



OFFICE OF THE PUBLIC AUDITOR
REPUBLIC OF PALAU

AUDIT REPORT

**KOROR-AIRAI SANITATION PROJECT
(KASP)**



Malakal Sewage Treatment Plant

PALAU PUBLIC UTILITIES CORPORATION
REPUBLIC OF PALAU

FOR THE PERIOD FROM FEBRUARY 05, 2015 THROUGH JUNE 30, 2019

Performed by the Office of the Public Auditor

PPUC-KASP-19-P04*opa00



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May 14, 2021
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Mr. Greg Decherong
Chief Executive Officer
Palau Public Utilities Corporation
Koror, Republic of Palau

Subject: Final Report on the Audit of PPUC's KASP

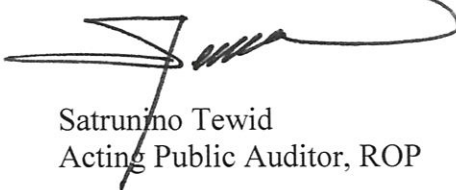
Dear Chief Executive Officer Decherong:

Transmitted herewith is the final audit report of the Palau Public Utilities Corporation's (PPUC) Koror-Airai Sanitation Project (KASP).

The Office of the Public Auditor (OPA) received your response to the Draft Audit Report. The response is published verbatim in the final report.

If you have any questions regarding the report or subject matters discussed therein, the OPA will be available to discuss them at your request.

Sincerely,



Satrunino Tewid
Acting Public Auditor, ROP

Koror-Airai Sanitation Project (KASP)
Palau Public Utilities Corporation
Republic of Palau

February 05, 2014 through June 30, 2019

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ACRONYMS

ADB = Asian Development Bank	PSC = Project Steering Committee
AFC = Approved for Construction	PWSC = Palau Water and Sewer Corporation
CEO = Chief Executive Officer	ROP = Republic of Palau
CFO = Chief Financial Officer	SDR= Special Drawing Rights
CIP = Capital Improvement Project	SPS = Sewer Pump Station
EPO = Electrical Power Operation	TA = Technical Assistance
GCC = General Conditions of Contract	VO = Variation Order
ICB = International Competitive Bidding	WWO = Waste and Water Operation
IFB = Invitation for Bid	
JICA = Japan International Corporation Agency	
KASP = Koror-Airai Sanitation Project	
PAM = Project Administration Manual	
PCC = Palau Community College	
PCC = Particular Conditions of Contract	
PHS = Palau High School	
PIAC = Project Implementation Assistance Consultant	
PM = Project Manager	
PMU = Project Management Unit	
PPUC = Palau Public Utilities Corporation	

BACKGROUND

Introduction

The Palau Public Utilities Corporation (PPUC) is a government-owned public corporation, which is the sole provider of water, sewer and electricity services for the citizens of the Republic of Palau. The PPUC is managed by a seven (7)-member Board of Directors appointed by the President of the Republic of Palau with the consent of the Olbiil Era Kelulau (OEK, Palau National Congress). Formerly, the Palau Public Utilities Corporation operated under two (2) separate, distinct corporations, the Palau Water & Sewer Corporation and the Palau Public Utilities Corporation. On June 6, 2013, RPPL No. 9-4 was signed into law, consolidating the two independent public corporations under one umbrella, Palau Public Utilities Corporation. The intent of the merger was to eliminate duplication of efforts, streamline administrative functions and reduce operating costs of two distinct and separate entities and merging them into one. The Electrical Power Operations (EPO) and Water and Wastewater Operations (WWO) are treated as separate business segments with their own organizational charts depicting the structure of each segment. Shared administrative costs and technical expertise are allocated to the two separate business segments and are not utilized to subsidize each other.

This audit focused on the PPUC's Water and Wastewater (sewage) operations and the implementation of the Koror-Airai Sanitation Project (KASP), a project financed via a loan with the Asian Development Bank (ADB). Pursuant to a Loan Agreement between the Republic of Palau (ROP) and Asian Development Bank, the ROP shall relend the proceeds of the loan to the PPUC for the purpose of financing the KASP.

The Koror sewage system was constructed in the 1970's. Over the 40-plus years of operation, the system has undergone chronic repairs and other cosmetic maintenance work, the main purpose of which was to keep the system operational. However, faced with ever-growing urban development, population growth, and the stress put on the sewage system, constant overflows and run-offs was becoming a regular occurrence, especially on rainy days. These overflows and runoffs of raw sewage create foul odors and present an ongoing threat to public health and the surrounding marine environment. The Airai (Kesebelau/Ked area) Septic Tank sewage system is operating at a point that disposal of the effluent is creating a health hazard to the residential areas, environment, and polluting nearby receiving water sources. Further, urban development in Airai renders the system unsustainable, ineffective, and costly to operate and maintain, not to mention the ever growing threat to public health and the environment. As Koror and Airai continues to be besieged by urban development and population growth, the existing sewage system was perceived grossly dilapidated, outdated and under capacity to handle sewage capacity.

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The conditions of the Koror and Airai State sewage systems propelled the Palau government to request technical assistance from Asian Development Bank (ADB). In June 2011, the ADB called for proposals and in August 2011 let a contract for a project preparation technical assistance (TA) under PPTA 7382, Sanitation Sector Development Project. The key elements of the Sanitation Sector Development Project include:

- 1) Establish and support the Palau Water and Sewage Corporation (PWSC)
- 2) Improve water and sewage sector management performance
- 3) Improve water sector performance
- 4) Improve sewage sector performance

The project preparation technical assistance would: (1) Prepare a Sanitation Master Plan to guide sanitation sector development over the next 25 years and (2) Prepare a Project Feasibility Study in support of an investment project to refurbish priority sewage infrastructure (primarily in Koror). The Sanitation Development Feasibility Study report was completed in July 2012 and the Sanitation Master Plan Report was completed in October 2012. The Sanitation Master Plan presented three (3) Sewer Network Options each to develop the Koror and Airai sewage systems; namely, for the Koror Sewage System: Option (1): Upgrade the existing Centralized Collection and Transport System, Option (2): Coastal Carrier System and Option (3): Decentralized Collection, Transport and Treatment System. For the Airai Sewage System: Option (1): Improve Operation of Existing Onsite Systems, Option (2): Install a Common Effluent System, and Option (3): Install a Conventional Sewage System.

During this time (2012), the Palau Water & Sewage Corporation (PWSC) operated as an independent corporation, separate from PPUC. In June 2013, under the Utilities Consolidation Act (RPPL No. 9-04), the PWSC was consolidated with PPUC, merging the operations of water & sewage services with electricity services under a unified corporation, PPUC.

Moving forward with the momentum from the Sanitation Sector Development Project and the merger of PWSC and PPUC, the Olbiil Era Kelulau took the next step on February 5, 2014 by passing House Joint Resolution No. 9-46-4 HD1: to approve, authorize and ratify the authority of the President of the Republic of Palau to secure a loan or loans from the Asian Development Bank for the renovation and construction of sewage and water collection in the states of Koror and Airai, for the Koror-Airai Sanitation Project (KASP). Following the loan authorization, the President of the Republic on March 5, 2014 established the Project Steering Committee to provide strategic direction, guidance and oversight on the KASP. On March 28, 2014, the Republic of Palau (ROP) entered into two separate loan agreements with the Asian Development Bank (ADB): (1) a Special Operations Loan Agreement, Loan Number 3061-PAL, for 1.258 million Special Drawing Rights equivalent to \$1.911 million and (2) Ordinary Operations Loan Agreement, Loan Number 3060-PAL, for \$26.900 million, for a total of \$28.811 million.

