Availability of Funds	1.1.1 Procurement
			1.1.2 Over Budget
	2.0 Technical and Operational Risks	2.1 Downtime/Malfunction of Systems	2.1.1 Redundancy
			2.1.2 Reliability
			2.1.3 Maintainability
	3.0 Organizational	3.1 Employee Resistance	3.1.1 Change
			3.1.2 Training
	4.0 Project Management	4.1 Project Management	4.1.1 Inexperience

Figure 14: *Risk Breakdown Structure (RBS)*

Source: N. Edwards (Author)

4.8.7 Qualitative Risk Analysis

Performing a qualitative risk analysis will be done to prioritize project risks for further analysis or action by assessing and combining their probability of occurrence and impact. This assessment will be done by the Project Manager and the Project Team. The results of the analysis will be included in the Risk Register.

4.8.8 Probability and Impact Scales

Probability of a risk is the evaluated chance that an event will occur given the existing conditions, i.e., it is the chance or likelihood of occurrence. The estimated probability of an individual risk is linked to a predefined risk event, and the probability of risk occurrence is decided in the risk management planning process, which is applicable for both threats (negative risks) and opportunities (positive risks). The probability scales for this project will be based on the likelihood of the risk or opportunity happening within a certain time (duration) of the project, and the existing limitations that require schedule and budget are to be kept. Thus, the scoring scale of the risk probability and impact used in the Risk Register is a standard method based on the defined clear ratings and logical economic effects on the project.

Another part of risk is the impact of the risk to the project if the risk occurs. Risk impact is measured as a deviation from the project's scope, schedule, cost, and performance baselines or objectives. Risk impact is the consequence or effect of the risk. The impact scale is clearly defined with deviations from the expected baseline data. Impact scales are also defined in the risk management planning process. They are also applicable to both threats and opportunities (Dash, 2020). The project's risk impact scale is shown below.

Table 29: *Project Risk Impact Scale*

Project Risk Impact Scale	
Scale	**Impact**

1	Little to no major impact on variables (quality, cost, and schedule) that might threaten the successful outputs and/or outcomes of the project <15% increase in overall project budget
2	Relative impact on variables (quality, cost, and schedule) that will threaten the successful outputs and/or outcomes of the project 15%-50% increase in overall project budget
3	Very high impact on variables (quality, cost, and schedule) that will negatively threaten the successful outputs and/or outcomes of the project >50% increase in overall project budget

Source: N. Edwards (Author)

Risks that fall within the YELLOW and RED zones will have risk response planning, which may include both a risk mitigation and contingency plan.

The scale for probability is defined using a percentage of the project time, while the scale for impact is defined using a percentage of the overall project budget. These scales will be used to evaluate risks that can impact the project objectives.

4.8.9 Project Opportunities

Project Opportunities are risks that would have a positive effect on one or more project objectives. No project opportunities were identified for this project.

4.8.10 Probability and Impact

Based on the potential risks demonstrated in the Risk Breakdown Structure and utilizing the probability and impact scales defined above, the following Probability-Impact Scale was developed. It represents a qualitative analysis of the probability and impact of risk on the Sierro Workforce Time Management System Project. Table 30 below assesses the overarching impact of cost, time, quality, scope, and performance on the objectives of the project. Further, this matrix will

exhibit the risk level based on the numerical value placed on the probability and impact.

Table 30: *Probability Impact Scale*

SCALE	PROBABILITY	+/- IMPACT ON PROJECT OBJECTIVES				
		COST	TIME	QUALITY	SCOPE	PERFORMANCE
3	>50%	EC$5,001 +	15+ days	No quality measures recognizable	Extremely high scope change	High failure to meet acceptance criteria
2	10-50%	EC$2,501 - EC$5,000	10 - 14 days	Major quality degradation	Major scope change	Failure to meet more than one minor acceptance criteria
1	<10%	EC$1,000 - EC$2,500	5 - 9 days	Minor quality degradation	Minor scope change	Inability to meet more than one minor acceptance criteria

Source: N. Edwards (Author)

This Probability and Impact matrix shown below as Figure 16 demonstrates the risk level based on the numerical value placed on the probability and impact.

Probability		Impact		
		Minor (1)	Moderate (2)	Extreme (3)
	Unlikely (1)	1	2	3
	Likely (2)	2	4	6
	Very Likely (3)	3	6	9

Figure 15: *Probability and Impact*

Source: N. Edwards (Author)

Based on the scales established as the acceptable metric for the assessment of risk for this project, the six (6) criteria will be used to assess both impact and probability, which include the ranges from (Very High, High, Medium, Low, Very Low, and NIL. The figure above displays how the risk being categorized in the Probability and Risk table will be evaluated and prioritized by category according to the risk value placed on each individual risk identified.

4.8.11 Risk Identification (Risk and Opportunity Register)

All identified risks and opportunities (if any) that may affect the outcome of the project or may arise from the project assessment are to be documented in the Risk Register. Therefore, a well-managed risk register will motivate the Project Manager and the Project Team to look for and consider all risk and opportunities, which can enhance the project's value. In addition, the Risk Register (Table 31) will provide an effective tool for knowledge sharing, as each Team Member contributes, and reviews the inputs of other Team Members. Most importantly, the Risk Register will be used during bi-weekly update meetings as part status updates. The proposed activities, and constraints for this project were used to form the basis of the Risk Register.

Table 31: *Risk Register*

RBS Code	Cause	Risk	Consequence	Probability	Impact	Pxl	Trigger	Owner	Strategy	Cost
1.0	Delay in payment processing may delay the project schedule	Unavailability of Funds	Unavailability of funds may negatively impact the project and delay procurement of equipment and software	2	2	4	Requisitions were not prepared on time and purchase orders were not raised	APUA Project Team	Mitigate: Prepare payment schedule and dialogue with the Accounts and Purchasing Department to ensure payments are processed on time	**EC$2,5001 - EC$5,000**
2.0	Defects in equipment or incorrectly installed and configured systems	Downtime/ Malfunction of software/hardware	Shutdown due to faulty systems and/or incorrect reporting information. System redundancy failure and unreliabi	2	3	6	Specification of equipment and /or configuration were not correct	APIA Sierra Workforce Time Management Team	Mitigate: By ensuring all software specifications and requirements are correct and that equipment is free of faults	**EC$5,0001 +**

			lity of the system							
3.0	Lack of employee sensitization about the new system implemented	Employee Resistance	Employees may resist change in clocking-in and out and my find excuses as to why it may not be feasible to them especially for field staff.	2	3	6	New system may affect their salaries and wages	APUA	Mitigate: Human REsources Department must make an effort to involve all unions, supervisors and shop stewards to identify any issues so they can be resolved through training etc.	EC$5,001 +

	Key employees may not attend scheduled training	Training	Training schedule may be affected since the training is critical for key employees to correctly and adequately verify and approve employee attendance weekly	2	1	2	Lack of communication and commitment	APUA	Mitigate Employees will be advised of the importance of attending mandatory training sessions. All training schedules will be sent to the individuals and their respective managements in advance	EC$2,000
4.0	Lack of Project Management on the Project	Project Management	Minimal project documentation and overall management	2	2	4	New methodology	APUA	Mitigate: By referring to the PMBOK and asking for the assistance of the PMP on staff	EC$2,500 - EC$5,00

Source: N. Edwards (Author)

4.8.12 Risk Response Planning

To ensure all identified risks are sufficiently and timely addressed, each project risk will be assigned a risk manager (who is a Project Team Member). The Project Team Member/Risk Manager will utilize the appropriate tools and techniques to monitor, control and report on the assigned or newly identified risks. Furthermore, the appropriate action plans and/or options will be used to minimize the impact of the risks to the objectives of the project and/or take advantage of a possible project opportunity. The Risk Register along with the proposed risk response plan will be continuously updated by the Project Manager and the Project Team.

4.8.13 Risk Monitoring and Control

Project risk monitor and controlling will be done to identify, analyze, plan for new risks, monitor previously identified risks and re-evaluate existing risks to verify that if planned risk responses are effective. Risk monitoring will be a continuous process throughout the life of this project where the level of risk will be monitored, tracked and reported. Also, as risks approach on the project schedule the Project Manager will actively ensure that the assigned risk manager/project team member provides the necessary status updates, which will include the risk status, identification of trigger conditions, and documentation of risk response results.

In addition, an updated Risk Register will be managed by the Project Team to be included as a supplement of the project status weekly reporting.

Project activities involved in risk monitoring and controlling will include the following:

1. Assessing the impact of actions taken (i.e., schedule, cost, and resources).

2. Taking corrective action(s) when risk events occur.
3. Identifying new risks which have occurred due to risk mitigation actions.
4. Validating risk response strategies and alternatives.
5. Ensuring the project plan (including the Risk Management Plan) is updated.
6. Ensuring the change control process addresses risks associated with the proposed change.
7. Revising the Risk Management Plan and associated documents to include the risk response strategy results. This also includes updating the Risk Register.
8. Establishing the appropriate communications and conveying project risk status and risk response follow-through.

4.8.14 Risk Management Closeout

After the successful completion of the Sierra Workforce Time Management System Project, the transference of any open risks and lessons learned will be important for project maintenance, support and any future similar project work. As it relates to project Risk Management Closeout, the following risk management activities will be performed:

1. Validating the completion of identified project risks and documenting the remaining open project risks. A final report is to be prepared and shared with the Project Team.
2. Producing the final risk management metrics and evaluating the effectiveness of the processes against established standards.

3. Capturing the project's risk factors and mitigation plans to be included in the risk reference models i.e., lessons learned.

4.8.15 Sponsor Acceptance

The signatures of Project Sponsor and the Project Manager indicates that an understanding in purpose and content of this document was agreed thereto. By signing this document, it is agreed that this is the formal Risk Management Plan for the implementation of the Sierra Workforce Time Management System Project. Table 32 below shows the Project Risk Management Plan Approval.

Table 32: *Project Risk Management Plan Approval*

APPROVED BY	TITLE	SIGNATURE	DATE
R. Simon	Project Sponsor		
R. Burton	Project Manager		

REVISION HISTORY			
Version	**Date**	**Reason**	**Executive Sponsor Sign-off**

4.9 Procurement Management Plan

The Procurement Management Plan will describe the activities undertaken during the procurement process. That Antigua Public Utilities Authority will utilize the procurement management processes to adequately plan, conduct and control procurement.

4.9.1 Procurement Management Approach

The Project Manager will manage and control all procurement activities for this project. The Project Manager along with the Project Team will identify all the items that must be procured for the successful completion of this project. The Project Manager and the Project Sponsor will review the procurement list before vendor selection and approval. Thereafter, the approved vendor and contract will be forwarded to the Purchasing and Accounts Department for payment processing.

4.9.2 Procurement Definition

The following procurement items and/or services have been determined to be essential for the project's completion and success. The following list of items/services, justification, and timeline are pending PMO review for submission to the contracts and purchasing department:

In addition to the above list of procurement items, the following individuals are authorized to approve purchases for the project team and are shown in Table 33 below:

Table 33: *Project Procurement Details - Purpose/Justification*

PROCUREMENT DETAILS	
Item	**Purpose/Justification**
APUA Employees	They are responsible equipment and software acquisition, and network testing and monitoring, sensitizing employees on the new time management system
Sierra Workforce	To provide consultancy, software configuration, hardware acquisition, testing and monitoring, and updates

King Computers	Sourcing of computers, servers and network equipment
Traegar Brothers	Sourcing of routers

Source: N. Edwars (Author)

In addition to the procurement items listed above, the following Project Team members shown in Table 34 are authorized to raise requisitions on behalf of the project team:

Table 34: *Authorized To Raise Requisitions*

Name	**Role**
R. Burton	Project Manager
L. Jackson	IT Network Technician (Project Team Member

4.9.3 Types of Contracts

All items and services needed for this project will be under a firm-fixed price contract. The Project Manager along with the Project Team will work together to define the item types, quantities, services and required delivery dates to ensure that they are delivered on time. The Project Manager will solicit requests for proposals from various vendors in order to procure the items within the required time frame and at a reasonable cost under the firm fixed price contract once the vendor is selected and approved. The Accounts and Purchasing Department will have played a critical role in the procurement process since they will be managing the contracts and payments to the vendor, in this case Sierra Workforce Time Management Systems.

4.9.4 Procurement Cost Determination

The Project Manager will issue a Request for Proposal (RFP) in order to solicit proposals from various vendors to provide the equipment, software and expertise required for the project. In addition, it will describe how the requirements and the costs will be met by the vendor.

The vendors will describe how the work will be accomplished, who will be responsible to perform the work, the vendors' experience in providing these goods, and a line-item breakdown of all costs involved. Additionally, the vendors will be required to submit a scope of works along with schedules to show the work will be performed and their ability to meet the project schedule.

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

4.9.5 Procurement Risks and Constraints

Managing and controlling project risks will be a critical process for this project. Though project risks will be managed in accordance with the Project Risk Management plan, risks related specifically to procurement will require additional consideration and involvement from the Project Manager and the Team. To add, project procurement efforts include external organizations and could possibly affect existing and future business relationships. Therefore, due to the sensitivity of these relationships, the Project Team will include the Project Sponsor and a designated representative from the Purchasing Department in all project meetings and status reviews.

In addition to project risks, there are several constraints that the Project Manager and the Project Team will need to consider with regards to the project's Procurement Management Plan. These constraints will be communicated to all interested vendors so that they can determine if they are able to work within the Authority's constraints. These constraints apply to several areas which include schedule, cost, scope, resources, and technology. Table 35 lists the different areas and their respective constraints.