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According to the terms of the loan agreements, the Borrower, ROP, shall relend the proceeds of the loan to the PPUC for the purpose of financing the KASP.

On January 11, 2014, Asian Development Bank (ADB) issued an Invitation for Bids for a Consultant to provide consulting services for the KASP. Following a rigorous bid screening and evaluations process, Egis Eau was awarded the consultancy project and on September 13, 2014, the PPUC and Egis Eau entered into a contract to provide consulting services to the KASP, a time-based contract to assist the PPUC's Project Management Unit to oversee all aspects of the KASP work.

On February 12, 2015, the PPUC and Ministry of Finance (ROP), with funding from the ADB loan, commissioned Egis Eau, the consultant, to conduct an Inception Study (Report) for the KASP. The Inception Report addressed two key issues:

- 1) Project Implementation Assistance Consultant's activities based on what has been developed in the proposal, all necessary updating to meet the latest developments at the project starting date and suggestions based on what will be observed on the project site and shown in available documents.
- 2) The confirmation of the project scope after a thorough review of the Sanitation Master Plan (October 2012) and the Sanitation Development Feasibility Study (July 2012).

With the assistance of the consultant, the PPUC prepared and issued Invitation for Bids (IFB) for the three main sections of the Koror Sewage System, namely KASP-Works ICB-01: Sewer Network Rehabilitation and Expansion at Malakal and Meyuns, KASP-Works ICB-02: Sewer Network Rehabilitation and Expansion Works at Koror and KASP-Works ICB-03: Sewage Treatment Plant Upgrade in Malakal. Following a rigorous bid screening and evaluation process, the PPUC awarded the contracts for the Koror Sewage System as shown below:

<u>Project Title</u>	<u>Contractor</u>	<u>Contract Date</u>	<u>Contract Amount</u>
ICB-01	Progetti Plant	8/11/16	\$ 5,969,535.35
ICB-02	Pacific Engineering	8/11/16	\$ 4,673,053.91
ICB-03	Pacific Engineering	1/11/17	\$ 9,605,780.53

As the planning and procurement process for the KASP got underway, the JICA, at the same time, was also preparing to commence its project on the Water System Improvement for the PPUC. The initial concept design for the Koror component of the KASP was to lay the sewer lines on one side of the road; however, the Water System Improvement project was first to break ground so JICA laid the water lines on the same side of the road that the KASP was initially

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designed to be laid. Consequently, the KASP design was subsequently modified (realigned) to conform to the water improvement project.

AUTHORITY TO AUDIT

Article XII, Section 2(b) of the Constitution of the Republic of Palau declares, in part, “The Public Auditor shall inspect and audit accounts in every branch, department, agency, or statutory authority of the national government and in all other public legal entities or nonprofit organizations receiving funds from the national government.” This mandate is implemented through the Public Auditing Act of 1985 (40 PNCA § 200 *et.seq.*), which charges the Public Auditor to “act to prevent and detect fraud, waste and abuse in the collection and expenditure of all public funds.” (*Id.*, §224.)

In addition, on March 11, 2019, the Office of the Public Auditor (OPA) received a request from the Honorable Stevenson J. Kuartei, Senator, Tenth Olbiil Era Kelulau, to conduct an audit of the KASP to address, among other matters, the following concerns: How much work has been completed, what work has been contracted for, when these contracts were in force, and which, if any, contracts have been completed. The OPA, at the request of the Senate, also held a meeting with Senator Kuartei and several other Senators to discuss their concerns about the KASP and to gather information for the design of the scope and objectives of the audit.

OBJECTIVE

The objective of the audit of the Koror-Airai Sanitation Project (KASP) is to determine to what extent the PPUC (1) planned and managed the KASP to ensure project completion, (2) met the milestones and objectives set forth in the KASP and, (3) properly managed the funds for the KASP to allow for project completion.

SCOPE AND METHODOLOGY

The audit covered the period from February 05, 2014 through June 30, 2019. However, we also reviewed documents and activities outside of this period as necessary to accomplish the audit objective. As this is a performance audit, we did not conduct audit procedures to assess the fairness of the financial statements of the KASP and therefore express no opinion on the financial statements.

We conducted this performance audit in accordance with the generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions

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based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusion based on our audit objectives.

To accomplish our audit objective, we reviewed a number of concept studies relevant to the KASP including the Sanitation Master Plan, Sanitation Development Feasibility Study, Inception Report, etc. We also reviewed documents relating to the KASP including House Joint Resolution No. 9-46-4 HD1, loan agreements and related documents, ADB Team Visit Aide Memoires, Project Administration Manual, request for proposals, contractor proposals, contracts, other relevant documents. In addition, we examined payments and related supporting documents including ADB withdrawal applications, contractor billings statements and invoices, variation orders, construction program updates, and other related documents. Moreover, we conducted interviews with PPUC and KASP finance personnel, the Project Manager for the PMU, Project Implementation Assistance Consultants, contractors, and other essential personnel. Finally, we conducted site visits and observed construction activities during the KASP implementation.

Moreover, we obtained an understanding of the roles and responsibilities of the PPUC, Project Management Unit, Project Steering Committee, Project Implementation Assistance Consultants, and Asian Development Bank as they relate to the KASP.

PRIOR AUDIT COVERAGE

Pursuant to the loan agreement between the Republic of Palau and the ADB, the Koror-Airai Sanitation Project's financial statements shall be audited annually. The most recent audit of the KASP's financial statement was conducted by Deloitte and Touche, covering the period October 2018 to September 2019. In addition, the PPUC, by law, is required to undergo a financial audit annually. The most recent audit of PPUC was conducted by Deloitte and Touche covering the fiscal year 2019.

FINDINGS AND RECOMMENDATIONS

Finding No. 1: Site Access Constraints

Criteria: General conditions of contract clause 26.1 for ICB-01 and ICB-02 state that: The Employer (PPUC) shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Particular Conditions of Contract (PCC), the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

Condition: Our audit revealed problems in the planning phase of the KASP leading to the execution of the construction phase. We found that the Implementing Agency (PPUC) failed to create an accurate site plan for the construction of the various Sewer Pump Stations (SPS) identified in the design of the KASP. The accurate site plan includes EQPB Permits, Land-Use Rights, KSPLA Permits, etc. Although the Project Implementation Assistant Consultants (PIAC) had prepared the Network Designs and Approved for Construction (AFC) Drawings, which includes construction drawings and contractor's work program on the pump stations at designated sites, there were constraints that prevented contractors' ability to access work sites and commence work, based on the approved Time-Schedule for the KASP. Listed below are some of the access constraints we observed:

SPS 1 CIP Area: Access to ICB-01 worksite, SPS 1 (CIP area), was constrained by abandoned containers and CIP vehicles, which hindered contractor's ability to survey the site and take necessary measurements.

ICB-02, SPS T-Dock: Contractor's mobilization to worksite was postponed by the PPUC due to the slow process in acquiring Land-Use Right from private land owners and the required construction permits.

SPS Long Island and SPS A7 & A8, Ngerkebesang: The designated sites for the construction of ICB-01's SPS at Long-Island and SPS A7 & A8 at Ngerkebesang seemed inconsistent and unsuitable for the designated purposes or activities in the surrounding areas. For example, the Long Island area is a designated public park/recreation area; thus, the project understandably met public resistance, following PPUC obtaining approval and permit from the Koror State Public Lands Authority. According to the PPUC, it had conducted public hearings for the project but not many people showed up. Similarly, SPS at Ngerkebesang was resisted by a representative of a hotel as the location of the SPS was across the street from the entrance area to the hotel. Further, according to the Project Manager, the existing site was too small to accommodate the dimensions of the new Sewer Pump Station and held an abandoned concrete structure that

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obstructed construction activities. There were no fallback options for the SPS at Long Island and Ngerkebesang.

Effect: As a result of access constraints to worksites, the start of works by both contractors for ICB-01 and ICB-02 were put on hold. Consequently, the ICB-01’s and ICB-02’s contract values were subsequently increased to compensate contractor’s claims for operational costs resulting from multiple delays and time extension to complete the projects. Please refer to Table 1 below for details of delay of works and compensation claims by the contractors for ICB-01 and ICB-02:

Table 1: Delay of Work/Contractor Claims for ICB-01 and ICB-02

<i>Site</i>	<i>Original Completion Date</i>	<i>Revised Completion Date, via VO</i>	<i>Duration of Delay</i>	<i>Reason for Delay</i>	<i>Additional Cost (Compensation Claims)</i>
<i>ICB-01: SPS 1 (CIP area)</i>	<i>03/23/2018</i>	<i>8/27/2018</i>	<i>5 months</i>	<i>Containers & Vehicles at site. Time extension of at least 5 months due to delay caused primarily by access restraints, UXO survey and shortage of materials on the island.</i>	<i>VO#7: \$350,000 claim for operational costs resulting from multiple delays and time extensions</i>
<i>ICB-02: SPS T-Dock</i>	<i>12/28/2017</i>	<i>8/31/2018</i>	<i>8 months</i>	<i>Acquiring Land use right from private landowner & Construction Permits. The Contractor's work was delayed by at least 8 months due to various reasons beyond its control-access constraint, change in schedule to accommodate other contractors, shortage of materials (sand and gravel), revised pipe alignment, set of drawings not yet issued, approval by the Project manager to start pipe laying, ground condition worse than anticipated, advance payment delay, pipe realignment to the middle of the road due to preempting waterline occupying the side of the road.</i>	<i>VO #2: \$400,844.00 claim for operational costs due to multiple delays and time extensions.</i>

In addition, the construction of SPS at Long Island and Ngerkebesang were put on hold until PPUC could resolve the controversy over the locations of Sewer Pump Stations. Eventually, for Long Island, PPUC decided to set up only the connection point from the gravity main (main sewer line traversing the Malakal road) to Long Island to accommodate the eventual construction of the SPS at Long Island, rendering the whole area of Long Island, U-Corp premises and the Palau Vacation Hotel disconnected from the sewer line until such time a sewer pump station is

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built and connected to the sewer line. With respect to Ngerkebesang SPS, PPUC eventually decided to remove the project from the current KASP and bid it out as a separate project at a later time. According to the Project Manager, the PPUC has executed a no-cost land lease exchange to secure an alternate site to build the SPS in Ngerkebesang, after a prolonged delay. The variation to SPS Long Island and SPS A7 and A8 at Ngerkebesang reduced the packaged cost of ICB-01, as shown in Table 2 below:

Table 2: Variations to ICB-01: Removal of SPS

<u>Site</u>	<u>Duration of “on-hold”</u>	<u>Reason</u>	<u>Revised Contract Value</u>
<i>SPS Long Island</i>	<i>over 9 months</i>	<i>Public Resistance, relocation of SPS and redesign to eliminate SPS and install only connection device to gravity main.</i>	<i>VO#4, dated 4/17/18, reducing contract value by \$(339,862.69)</i>
<i>Ngerkebesang SPS A7 & A8</i>	<i>over 10 months, SPS was eventually removed</i>	<i>Land use right, abandoned concrete structure, road closure to create a safe work area, relocation, and eventual elimination of SPS.</i>	<i>VO#5, dated 4/22/18, reducing contract value by \$(401,182.08)</i>

Proposed SPS Longs Island Sites:



SPS A8 Ngerkebesang:



Cause: The cause of the above condition is that the PPUC did not obtain land use rights and public support for the designated Sewer Pump Station sites, or secure alternate sites, before the start of construction activities. Hence, poor planning paved the way for problems to arise during construction with no fallback solutions readily available. The PPUC did not undertake the proper planning to ensure that the nature of the projects (Sewer Pump Stations) are suitable for the proposed sites, received public support, and land use rights were secured. Thus, the circumstances beg the questions: why did the PPUC move forward on the Long Island and Ngerkebesang projects if it did not have the land use rights, public support, and required permits and, if it did, why were the projects stopped? In addition, project sites that contained obstructions should have been cleared and the sites prepared and ready to commence work in accordance with the project timeline. Furthermore, for the Ngerkebesang SPS, although the Project Implementing Assistance Consultant (PIAC) had prepared the Network Designs and AFC Drawings, the PPUC did not work closely with the PIAC on the designs and drawings to create a more accurate and practical site plan to consider the various constraints at proposed project sites such as access to site, dimensions of SPS and size of lot, limited space for staging area, traffic, etc. All these preliminary issues, with proposed remedies, should have been identified during the planning phase and resolved before the procurement process to hire contractors for the KASP, to ensure that unnecessary delays do not arise during project execution.

Recommendation: We recommend that for future capital infrastructure or improvement projects, as land has become one of the most controversial and protracted (legal disputes) issues in Palau, the PPUC use planning to ensure that land use rights are properly secured. In addition, for projects of sensitive nature that involve public health issues, such as the KASP, the PPUC should ensure that proposed project sites are appropriate for the nature of the project, receive the critical public support, and fallback options are identified to prevent work stoppage or protracted delays. Finally, as part of the planning process, all logistical issues involving project sites should be identified and resolved to prepare project sites for the start of construction activities, mitigating the potential for protracted delays that can increase project costs.

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PPUC-KASP Response: *PPUC concurs with the findings, however, the corporation relied on the expertise and the recommendations of the consultant in discussion with the contractor that was contracted to work with PPUC. PPUC followed all necessary procedures and secured all permits for the smooth implementation of the project including conducting a Public Hearing.*

The delay in moving the CIP office from one of the sites was beyond PPUC's control, as this office belongs to the National Government; and the National Government claimed that they were unable to relocate at the time of our request to them.

In the case of Long Island, all government agencies were in support of the location of Long Island as a designated area of one of the pump stations. The only group that showed resistance was a small handful of community special interest group. The approval of the special interest group was not required, however, the state and the National Government preferred to wait until the issue was resolved because there was an aggressive resistance from this special interest group.

In reference to Table 1: Delay of Work/Contractor Claims for ICB-01 and ICB-02, the start of works that were put on hold by both contractors was not the sole result of the site access, it was primarily due to the lack materials available on island thus preventing works to proceed, hence, the time extension.

In consideration of all the points above beyond PPUC's control, we suggest that OPA consider removing this finding.

OPA's Comments: PPUC's response gives credence to the recommendation in this report that a Construction Engineer and a Contracts Manager should have been hired from the start, as PPUC's in-house experts, to work with the project consultants to plan and work with the Project Management Unit to identify potential problems and provide potential solutions, alternatives, or other remedial measures to avoid protracted delays.