Table 35: *Procurement Constraints*

AREA	CONSTRAINT
Schedule	Procurement activities, contract administration and fulfillment must be completed within the established project schedule.
Cost	Project budget has contingency and management reserves included. However, these reserves may not be applied to procurement activities, and are only to be if there is an approved change in project scope or at management's discretion.
Scope	All procurement activities and contract awards must support the approved Project Scope Statement. Therefore, any specific work that is not in direct support of the project's Scope Statement will be considered to be out of scope and will not be approved.
Technology	Equipment and software specifications have already been determined and will be included in the Statement of Work as part of the RFP. While proposals may include suggested alternative material or manufacturing processes, parts specifications must match those provided in the Statement of Work exactly.

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

Source: N. Edwards (Author)

4.9.6 The Contract Approval Process

At the Antigua Public Utilities Authority, all procurement must be in accordance with the stipulated purchasing procedure which is that any item or items to be purchased must include three quotations/proposals from three different vendors.

All proposals will be received in an open and transparent bidding process. The bidding process will be managed by the Project Manager. All ethical and procurement processes of the Antigua Public Utilities Authority will be followed.

4.9.7 Decision Criteria

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

1. Ability of the vendor to provide all items by the required delivery date
2. Quality
3. Cost
4. Expected delivery date
5. Past performance of the vendor

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

4.9.8 Control Procurement

All procurement decisions and documents will be subjected to an audit and will be stored within the Accounts and Purchasing Department for review. In addition, all vendors are expected to be in agreement with stipulated restrictions, conditions, and penalties that may apply during project execution. Therefore, the Project Manager along with the support of the Project Team will perform vendor evaluations periodically. Consequently, the results of the audit will form part of the Project Manager's reporting. A Competency Log as shown in Table 36 will be utilized and updated accordingly.

Table 36: *Competency Log*

COMPETENCY LOG						
Vendor	**Product Quality**	**Punctuality**	**Documentation Quality**	**Development Costs**	**Costs/Units**	**Transactional Efficiency**
Sierra Workforce						
Traegar Brothers						

4.9.9 Sponsor Acceptance

The Project Sponsor and the Project Manager will approve the Procurement Management Plan after a thorough and transparent review. The Project Procurement Management Plan Approval is shown in Table 37 below.

Table 37: *Project Procurement Management Plan Approval*

REVISION HISTORY			
Version	**Date**	**Reason**	**Executive Sponsor Sign-off**
APPROVED BY	**TITLE**	**SIGNATURE**	**DATE**
R. Simon	Project Sponsor		
R. Burton	Project Manager		

4.10 Stakeholder Management Plan

The Stakeholder Management Plan is a component of the Project Management Plan that will describe the actions and strategies used to promote productive involvement and engagement of stakeholders in the project execution and decision making for the implementation of the Sierra Workforce Time Management System.

4.10.1 Stakeholder Management Approach

Strategic communication throughout the project is imperative. Hence, the Project Team under the guidance of the Project Manager will update and review Stakeholder Registry as shown in Table 38 to ensure and/or guarantee that any potential conflicts are avoided and that all stakeholders are engaged and satisfied with the project's objectives.

Table 38: *Stakeholder Management Roles and Responsibilities*

STAKEHOLDER (ROLE)	RESPONSIBILITIES
Project Sponsor	● The lead role in representing the project to external stakeholders ● Provide input into the categorization of stakeholders ● Approve the Stakeholder Management Plan
Project Manager	● Complete the Stakeholder Management Plan ● Manage the schedule and activities related to stakeholder communications and engagement ● Complete stakeholder analysis
Project Team	● Provide advice and review the Stakeholder Management Plan ● Assist the Project Manager with the identification of stakeholders ● Provide information on stakeholder's preferred communications
Sierra Workforce Solutions Project Team	● Provide information to support stakeholder communication ● Ensure frequent and effective communication of project issues

Source: N. Edwards (Author)

4.10.2 Stakeholder Management Processes

Stakeholder identification and analysis will be performed by the Project Manager and the Project Team in an effort to identify and define the relevant strategies needed to manage the project's stakeholders.

4.10.3 Stakeholder Identification

The Project Manager and the Project Team will identify the people, groups and or organizations that could be impacted or be impacted by an activity, decision, or the project's outcome. Consequently, the relevant information regarding their

involvement, interests, influence and potential impact on the project will be analyzed and documented. The Stakeholder Analysis mentioned in the next section will be used to analyze the stakeholders. This will result in the Stakeholder Register (Table 41) being created as an output of the Identify Stakeholder Process.

4.10.4 Stakeholder Analysis

A Stakeholder Analysis is a tool used to classify the stakeholders of this project. The Project Charter, along with conducting meetings and brainstorming sessions will be used to identify and determine each stakeholders' influence and impact on the project. A Stakeholder Analysis Matrix or Power/Interest Grid will be used to classify each stakeholder according to their power and interest. Generally, stakeholders are categorized into four possible quadrants as shown below in Figure 17.

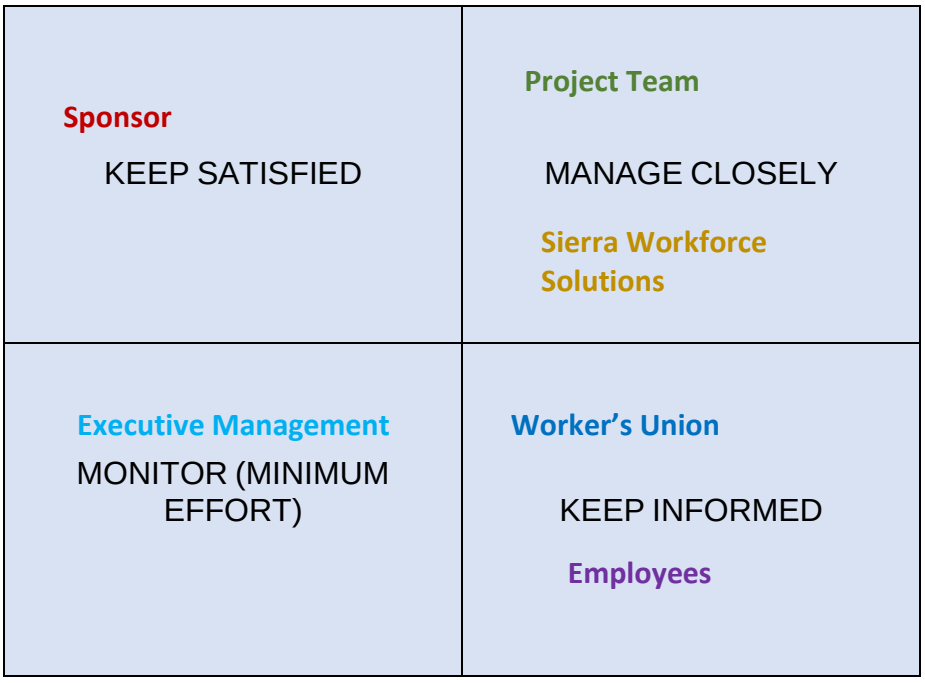


Figure 16: *Power/Interest Grid. Source*

Source: N. Edwards (Author)

4.10.5 Stakeholder Register

The Stakeholder Register shown in Table 39 below will be used to identify the stakeholders (people or organizations) that will be impacted by the project and to document all relevant information for each stakeholder. The Stakeholder Analysis matrix/Power Interest Grid can assist the Project Manager and the Team to complete the Stakeholder Register.