The KASP is a ROP-conceived project financed by a loan the terms and conditions of which require the ROP to relend the proceeds to the PPUC for the KASP financing. At the inception, it was within PPUC's control and interest to negotiate with the National Government on obtaining land use and access rights to project sites, vacating and clearing project sites, or otherwise remove constraints or obstructions standing in the way of the KASP before agreeing to administer the Project. These discussions should have occurred with the National Government and the terms and conditions of the arrangement should have been laid out and memorialized in writing (e.g., MOU) and signed by the parties. It was in the best interest of the PPUC to do so since now the PPUC has to repay the National Government the loan plus interest and receiving

less in return in terms of the KASP scope, which was significantly reduced due to increase in project costs and land use rights.

The OPA concurs that shortage of materials on island was a contributing factor, primarily due to the Water Improvement Project that was completed just ahead of the KASP. Due to lack of planning; however, the PPUC did not anticipate the shortage of materials and factor it into its planning process. Lack of planning was a major factor for the many setbacks of the KASP.

Because of the foregoing, the OPA takes the position that these issues were within the PPUC's control and therefore this finding is sustained.

Finding No. 2: KASP Project Plan

Criteria: Conventional practice subscribes to the concept that a major public infrastructure project, such as the KASP, should have a Project Plan to ensure that the Project Steering Committee (on behalf of the Executive Branch), the Executing Agency (Ministry of Finance), the Implementing Agency (PPUC), the Olbiil Era Kelulau (financier) and other stakeholders (such as service users) are in agreement and/or have a basic understanding of the KASP's Scope of Work and what the Republic of Palau expects in return for its investment. In addition, the Project Plan serves as a blueprint to guide the implementation and administration of the Project from planning to build-up to implementation and closeout, to ensure the efficient and effective administration of the KASP.

Condition: The audit revealed that the PPUC did not develop a separate KASP Project Plan based on the Sewer Network Option that Palau selected to support and sustain its sewage infrastructure system. We reviewed several concept studies containing basic and technical information vital to the KASP, such as the Sanitation Development Feasibility Report, July 2012, Sanitation Master Plan, October 2012, and the Inception Report, February 11, 2015, that were commissioned to lay the ground work for the KASP. The Sanitation Master Plan covered a host of issues relating to sanitation systems development, foremost of which was an analysis of the three (3) Sewer Network Options each for the Koror and Airai Sewage Systems as follows: for the Koror Sewage System: Option (1): Upgrade Existing Centralized Collection and Transport System, Option (2): Coastal Carrier System, and Option (3): Decentralized Collection, Transport and Treatment System. For the Airai Sewage System: Option (1): Improve Operation of Existing Onsite Systems, Option (2): Install a Common Effluent System, and Option (3): Install a Conventional Sewage System.

For the Koror Sewage System, the Sanitation Master Plan recommended Option (1), Upgrade Existing Centralized System, as the most economical and achieving immediate results in terms of

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addressing public health risks and concerns while providing opportunities to improve overall system efficiency and adaptability. For the Airai Sewage System, the Master Plan recommended Option (3), Install a Conventional Sewage System, as the most economical and achieving immediate results in terms of addressing public health risks and concerns while providing opportunities to improve overall system efficiency and adaptability. The Sanitation Master Plan under Section 12.7, Preferred Option Budget Cost, pages 78 and 79, puts the cost estimate of Koror Option 1 and Airai Option 3 Sewage Systems at \$27,994,862.

The Sanitation Development Feasibility Study took the next step by identifying an investment package, Option (1) for the Koror system and Option 3 for the Airai system, and preparing a feasibility report, which will (when implemented) support sustainable sewage and sanitation service in Palau. The feasibility report includes preliminary/concept designs and cost estimates for a sewage/sanitation infrastructure improvements in Koror and Airai. The Feasibility Study, under Section 10, Project Cost and Financing, Page 45, puts the cost estimate of Koror Option 1 and Airai Option 3 at \$30.082 million.

Following the Sanitation Development Feasibility Report, the Republic of Palau in October 2013 submitted a loan proposal to the ADB for \$30.00 million for the purpose of providing financing for the KASP, the loan amount based on the KASP cost estimate outlined in the Sanitation Development Feasibility Report. Following the loan approval in March 2014, the Ministry of Finance and the PPUC, rather than commissioning a separate KASP Project Plan based on Koror Option (1) and Airai Option (3), in October 2014 opted to commission an Inception Study one of the primary purposes of which is to “confirm the scope of the KASP after a thorough review of the Sanitation Master Plan and the Sanitation Development Feasibility Study.” Commissioning the Inception Study at this late point of the project, however, seemed illogical and redundant as the Republic had already entered into a loan agreement with ADB back in March 2014 based on the scope of Koror Option (1) and Airai Option (3) as recommended by experts in the Sanitation Master Plan and presented in the Sanitation Development Feasibility Study as the viable investment package. Instead of the Inception Study, the relevant information presented in the Sanitation Master Plan and the Sanitation Development Feasibility Study needed for the Option (1) and (3) investment package should have been consolidated to construct a separate, comprehensive KASP Project Plan; rather than project information being dispersed in various concept studies. At this juncture, the PPUC should have directed the effort to start the KASP survey work, scope of work, design and layout, and other technical aspects of the sewer network systems (for both Koror and Airai) to produce a design report, as part of the Project Plan, in preparation for the procurement and bidding process. Hence, there was no separate comprehensive KASP Project Plan containing the project’s scope of work, cost estimates, sewer network designs and drawings, overall project timeline, agency designated to administer the KASP, resources and capacity required for project administration, issues concerning land use and

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access rights, availability of materials, project site preparations, permits, etc., consolidated into a single, separate KASP Project Plan based on Koror Option(1) and Airai Option (3).

We noted that a Project Administration Manual (PAM) was developed by the PIAC for the PPUC to guide the administration of the KASP, which is a critical part of the Project Plan, but the other essential parts of the plan leading to implementation were not put together to form a whole project plan.

The Koror Option 1, Upgrade Existing Centralized System, the preferred and selected option for the Koror Sewage System, is presently undergoing construction as of the writing of this report. However, the Airai Sewage System, following the updated estimate of the KASP in June 2017, was subsequently removed from the KASP's scope of work due to insufficient funds, as further discussed under Finding No. 4.

Effect: As a result, the KASP lacked a separate, comprehensive Project Plan based on Option 1 for the Koror Sewage System and Option 3 for the Airai Sewage System. Consequently, we observed constant and prolonged delays, constant extension of project completion dates, increases in project costs, changes in Scope of Work, questionable capacity on the part of the PPUC to administer the KASP, among other concerns.

Cause: The cause of the above condition is that the National Government did not plan and work with the PPUC to ensure that a separate, comprehensive KASP Project Plan was developed and approved by the National Government before turning over the administration of the project to PPUC. This is evident in the fact that the National Government had obtained a loan from the ADB in March 2014 to finance the KASP based on Option (1) for the Koror Sewage System and Option (3) for the Airai Sewage System while the PPUC in February 2015 had commissioned the project consultant to conduct an Inception study to confirm the scope of the project.

Recommendation: We recommend that for future capital infrastructure projects of this magnitude financed by loans or related debt instruments, the ROP collaborate and coordinate with the project implementing agency to ensure that a Project Plan is developed and approved by the National Government before handing over the administrative responsibilities to the agency. The Project Plan serves as a detailed blueprint for the execution of the project that includes, among other things, scope of work, project design, and drawings, detailed cost estimates, financing, overall timetable (from start to finish), designation of administering agency, resources and capacity needed to administer the project, issues concerning land use and access rights, logistics, availability of materials, permits. The Project Plan should contain all phases of the project, from planning to build-up to implementation and closeout.

PPUC-KASP Response: *PPUC relied on the expertise and the recommendations of the consultant that was contracted to work with PPUC. Although a project plan is not required, we concur with the findings that PPUC did not have a collective project plan. However, PPUC did have different project plans such as:*

- *Project Administration Manual*
- *Inception Report*
- *Network Design Report*
- *Project Implementation Schedules for each contract*

PPUC agrees that for future projects of this scale, the corporation ensures to develop a project plan.

OPA's Comments: Similar to our comments under Finding 1, Site Access Constraints, the OPA believes that had the PPUC hired a Construction Engineer and a Contracts Manager at the start of the Project, these two technical experts together with the Project Management Unit could have worked with the PIAC to develop a separate KASP Project Plan to guide the implementation of the KASP.

Finding No. 3: Loan Financing for KASP

Criteria: Based on House Joint Resolution No. 9-46-4, HD1, the financing authority for the KASP, we found that the President secured two (2) separate loans totaling \$28.811 million from Asian Development Bank (ADB) to fund Koror-Airai Sanitation Project (KASP). One loan, Special Operations, Loan Number 3061-PAL, dated March 28, 2014, was for 1.258 million SDR equivalent to \$1.911 million and the other, Ordinary Operations, Loan Number 3060-PAL, dated March 28, 2014, was for \$26.900 million.

Condition: A detailed review of the timeline of events surrounding the project however revealed a considerable delay in KASP implementation that significantly increased the cost structure of the KASP. The delay, approximately four (4) years, occurred between the time of the Sanitation Development Feasibility Report, July 2012, which contained the initial cost estimates for the KASP, the time the loan was executed with ADB, March 2014, the loan amount based on the estimated cost of the KASP, and the time of the KASP's actual implementation, September 2016, as shown at Appendix 1, Preliminary Activities Timeline, Page 39. Actual construction work on the KASP did not commence until September 2016, the start date for ICB-01, Sewer Rehabilitation and Expansion Works at Malakal and Meyuns Area and ICB-02, Sewer Rehabilitation and Expansion Works in Koror Area.

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Effect: As a result of the protracted delay, beginning in July 2012 when the KASP's cost estimate was projected at \$30.082 million, as reported in the Sanitation Development Feasibility Study, and approved by the Republic of Palau in its Loan Proposal to the ADB, dated October 2013, the project consultant, concerned of the time lapsed, updated the estimate and came up with a revised cost estimate at \$38.249 million as of June 7, 2017, approximately \$12.355 million more than the initial estimate, excluding contingencies. The primary cause of the cost overrun is the Airai sewage system, which at initial estimate cost \$3.585 million back in July 2012 versus \$10.200 million in the June 2017 updated estimate. In addition, the cost to rehabilitate the Koror Sewage System is substantially higher (55.2%) than the original estimate. Thus, the unintended consequence of the prolonged delay allowed inflation to set in in the price of goods and services to further erode the purchasing power of the \$28.811 million loan. Hence, during implementation of construction works, the Project Steering Committee determined that the \$28.811 million financing was insufficient to complete the KASP based on the original scope of work.

Cause: The cause of the significant increase in the KASP's cost estimate is the prolonged delay due to the following administrative activities preceding the KASP's implementation:

- (1) Restructuring of PPUC
- (2) Obtaining ADB Loan
- (3) Hiring a Consultant to conduct an Inception Study, Network Design and Bid Packages for ICB-01, ICB-02, and ICB-03

It should be noted here that the Inception Study, commenced in October 2014, was one of the major causes of the prolonged delay. As previously discussed, the study, one of the main purpose of which was to confirm the scope of work of the KASP, after a thorough review of the Sanitation Master Plan and the Sanitation Development Feasibility Study, was redundant at this late point of the project as the Sanitation Development Feasibility Study achieved just that by proposing an investment package (Option 1 for the Koror Sewage System and Option 3 for the Airai Sewage System) that was most economical and achieving immediate results in terms of addressing public health risks and concerns while providing opportunities to improve overall system efficiency and adaptability. In addition, the ROP, back in March 2014, executed a loan agreement with ADB to finance the KASP based on Option 1 and Option 3; thus, conveying preemptive approval of the scope of work, which, presumptively, the Ministry of Finance and PPUC would not have the authority to change.

Recommendation: The issue on delay is a moot point at this stage of the KASP and thus offers no practical recommendation, which we do not make here. We do, however, strongly believe that had a Project Plan been developed for the KASP, it could have mitigated the delays, as further discussed in relevant sections of this report.

PPUC-KASP Response: *PPUC concurs with this finding and agrees that for future projects of this scale, the corporation ensures to develop a project plan.*

OPA’s Comments: The OPA has no further comments.

Finding No. 4: Non-Compliance with House Joint Resolution/Change in KASP Scope of Work

Criteria: House Joint Resolution No.9-46-4, HD1, approved, authorized, and ratified the authority of the President of the Republic of Palau to secure a loan or loans from Asian Development Bank on behalf of the Republic of Palau for the renovation and construction of sewage and water collection in the states of Koror and Airai, for the Republic of Palau Koror-Airai Sanitation Project (KASP). The KASP’s Scope, as spelled out in the House Resolution, included the Koror and Airai Sewage Systems; thus, the name Koror-Airai Sanitation Project or KASP. According to the Loan Agreement, the objective of the KASP is to provide effective, efficient, and sustainable sanitation services to Koror and Airai areas.

Condition: As noted under Finding No. 3, Loan Financing for KASP, the \$28.811 million ADB loan financing for the KASP was subsequently determined by the Project Steering Committee insufficient to complete the KASP’s Scope of Work as approved in October 2013. Based on the Scope of Work, the KASP was initially estimated to cost \$30.082 million back in 2012, which included the Koror and Airai Sewage systems. However, due to the protracted delays, the project consultant updated the cost estimate and came up with a revised estimate at \$38.249 million as of June 7, 2017, approximately \$12.355 million more than the initial estimate, excluding contingencies. Because of the funding deficiency, the Project Steering Committee took action to remove the Airai Sewage System from the KASP. In addition, the following components of the Koror Sewer Network in the KASP were removed for implementation at a later time due to project site access constraints, as discussed in Finding No. 1:

<u>Project Component</u>	<u>Cost</u>	<u>Reason for Removal</u>
ICB-01, Long Island SPS	\$339,863	Public Opposition, no alternate site
ICB-01, Ngerkebesang SPS A7, A8	\$500-600k	Protracted delay in securing site

Effect: As a result, it is the Office of the Public Auditor’s position that the unilateral decision by the Project Steering Committee to eliminate the Airai Sewage System from the KASP is in conflict with the intent and purpose of House Joint Resolution No. 9-46-4, HD1, which states: “BE IT RESOLVED, by the House of Delegates of the Ninth Olbiil Era Kelulau, with the Senate concurring, that the Olbiil Era Kelulau hereby approves, authorizes and ratifies the President of the Republic of Palau to secure a loan or loans from the Asian Development Bank on behalf of

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the Republic of Palau, [*“for the renovation and construction of sewage collection systems in the States of Koror and Airai, for the Koror-Airai Sanitation Project;”*] [emphasis added].