Table 39: *Stakeholder Register*

STAKEHOLDER REGISTER				
Project Title:		**Date Prepared:**		
Name	**Position/Role**	**Requirements**	**Expectations**	**Classification**
R. Burton	Project Manager	To communicate to all stakeholders on the progress of the project	For the project to accomplish all objectives	-
R. Simon	Sponsor/HR Manager	To be informed and updated on the project	To complete the project on time and within the stipulated budget	Keep Satisfied
Project Team	Project Team	Complete all tasks assigned	To complete the project on time and within the stipulated budget	Manage Closely
Sierra Workforce Time Manageme	Supplier	To provide time management software, and consultation	To complete all assigned tasks	Manage Closely

nt Software Team				

Source: N. Edwards (APUA)

4.10.6 Stakeholder Management Strategy

Accurate and efficient information is critical for the successful management of stakeholders. To ensure this is achieved the Project Manager will document the communication interests, the message, channel and the frequency to ensure that the project is properly communicated and understood by all stakeholders. This will form part of the Communication Management Plan for the recommended frequencies and channels.

4.10.7 Execution of Management Strategies

This Stakeholder Management Plan will be reviewed when:

1. Scheduled events which will provide information to stakeholders have occurred.
2. Tasks related to the preparation and review of materials to support the event and other communication activities have occurred.
3. Capturing input collected from stakeholders is needed.
4. Follow-ups to assess including stakeholder input(s) into the project execution are needed.

4.10.8 Sponsor Acceptance

By signing this document, the undersigned acknowledges that they have reviewed and approved the Stakeholder Management Plan for the implementation of the Sierra Workforce Time Management System Project. Therefore, changes to

this Stakeholder Management Plan will be coordinated with and approved by the individuals below or their designated representatives. Table 40 below shows the Project Stakeholder Management Plan Approval.

Table 40: *Project Stakeholder Management Plan Approval*

APPROVED BY	TITLE	SIGNATURE	DATE
R. Simon	Project Sponsor		
R. Burton	Project Manager		

REVISION HISTORY			
Version	**Date**	**Reason**	**Executive Sponsor Sign-off**

Source: N. Edwards (Author)

5. CONCLUSIONS

To conclude, the success of this project will be critical to achieve APUA's mandate of reducing expenses, especially in light of the COVID-19 pandemic. With over 800 employees in more than eight locations, the Authority found it necessary to find a time management solution that can easily be integrated and configured with the system currently being used to pay its employees and record their attendance. The implementation of the Sierra Workforce Solutions Time Management Software will enable the Human Resources and Payroll Departments to efficiently and correctly pay its employees while at the same time save costs on stationery and overtime.

The Sierra Workforce Solutions Time Management Software will allow employees to use their fingerprint to clock in and out daily. This information will then be used by their Supervisors to monitor attendance and absentism, and for weekly and montly salary and wage payments by the Payroll Department. The elimination of the "buddy-punch" system will also see the reduction in unproductivity and increase accountability.

The use of a Project Plan and the other Subsidiary plans will be the first step for the Authority to ensure that it gets business value for this project. Proper documentation and reporting will be an asset to this project and ensure that all stakeholders are kept informed and updated with the project's status.

This Project Management Plan was created using analytical research method, the PMBOK Guide (PMI, 2017) 6th Edition, Project Manager's Book of Forms (Dionisio, 2017) and PMI's website for other resources. The intent of this Project Management Plan is to act as the main source of inclusive information for improving the overall

project performance success rate. Thus, based on the project's circumstances, the most relevant points resulting from this Project Management Plan are as follows:

The signing and approval of the Project Charter signals the importance of the project and authorizes the Project Manager to execute the project according the requirements of the Sponsor. This formal document is used to communicate to all Stakeholders the objectives of the project, milestones, timelines, risks, assumptions, and responsibilities to name a few.

The change control process, which has not been used in the Authority has been met with some critique. Some Project Members are of the view that the process is beauractratic and takes to much time for approval. Usually during past projects, changes were made without consulting the Project Manager or the Sponsor. However, with the introduction of the change control process, there was some resistance. Notwithstanding, the Scope Management Plan provides guidance on the scope change process, requirements, limitations and responsibility of the Project Manager and Project Sponsor where change approval is concerned. Morever, only what is stipulated in the Scope Management Plan will be executed to avoid scope creep, which has plagued past projects at the Authority.

For the first time, APUA will be able to actually measure the project's schedule performance by comparing the planned schedule with the actual schedule. Therefore, the Project Manager and the Project Team can tranck and control the project's schedule throughout the project's lifecycle while comparing it with the schedule baseline.

The Cost Mangement Plan established a cost baseline, which allowed for tracking and performance evaluation as it was measured against actual costs on the

project. This ensured project costs were monitored and controlled throughout the life of the project.

One of the benefits of using a project management methodology and framework is the value created by marrying business goals with metrics. The Quality Management Plan will guide the Authority on how to keep track of the project by extending the metrics amongst the Project Team, vendors and other stakeholders.

Unfortunately, the Authority is a weak matrix organization; and internal resources are used to execute the Authority's project. Sometimes, these resources are shared between a number of projects. The Resources Management Plan will give guidance on the best way to allocate and organize resources needed, and when needed for this project.

Adequate and efficient communication is key to a project's success. The Communication Management Plan will assist in keeping the project on track, within in budget, and aligned with the Authority's expecations by annotating who will be communicating with whom, when and how. The use of technology will make information accessbile to all stakeholders. Weekly status update meetings will be held with minutes taken and communicated to the respective stakeholders.

Based on risk identified and analyzed, the Risk Management Plan will give details on the probability and impact of a risk occurring. The Risk Management Plan acts as a guide to measure and prioritize risk and opportunity potentials, with the use of logical impact scales which are aligned to project circumstanes regarding the economic impact and project cost limitations.

The Procurement Plan will provide information on how to qualify vendors for better quality and results. This plan is a collaborative effort that extends to the

Project Team, Sponsor, Vendors, the Procurement and Accounts Department and other stakeholders. Better business relationships could be built between the Authority and its Vendors/Suppliers, which in turn can result in business value.