In addition, as evident in the significant increase in the cost of the KASP due to the prolonged delays, the cost of the Airai Sewage System will inevitably face the same fate, as will the construction of the Sewer Pump Stations at Long Island and Ngerkebesang in the future. According to the PMU Project Manager, the funding that were set aside for the construction of Sewer Pump Stations at these designated sites have been reallocated to finance ICB-05, the rebid package to complete the works in ICB-01.

Cause: The cause of the above condition is that the Project Steering Committee did not seek and obtain legal advise regarding its authority to make a unilateral decision to eliminate the Airai Sewage System from the KASP. In addition, the lack of a separate, comprehensive KASP Project Plan (based on Koror Option 1 and Airai Option 3) was a major factor for the delays and failure to secure the project sites for the SPS.

Recommendation: We recommend that in future projects or programs sanctioned by law containing specific or special conditions/restrictions, the executing agency(ies) seek legal advice on matters involving the conditions/restrictions to ensure its (their) actions and decisions are not in conflict with the intent and purpose of the law. In this instance, the Project Steering Committee should have conferred with the Office of the President to determine whether an amendment to House Joint Resolution No. 9-46-4, HD1, to remove the Airai State Sewage System from the KASP, was necessary in order to maintain compliance with the intent and purpose of the law. This process should have occurred to keep the Olbiil Era Kelulau apprised of the status of the KASP, e.g., Scope of Work and funding, to ensure that the whole of the leadership is in agreement with the KASP moving forward and to ensure that the Project Steering Committee is on sound legal standing before taking the unilateral decision to eliminate the Airai Sewage System from the KASP.

PPUC-KASP Response: *It is worth clarifying that the decision of ICB-04 Airai Sewer System was shelved due to budget constraints and would have been unreasonable to bid the project out knowing that funds are insufficient. However, significant resources and effort was given for this component including implementation of public hearings, site visits and clearing, topographic surveys and geotechnical surveys, network design, and preparation of bid documents. As a result, Airai Sewer System Project can still proceed once adequate funding is identified; the documents would only require some updating.*

Provided that ICB-05 is not awarded and the aforementioned details, request that this finding be removed.

OPA's Comments: The essence of Finding No. 4 is that the Project Steering Committee took unilateral action to remove the Airai Sewage System from the KASP without going back to the Olbiil Era Kelulau to explain the funding status of the KASP and seek amendment to House Joint Resolution No. 9-46-4 to remove Airai Sewage System. The financing for the KASP authorized by the House Joint Resolution is intended and purposed for the construction/renovation of the Koror and Airai Sewage Systems. To remove Airai from the KASP would require amendment to the House Resolution to maintain compliance with the intent and purpose of the House Joint Resolution. That said, the OPA agrees that it would have been unreasonable and undoable to proceed to bid out the Airai State Sewage system without sufficient financing.

Because of the foregoing, this finding is sustained.

Finding No. 5: PPUC's Capacity

Criteria: For major capital infrastructure projects, like the KASP, that require significant capital investments, conventional wisdom dictates that the agency responsible for project implementation has the capacity, including managerial, technical, and administrative capacities, to administer the project. Most important is the managerial capacity to ensure that the technical and administrative capacities are in place to support an efficient and effective administration of the project.

Condition: The audit revealed that the position of Chief Executive Officer (CEO) of the PPUC was vacant from June 30, 2018 to May 4, 2020, with an Acting CEO during the interval, who was subsequently appointed as CEO for a Six (6)-month term, from May 4, 2020 to November 4, 2020. In addition, the position of Chief Financial Officer (CFO) was also vacant from August 17, 2018 to July 15, 2019, also with an Acting CFO during the interim. The vacancies in these two top executive positions occurred during the height of the KASP construction activities. The CEO's position is critical as he/she is responsible for ensuring that the PPUC has the capacity to successfully execute the KASP. In addition, the CFO is equally critical as he/she is responsible for overseeing the loan financing, compliance with the terms and conditions of contracts, and that project expenditures are controlled within budget. Further, the KASP, from beginning and throughout project execution, was undertaken without a Contracts Manager and a Project engineer. The Contracts Manager's position is crucial to oversee the execution of each contract to ensure that the KASP is completed on time and within budget. Finally, the Project Engineer's position is critical in assisting the Project Manager in the administration and supervision of civil works and to work with the project consultant and contractors on project designs, variations, timelines, and other matters. The two (2) technical positions, Contracts Manager and Project Engineer, were especially critical during the KASP pre-construction and construction phases as

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three (3) civil construction contracts were all planned to start at the same time with only a Project Manager to oversee the entire project. The enormity and complexity of the KASP was anticipated such that the project consultant in preparing the Project Administration Manual (PAM) specifically called out the positions of a Contracts Manager and Project Engineer as part of the Project Management Unit (PMU), which PPUC failed to hire and the ADB’s Review Mission Aide Memoirs repeatedly cited as an ongoing problem on capacity.

Effect: The fact that the PPUC was operating without a permanent CEO and other key technical staff during the critical (preparatory and construction) phases of the KASP demonstrates that the PPUC lacked the capacity to administer the KASP, as evidenced by constant and prolonged delays, increases in project costs, constant extension of project completion dates, and other related issues. The absence of a permanent CEO may have contributed to the decision not to hire a contracts manager and a project engineer. The absence of a Contracts Manager and Project Engineer contributed to delays in KASP implementation, constant and prolonged delays before and during construction, payment delays, slow progress of work, conflicts between PPUC and contractors, and other related issues. In addition, the absence of two critical technical staff as part of the PMU diminishes the assurance that the project’s civil works are delivered to: (1) specific quality (standards), (2) on time, and (3) within the agreed budget. Furthermore, without a permanent CFO, the KASP experienced payment delays and incurred interest charges. Finally, work delays and payment delays gave rise to additional costs via contractor claims for lost opportunities as a result of time extensions and interest charges for late payments respectively, for all three civil contracts, and the perpetual extension of consultant’s contract. Please refer to Table 3 for additional costs incurred:

Table 3: KASP: Additional Costs Incurred

Contract	Variation Order (VO)	Delays & Time Extension Claim Amount	Consultant’s Service Extension	Interest Amount on Late Payments	Total
ICB-01	VO 6 & VO 7	\$519,908.94			\$519,908.94
ICB-02	VO 2, VO 6, & VO 8	\$504,466.56			\$504,466.56
ICB-03	VO 1	\$796,286.00		\$128,793.26	\$925,079.26
Consultant (PIAC)	VO 4		\$559,256.00		\$559,256.00
Total		\$1,820,661.50	\$559,256.00	\$128,793.26	\$2,508,710.76

Note: The figures include contractors claims under Finding No. 1 and Finding No. 11.

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Cause: The cause of the above condition is the inaction by the Project Steering Committee (PSC) to intervene and to voice its concern to the PPUC Board of Directors to expedite the process to fill the positions of the CEO, CFO, and other technical staff. As the body responsible for the strategic direction, guidance, and oversight of the KASP, it was critical that the PSC ensures that the PPUC has the managerial and technical capacities to administer the KASP.

Recommendation: As the PPUC was clearly the appropriate government agency to implement the KASP, and the KASP is unquestionably a complex and important capital infrastructure project for the Republic of Palau (ROP), for which the ROP via a loan invested millions of dollars into the project, it was incumbent upon the Republic of Palau to protect its investment by ensuring that the PPUC has the capacity to implement the project. The Project Steering Committee, absent the urgent action by the management of the PPUC to hire a permanent CEO, CFO, and other key technical positions, e.g., Contracts Manager and Project Engineer, should have stepped in to expedite the hiring of a CEO and CFO to start. Thereafter, the hiring of a Contracts Manager and a Project Engineer should have followed, as recommended in the Project Administration Manual. The Contracts Manager and Project Engineer working together with the Project Manager and the Project Implementation Assistance Consultants (PIAC) are the two key positions within the Project Management Unit responsible for overseeing and monitoring the project to ensure timeliness of work to project milestones, the very reason both positions were recommended in the Project Administration Manual.

PPUC-KASP Response: *PPUC concurs with this finding. The permanent CEO and CFO are critical in ensuring the successful execution of the project; however, these are not the primary reasons of the delay of the project and the additional costs mentioned in Table 3: KASP: Additional Cost Incurred.*

As soon as a vacancy was announced PPUC invested in considerable resources in order to immediately and aggressively hire a permanent CEO and CFO. Multiple recruitment efforts and several announcements of job openings were done after the vacancy of the CEO and CFO. During this period, a CEO and CFO in Acting capacity filled these positions temporarily while recruitment efforts were ongoing.

PPUC hired a permanent CEO and CFO in 2019 and 2020.

The Contracts Manager and Project Engineer will be discussed in Finding No. 6 & 7.

OPA's Comments: The primary cause(s) of delays, prompting additional costs, are land use rights for project sites, lack of materials, late payments, inability to secure line of credit, etc. All of these issues stem from weak or lack of planning (e.g., Project Plan), which is one of the most critical management function, especially for the KASP.

Finding No. 6: Contracts Manager

Criteria: Pursuant to the Project Administration Manual (PAM), the Contracts Manager is responsible, with support from the Project Implementation Assistance Consultants (PIAC), for administering contracts and ensuring contractors' and PPUC's compliance with contractual obligations for contracts procured for the project including, among other matters, supervision of works, preparation of payment certificates, change orders, and site instructions. In addition, the contracts manager reports to the Project Management Unit (PMU).

Condition: Our audit revealed that a civil engineer for the PPUC's Water and Wastewater Operations was assigned to provide assistance to the PPUC/PMU responsible for contracts management beginning March 05, 2014. We found that the engineer resigned from his duties on August 26, 2016 as Wastewater Civil Engineer. Confoundingly, since his departure and throughout the KASP construction activities, the PPUC did not hire his replacement but, instead, after a three (3)-year hiatus, the Project Manager on August 2019 assumed the role of the Contracts Manager. We found that serving the dual roles of a Project Manager and Contracts Manager may have overloaded the Project Manager as we noted many problems associated with incomplete or slow delivery of services (by Contracts Manager) that could have been alleviated had a Contracts Manager been hired. In addition, pursuant to the PAM, the Contracts Manager reports to the Project Manager, which the dual roles essentially removes the supervisory element of the job. The vacancies in the contracts manager and other technical positions were repeatedly raised by the ADB Review Mission Aide Memoires as a capacity problem for the PPUC's PMU. Given the complexity and technical aspects of the KASP, with multiple projects and contractors, it was imperative that the PPUC hire a contracts manager as recommended in the Project Administration Manual (PAM).

Effect: Due to the vacancy in the Contracts Manager's position on the PPUC's Project Management Unit (PMU), we noted a number of problems associated with the vacancy including: constant and prolonged delays in construction works, payments to contractors, PPUC's responses to contractors' request for information, re-excavating completed works, site instructions, and other efforts requiring the attention of a contracts manager. In addition, the absence of a contracts manager essentially removes the technical expertise critical to ensuring the delivery of works relating to: (1) specific quantity and quality in accordance with project specifications, (2) timeliness of works, (3) contract prices and budget and (4) related contractual obligations.

Cause: According to the PMU's Project Manager, the PPUC did not see the urgent need for a Contracts Manager in that, in lieu of a contracts manager, the Project Implementation Assistance Consultants (PIAC) and the PMU would carry out the duties and responsibilities of a contracts

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manager. However, as mentioned above, the PAM specifically calls out the position of a Contracts Manager, and the ADB Review Mission Aide Memoires point out these limitations in the PMU's capacities that contributed to project delays. In addition, the PIAC, according to the PAM, is to provide support to the Contracts Manager, not assume the role of the Contracts Manager. In fact, the ADB Review Mission Aide Memoires go as far as recommending "that the PMU closely monitor the need for additional resources and, if required, source the required resources through the ongoing KASP Project Implementation Assistance Consultancy contract."

Recommendation: As PPUC is clearly the appropriate government agency to implement the KASP, and the KASP is unquestionably a complex and important capital infrastructure project for the Republic of Palau (ROP), for which the ROP via a loan invested millions of dollars into the project, it was incumbent upon Republic of Palau to protect its investment by ensuring that the PPUC (administering agency) has the capacity to implement the project. The Project Steering Committee, absent the urgent action by the management of the PPUC to hire a Contracts Manager, should have stepped in to impose the hiring of a Contracts Manager, as recommended in the Project Administration Manual. The Contracts Manager working with the Project Implementation Assistance Consultants (PIAC) is one of the critical positions within the Project Management Unit responsible for overseeing and monitoring the project to ensure, among other important tasks, the timeliness of works to project milestones, the very reason the Contracts Manager's position was recommended in the Project Administration Manual.

PPUC-KASP Response: *While PPUC acknowledges that the PMU Contract Manager position had been vacant for the duration stated in the audit report, the report does not cover the measures undertaken to mitigate this vacancy. Due to the magnitude and nature of the project, it was considered that an international expert would have better fit in this role. Accordingly, PPUC mobilized an additional expert to the PIAC structure a Civil Engineer with at least a 10-year experience in implementing infrastructure projects as well as experience with ADB projects to compensate for this vacancy. Furthermore, in June 2019, PPUC requested PIAC to add to the team an additional expert to act as a Contract Administration Engineer. It should also be noted, that PPUC, with the help of ADB, was able to mobilize a Water Supply and Wastewater Advisor to further support the project.*

Despite the vacancy, given the additional expertise mobilized and vast experience included in the PIAC team to support the implementation of the project, we suggest that OPA considered the removal of this finding.

OPA's Comments: The OPA concurs on the importance of hiring an expert to act as a Contract Administrator (Contracts Manager) in June 2019 to help oversee the KASP. By this time; however, the ICB-01 and ICB-02 have been work-in-progress for well over three (3) years and

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ICB-03 for over one and half (1.5) years. This means that the role of a Contracts Manager as envisaged in the Project Administration Manual was not put in place at the start of the Project. The role of the Contracts Manager is not only critical during actual construction but equally critical during the planning phase to ensure the smooth transition and progress of works. For this reason the ADB Review Mission Aide Memoire, dated May 11-13, 2016 states, “...*the technical and contract administration capacity of the PMU remains limited. These capacity constraints have contributed to project implementation delays...*”

Because of the foregoing, Finding No. 6 is sustained.

Finding No. 7: Project Engineer

Criteria: Pursuant to the PAM, the Project Engineer will be a PPUC water and wastewater operations technical staff member and will assist: (a) the contracts manager in the supervision and administration of the project’s civil works contracts; and (b) the wastewater engineer in the design and documentation of the project’s wastewater components. The project engineer will report to the contracts manager. In addition, a construction engineer would augment the PMU’s capacity to conduct oversight of the KASP construction activities and related works.