Lastly, the Stakeholder Mangement Plan will provide the guidance needed to create value through stakeholder's direct actions or influences on a project. Stakeholder engagement is a collaborative effort which extends from the Executive Mangement Team, Project Team, Vendors, etc., all working in harmony towards to same goal.

6. RECOMMENDATIONS

The Antigua Public Utilities Authority (APUA), a multi-faceted company that offers all of life's necessities, i.e., electricity, water, telephone, mobile and internet has failed over the years to utilize a project management methodology and/or processes to its project. This is evident due to past project lack of success in staying within budget and on schedule. Hence, this Project Management Plan includes all the concepts and processes that are important and applicable for any project the Authority undertakes. Thus, as a result of this plan, the following recommendations are listed below:

1. Project Staff must be trained on project management methodologys and project management software. This will ensure that project standards are used to efficiently and effectively manage and control future projects.
2. A Change Control process should be used on all projects going forward. Approval must be sough for all changes that may affect the scope, budget, schedule, quality, documents or requirements to name a few before they are implemented.
3. Lessons learned must be documented for use on future projects. A Lessons Learned Respositoty would be considered an asset especially since the Authority undertakes a number of projects (both internal and external) annually. Moreover, Organizational Process Assets must be documented and stored for ease of use and retrival along with the Lessons Learned Repository.
4. Adequate communication must be had between all Stakeholders and Departments prior to the execution of projects. Too many times have

stakeholders been kept out of the loop or misinformed. For example, this has resulted in delays in vendor payrments and procurement. Proper communication is key for all projects whether big a small.

5. For such a large company, it is recommended that the Authority considers having a Project Management Office (PMO) to offer oversight to projects especially in light of multi-million funded projects starting soon that must meet the funding agent/bank's requirement where project reporting and monitoring is concerned.
6. To complement the recomendation for a proper Change Control Process, as mentioned in Point 2, it will be in the best interest of the Authority if they establich a Change Control Board which will be responsable for vetting, approving or denying all change requests.
7. Proper minute and meeting documentation must be done to ensure Project Team Members and other Stakeholders are aware of the project's status and their respective tasks on the Project. This will ensure that deadlines are set and agreed to, and work is performed according to the plan. Action points stemming from Project Team Meetings must be documented and circulated.

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8. APPENDIX

Appendix 1: FGP Charter

PROJECT CHARTER	
Date:	**Project Name:**
October 26, 2020	Project Mangement Plan for the Implementation of the Sierra Workforce Time Management System Project at the Antigua Public Utilities Authority (APUA)
Knowledge Areas / PM Processes:	**Application Area (Sector / Activity):**
Knowledge Areas: Project Integration Management Project Scope Management Project Time Management Project Cost Management Project Quality Management Project Human Resource Management Project Risk Management Project Procurement Management Project Communication Management Project Stakeholder Management PM Processes: Initiating Planning Executing Monitoring & Controlling	Human Resource Management Finance and Accounts Time Management Information Technology
Project Start Date:	**Project Finish date:**
October 26, 2020	April 23, 2021
Project Objectives (General and Specific):	
General Objective: To create a project management plan according to the Project Management Institute's standards and framework to successfully manage the implementation of the Sierra Workforce Time Management System Project at the Antigua Public Utilities Authority. **Specific Objectives:** 1. To create the project charter that formally authorizes the project, and to gives the project manager the authority to use/utilize resources within the APUA to prepare the project management plan. 2. To develop a project management plan to define how the project will be initiated, planned, monitored and controlled, and closed. 3. To create a scope management plan to ensure that all the work, and only the work required is done according to the plan, and to ensure the successful completion of the project. 4. To create a time management plan to ensure that all work is completed within time constraints. 5. To create a cost management plan to plan, manage and control the project's budget. 6. To create a quality management plan to identify qulity requirements in order to ensure deliverables meet expectations.	

7. To develop a resource management plan to ensure that all resources are identified and managed efficiently for the successful completion of the project.

8. To develop a communications management plan to ensure the timely, accurate and effective communication to all stakeholders.

9. To create a risk management plan to identify and examine risks, and create responses and management to these risks to ensure the successful completion of the project.

10. To develop a procurement management plan to ensure the correct products, services and results are procured by the project.

11. To create a stakeholder management plan to identify and manage all project stakeholders expectations and to ensure efficient and effective stakeholder engagement throughout the life of the project.

Project purpose or justification (merit and expected results):

Considered one of the largest companies on the island, APUA has been struggling to capture accurate employee records and salary/wage disbursements. Currently, all Business Units uses a manual method (sign-in sheet) to record each employee's punch-in and punch-out times. Because of the lax in the process, some employees have taken addvantage and have abused the sign in process. For instance, dishonest employees have been paid their full salary even though they have been absent at work or have arrived late. Or, some employees have failed to sign in altogether, which has caused delays in processing payroll.

The purpose of the project is implement a time management system that could be integrated into the current payroll system. Due to inaccuracies of employee's punch-in and punch-out times, the Human Resources Department found it prudent to replace the failed biometric clock and manual sign-in sheets, with a system that will improve employee attendance reporting, accurate payments and provide employee data for annal performance appraisals.

It is hoped that the introduction of the Sierra Time Management System will improve employee attendance by minimizing absenteeism, encourage productivity and increase efficiency, correctly collect and store employee sick leave and vacation request. These benefits in turn will reduce wastage which will in turn minimize losses caused by lack of productivity and accountability.

Hence, the development of the Project Management Plan will ensure that all aspects of the project are carried out as planned for its successful execution and completion.

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

The final project deliverable will be the completion of the project management plan and all its subsidiary plans according to the standards and framework of the Project Management Institute for the implementation of the Sierra Time Management Software within the next three months.

Assumptions:

The assumptions of the project are:

1. Tutors and the Board will review and provide feedback on project deliverables in a timely manner.
2. Stakeholders within the APUA will be willing to assist with providing information with regards to the Sierra Time Management System and all employees affected.
3. The time allocated to complete the project is sufficient.
4. Adequate information will be provided by UCI for the successful completion of the FGP.
5. The successful completion of the FGP will assist the Authority in its implementation of the Sierra Time Management Systems

Constraints:

The constraints of the project are:

1. Scope: The project must remain in the limits of creating project management for the FGP and not for the execution of the actual project.
2. Time: The FGP must be completed in approximately three (3) months.
3. Cost: Student is unaware and uncertain of the cost of the project.
4. Quality: All UCI reviews must be successfully passed.
5. Resources: All work must be completed with available resources

Risks:

The risks of the project include:

1. If sufficient time is not dedicated to the project, then the quality of the document will be negatively affected, and additional time will be needed to complete the project.
2. If the student does not submit the assignments as scheduled, then the student will be penalized by losing grade points.
3. If the assignments are not submitted as per instructions, the quality of the project would be affected and the student would lose marks for not meeting quality requirements.
4. If tutor responses are not timely, then the schedule to complete activities may be impacted.

Budget:

Budget is undefined.

Milestones and dates:

Milestone	Start date	End date
FGP Seminar	10/26/2020	11/27/2020
Tutoring Process	11/30/2020	2/26/2021
Reading by Reviewers	3/1/2021	3/19/2021
Adjustments	3/22/2021	4/16/2021
Presentation to Board of Examiners	4/19/2021	4/23/2021

Relevant historical information:

The Antigua Public Utilities Authority (APUA) is an indeginous utility company in Antigua and Barbuda which provides all of life's necessities, i.e. water, electricity, landline, mobile, and internet. As a Government Statutory Corporation within the Ministry of Public Utlities, Civil Aviation, Transporation and Energy, APUA is considered the largest employer on the island. The company employs roughly 803 employees across all business units.

Over the years, managing the efficiency and productivity of its staff complement has been a tedious task since most employee attendances and absences were documented manually in books. These were then processed by the respective supervisors to be submitted to the Payroll Department. As a result, the process has been bombarded with errors and inaccurate information. Also, some employees have used the "buddy system" where they would ask a colleague to write in their times, though they were late or absent from work.

Previously, the APUA attempted to implement a biometric clock, however due to poor planning and lack of due dilgience, after its purchase, it was realized that the time management clock could not communicate or be integrated with the current payroll software Great Plains. Hence, a committee was formed to source and procure a time management system that could be integrated with the current payroll software, and Sierra Time Management Solutions was the result.

Stakeholders:

The Stakeholders of this project include:

Direct stakeholders:

1. Carlos Brenes, FGP Tutor
2. Nicole D. Edwards, Project Manager
3. FGP Reviewers
4. Board of Examiners

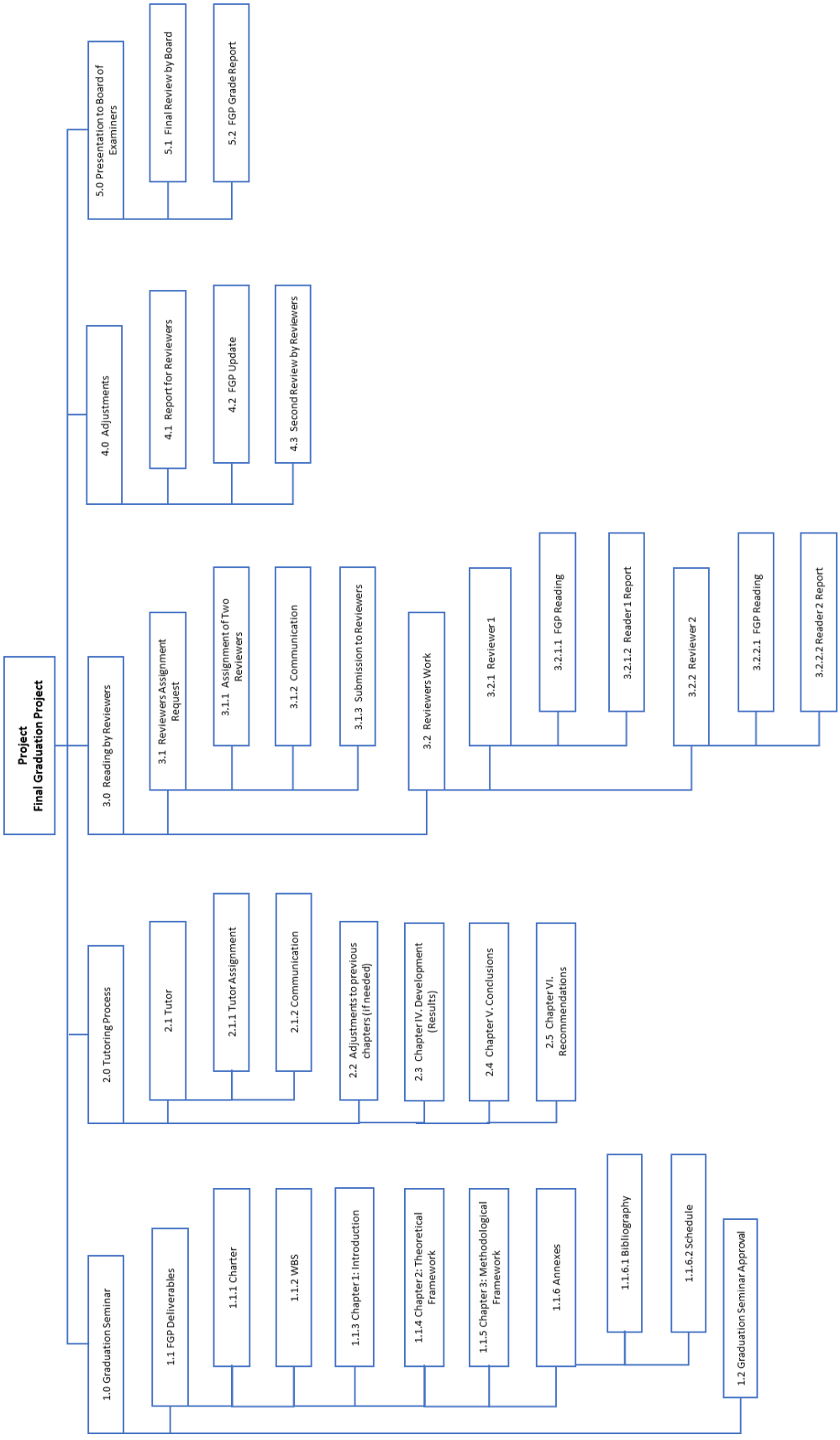
Indirect stakeholders:

1. Human Resources Manager, APUA
2. IT Department, APUA
3. Payroll Department, APUA
4. Employees
5. Accounts Deparment, APUA
6. Project Implementation Committee

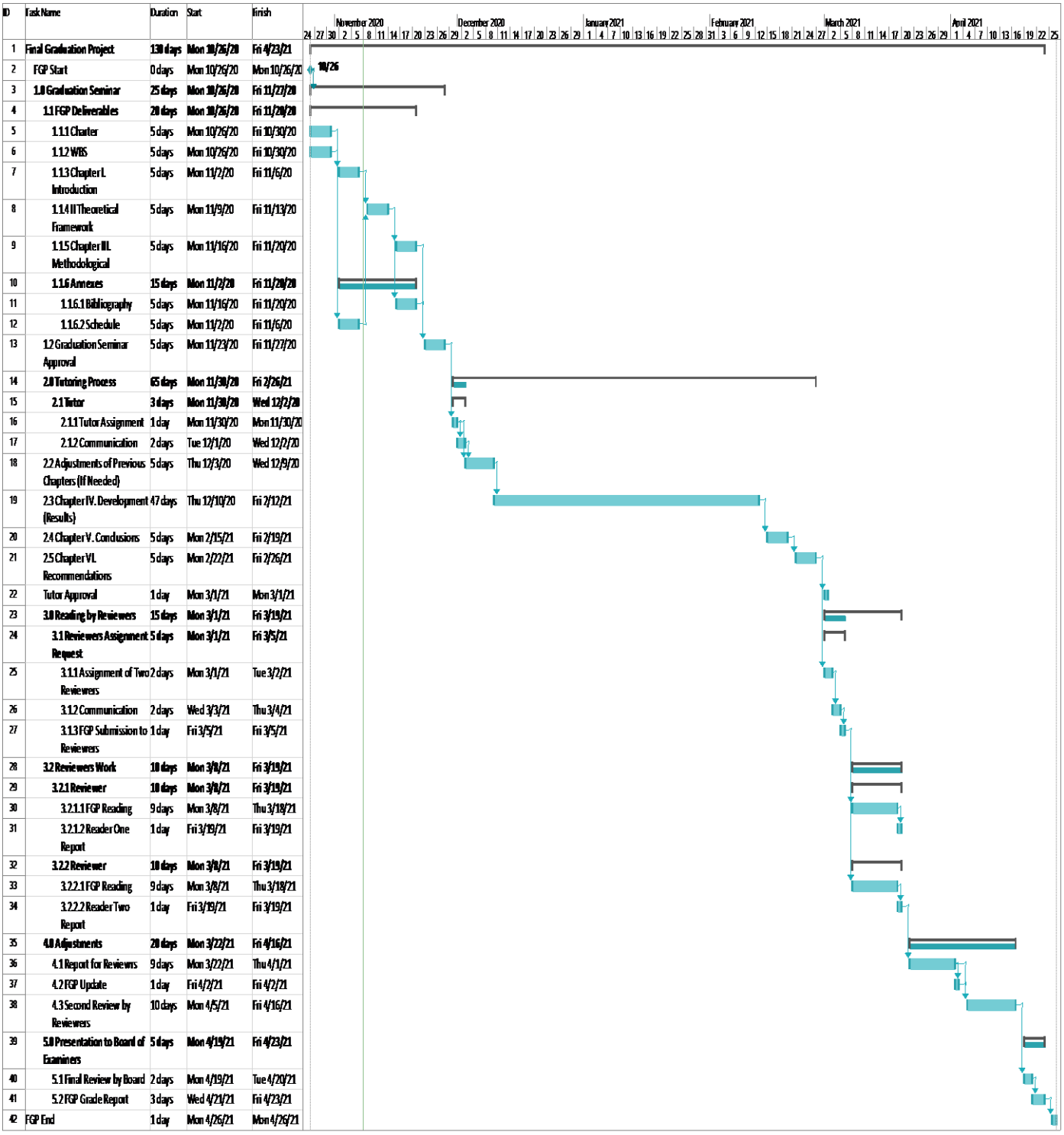
Approval:

Project Manager:	Signature:
Authorized by:	Signature:

Appendix 2: FGP WBS



Appendix 3: FGP Schedule



ID	Task Name	Duration	Start	Finish
1	**Final Graduation Project**	**130 days**	**Mon 10/26/20**	**Fri 4/23/21**
2	**FGP Start**	0 days	Mon 10/26/20	Mon 10/26/20
3	**1.0 Graduation Seminar**	**25 days**	**Mon 10/26/20**	**Fri 11/27/20**
4	**1.1 FGP Deliverables**	**20 days**	**Mon 10/26/20**	**Fri 11/20/20**
5	1.1.1 Charter	5 days	Mon 10/26/20	Fri 10/30/20
6	1.1.2 WBS	5 days	Mon 10/26/20	Fri 10/30/20
7	1.1.3 Chapter I. Introduction	5 days	Mon 11/2/20	Fri 11/6/20
8	1.1.4 II Theoretical Framework	5 days	Mon 11/9/20	Fri 11/13/20
9	1.1.5 Chapter III. Methodological	5 days	Mon 11/16/20	Fri 11/20/20
10	**1.1.6 Annexes**	**15 days**	**Mon 11/2/20**	**Fri 11/20/20**
11	1.1.6.1 Bibliography	5 days	Mon 11/16/20	Fri 11/20/20
12	1.1.6.2 Schedule	5 days	Mon 11/2/20	Fri 11/6/20
13	1.2 Graduation Seminar Approval	5 days	Mon 11/23/20	Fri 11/27/20
14	**2.0 Tutoring Process**	**65 days**	**Mon 11/30/20**	**Fri 2/26/21**
15	**2.1 Tutor**	**3 days**	**Mon 11/30/20**	**Wed 12/2/20**
16	2.1.1 Tutor Assignment	1 day	Mon 11/30/20	Mon 11/30/20
17	2.1.2 Communication	2 days	Tue 12/1/20	Wed 12/2/20
18	2.2 Adjustments of Previous Chapters (If Needed)	5 days	Thu 12/3/20	Wed 12/9/20
19	2.3 Chapter IV. Development (Results)	47 days	Thu 12/10/20	Fri 2/12/21
20	2.4 Chapter V. Conclusions	5 days	Mon 2/15/21	Fri 2/19/21
21	2.5 Chapter VI. Recommendations	5 days	Mon 2/22/21	Fri 2/26/21
22	Tutor Approval	1 day	Mon 3/1/21	Mon 3/1/21
23	**3.0 Reading by Reviewers**	**15 days**	**Mon 3/1/21**	**Fri 3/19/21**
24	**3.1 Reviewers Assignment Request**	**5 days**	**Mon 3/1/21**	**Fri 3/5/21**
25	3.1.1 Assignment of Two Reviewers	2 days	Mon 3/1/21	Tue 3/2/21
26	3.1.2 Communication	2 days	Wed 3/3/21	Thu 3/4/21
27	3.1.3 FGP Submission to Reviewers	1 day	Fri 3/5/21	Fri 3/5/21
28	**3.2 Reviewers Work**	**10 days**	**Mon 3/8/21**	**Fri 3/19/21**
29	**3.2.1 Reviewer**	**10 days**	**Mon 3/8/21**	**Fri 3/19/21**
30	3.2.1.1 FGP Reading	9 days	Mon 3/8/21	Thu 3/18/21
31	3.2.1.2 Reader One Report	1 day	Fri 3/19/21	Fri 3/19/21
32	**3.2.2 Reviewer**	**10 days**	**Mon 3/8/21**	**Fri 3/19/21**
33	3.2.2.1 FGP Reading	9 days	Mon 3/8/21	Thu 3/18/21
34	3.2.2.2 Reader Two Report	1 day	Fri 3/19/21	Fri 3/19/21
35	**4.0 Adjustments**	**20 days**	**Mon 3/22/21**	**Fri 4/16/21**
36	4.1 Report for Reviews	9 days	Mon 3/22/21	Thu 4/1/21
37	4.2 FGP Update	1 day	Fri 4/2/21	Fri 4/2/21
38	4.3 Second Review by Reviewers	10 days	Mon 4/5/21	Fri 4/16/21
39	**5.0 Presentation to Board of Examiners**	**5 days**	**Mon 4/19/21**	**Fri 4/23/21**
40	5.1 Final Review by Board	2 days	Mon 4/19/21	Tue 4/20/21
41	5.2 FGP Grade Report	3 days	Wed 4/21/21	Fri 4/23/21
42	FGP End	1 day	Mon 4/26/21	Mon 4/26/21

Appendix 4: Lessons Learned Register

LESSONS LEARNED REGISTER

Project Title: _____ **Date Prepared:** _____

ID	Category	Trigger	Lesson	Responsible Party	Comments

Appendix 5: Philologist Review

Certificate of Review For **Nicole D Edwards** Final Graduation Project:

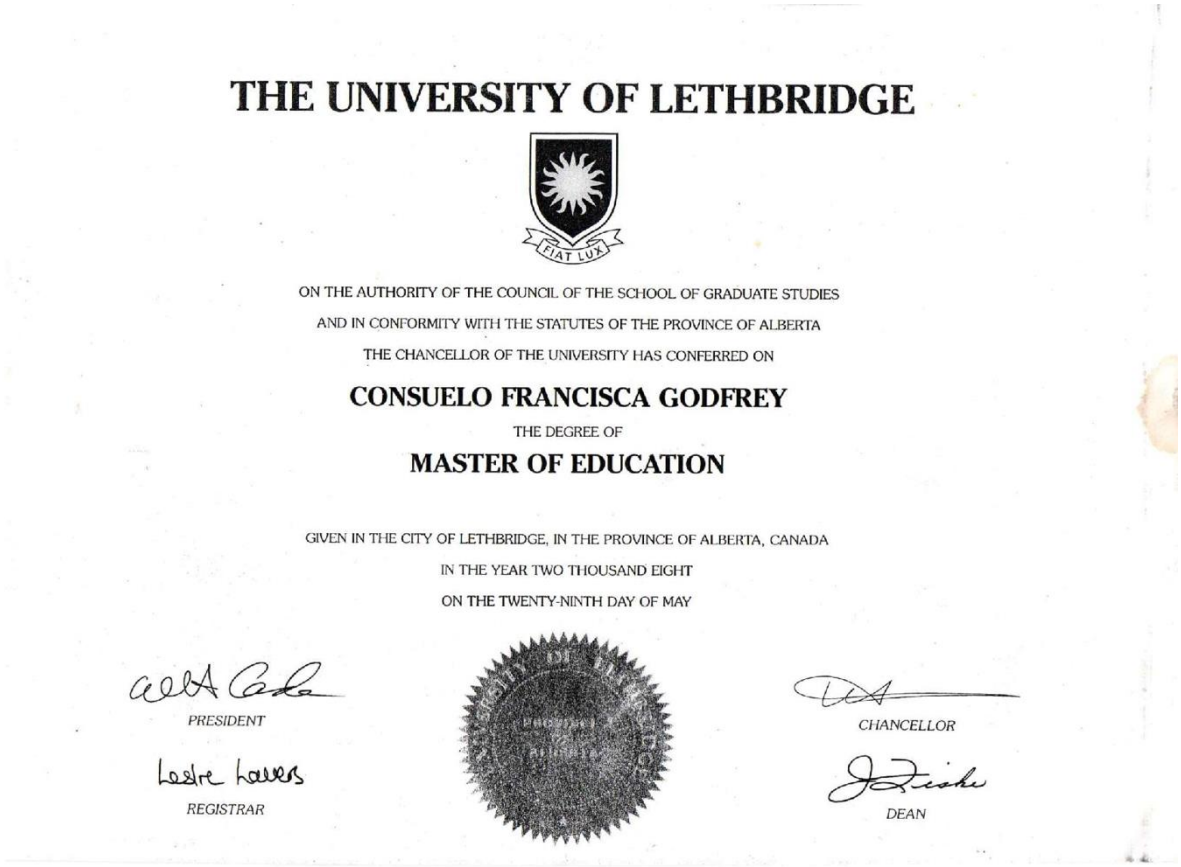
"A PROJECT MANAGEMENT PLAN FOR THE IMPLEMENTATION OF THE SIERRA WORKFORCE SOLUTION TIME MANAGEMENT SYSTEM PROJECT AT THE ANTIGUA PUBLIC UTILITIES AUTHORITY", was reviewed and the following observed: The Content of the project was written in Formal English. During the revision grammatical and typographical corrections were made where needed. Additional wording changes were suggested in order to keep standard formatting in check and meeting FGP standards for formatting. Wordy, vague, lengthy sentences were sugested to be reconstructed to make the paper more concise and some repetitious words were suggested to be changed to create a more interesting, coherent and fluent read. Many comments were made in the margins of the research to give hint for reconstruction of certain content and reconfiguring and referencing of charts, figures and tables. The paper's strength lies in its structure background, outline and the writer's adherence to FGP outline largely throughout the paper. The paper's greatest weakness was mostly found in some aspects of formatting and editing suggestions. Formatting edits were suggested for correction in the margins of the document. Some aspects of referencing were suggested to further strenghten the paper's merit. Ultimately, the paper is very convincing in its analytical and methodical approach, background description, statement of the problem, processes described and strategies to develop a comprehensive Project Management Plan for the implementation of the Sierra Workforce Solutions Time Management Software System at the Antigua Public Utilities Authority in an effort to improve employee productivity, accountability and reduce associated costs to include overtime. The paper also clearly meets the objective goal to to improve APUA's employee productivity, accountability and reduce associated costs to include overtime.

Signed:

Consuelo F. Godfrey (M.Ed)

Dated: April 24th, 2021

Appendix 6: Reviewers' Credentials



THE UNIVERSITY OF LETHBRIDGE

FIAT LUX

ON THE AUTHORITY OF THE COUNCIL OF THE SCHOOL OF GRADUATE STUDIES
AND IN CONFORMITY WITH THE STATUTES OF THE PROVINCE OF ALBERTA
THE CHANCELLOR OF THE UNIVERSITY HAS CONFERRED ON

CONSUELO FRANCISCA GODFREY

THE DEGREE OF

MASTER OF EDUCATION

GIVEN IN THE CITY OF LETHBRIDGE, IN THE PROVINCE OF ALBERTA, CANADA
IN THE YEAR TWO THOUSAND EIGHT
ON THE TWENTY-NINTH DAY OF MAY

PRESIDENT

REGISTRAR

CHANCELLOR

DEAN