Condition: Our review revealed that a Project Engineer was employed by the PPUC/PMU from Year 2014 until April 28, 2017. Following his term, the position remained vacant from April 29, 2017 to November 14, 2017. The position was filled on November 15, 2017, after little over six (6) months vacancy, which was a critical time during the early stages of construction works on ICB-01, ICB-02, and discussions on the implementation of ICB-03. The Project Engineer’s position was filled only after the ADB provided a technical assistance grant to fund the position. Nonetheless, the ADB’s Review Missions continued to reemphasized the need for a construction engineer to strengthen the PMU’s capacity to conduct construction oversight, even after the hiring of a Project Engineer, which was not done. Based on our observation, and confirmed by ADB Review Missions, it was evident that the expertise of a construction engineer was critical as part of the PMU to supervise and monitor the three civil construction works to ensure quality of work, progress of work to meet project milestones, cost of work compared to budget, dispute resolution with contractors, and such other matters to ensure the smooth progress of work moving forward.

Effect: As a result, the PPUC’s PMU was under-resourced without a project and a construction engineer to carry out the technical oversight on the three civil construction works during the early stages of the KASP. The following is an excerpt from an ADB Review Mission Aide Memoire during a Review Mission conducted in September 27-29, 2017: “*The KASP implementation progress since the last project review mission in March 2017 has been slow due*

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to several issues including: (i) availability of materials, (ii) site access (relating to the Long Island sewage pumping station and the SPS A8 sewage pumping station), and (iii) and meeting the effectiveness conditions of Contract No. ICB-03: Sewage Treatment Plant Upgrade in Malakal (“ICB-03”). All project works are now expected to be completed by July 2019 which is approximately 18 months later than anticipated when KASP was approved in November 2013.” The problems surrounding limited capacity not only resulted in multiple delays but equally concerning is the quality of work; such as in the case of ICB-01 and ICB-02 construction works where contractors were recalled to completed worksites (Post Office Area, PVA area, Oldekiang Curve, and other segments of the project) to re-excavate buried sewer lines either to redo the work that did not meet specifications or were not properly inspected, which further delayed the project. Although the problem on the PMU’s limited capacity is repeatedly raised by the ADB’s periodic Review Missions, the PPUC failed to address this critical issue that continued to impede and delay the KASP from beginning and throughout project implementation. This is evident in the following excerpt from an ADB Aide Memoire during a Review Mission conducted in May 13-15, 2019, more than two years after the effective dates of contracts for ICB-01, ICB-02, and ICB-03. *“The performance of the PMU has improved since September 2018 when additional personnel were assigned to the PMU. However, the Mission remains concerned that the contract administration and construction monitoring capacity requires further strengthening given the significant implementation delays and the on-going and emerging contractual risks associated with KASP, and the substantial commitments of the PMU Manager on other PPUC projects. The Mission reiterates its recommendation that PPUC engage a contract administration and construction supervision engineer as soon as possible, possibly financed by KASP, to strengthen PPUC’s contract administration and independent construction oversight capacity.”*

In addition, the following statements taken from the same ADB Review Mission Aide Memoire conducted in May 13-15, 2019, concerning the KASP project consultant (PIAC), makes further the argument to fill the technical positions within the PMU even more dire: *“Previous Mission recommendations (October 2018) to increase the construction supervision, safeguard monitoring and community liaison capacity of PIAC Team have not been implemented. KASP remains substantially exposed to potential construction quality issues and defects, noncompliance with environmental laws and regulations, growing community frustrations with KASP due to limited community awareness of the project and project issues, and implementation of the project’s gender awareness plan (GAP).”*

Cause: We were unable to determine why the PPUC refused to fill the position of a Project Engineer early on, only doing so after ADB offered a technical assistance grant to fund the position, despite the position being recommended in the PPUC’s Project Administration Manual and repeatedly cited in ADB Review Missions as a persistent issue on limited capacity and

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contributing to KASP's delays. In addition, the PPUC also did not hire a construction engineer as recommended by the ADB Review Mission. In fact, the ADB Review Mission Aide Memoires go as far as recommending "that the PMU closely monitor the need for additional resources and, if required, source the required resources through the ongoing KASP Project Implementation Assistance consultancy contract."

Recommendation: As PPUC was clearly the appropriate government agency to implement the KASP, and the KASP is unquestionably a complex and important capital infrastructure project for the Republic of Palau (ROP), for which the ROP via a loan invested millions of dollars into the project, it was incumbent upon the Republic of Palau to protect its investment by ensuring that the PPUC has the capacity to implement the project. The Project Steering Committee, absent the urgent action of management of the PPUC to hire a Project Engineer and a Construction Engineer, should have stepped-in to impose the hiring of these critical technical positions, which the successful outcome of the KASP is dependent upon, as recommended in the Project Administration Manual. The Project Engineer and the Construction Engineer working with the Project Implementation Assistance Consultants (PIAC) are critical positions within the Project Management Unit responsible for overseeing and monitoring the project to ensure, among other important tasks, the timeliness of work to set milestones, the very reason the Project Engineer was recommended in the Project Administration Manual and Construction Engineer recommended by the ADB Review Mission Team.

PPUC-KASP Response: *PPUC made strong efforts and exhausted all resources available to fill this position during the time of vacancy. The corporation worked with ADB on potential Technical Assistance opportunities to hire an international expert to work directly with PPUC to support the implementation of KASP as well as improve WWO. This position has already been filled.*

With the addition of a Civil Engineer to the PPUC team via the ADB Technical Assistance and actively engaged in the KASP project, we suggest the OPA consider the removal of this finding.

OPA's Comments: As stated in the recommendation, the OPA reiterates its position that the ROP should not have transferred the administrative responsibilities of the KASP to the PPUC until the PPUC had demonstrated that it had achieved full capacity to administer the project, to ensure the protection and reducing the risk of the \$28.811 million investment. This did not occur and the PPUC did not achieve full capacity from the start; thus, setting the trail for the prevalence of issues stemming from lack of planning, leading to project delays and increases in project costs.

Based on the foregoing, Finding No. 7 is sustained.

Finding No. 8: Response Time

Criteria: Executive Order No. 361 delegated to the Project Steering Committee overarching administrative responsibilities to provide strategic direction, guidance, and oversight of the KASP, collaborating and coordinating with the Project Management Unit (PMU) and the Project Implementation Assistance Consultants (PIAC) to ensure that information regarding changes to the KASP is timely communicated to contractors, among other matters.

Condition: Our audit revealed that the PSC, at certain critical decision-making junctures of the KASP, was slow to respond to contractors' request for information regarding the project. The KASP during construction faced numerous Variation Orders, some of which involved changes to the KASP design, which required timely management action and communication to enable contractors to modify the KASP design and work plans in order to timely execute the changes. Any prolonged inaction or indecision by management to communicate with contractors would understandably result in delay of work; creating conditions for filing potential claims for unproductive time by contractors. The audit revealed several instances in which the PSC was slow to respond to contractors' request for information, as shown below:

- ICB-01: Long Island Sewer Pump Station (SPS) & Ngerkebesang SPS A7 &A8 – Management was slow to resolve the Land-use rights issues and relocation of Pump Stations.
- ICB-02: PHS and PCC area construction activities to lay gravity main pipe – Management was slow to finalize the pipe rerouting alongside PHS & PCC area and slow to approve pipe alignments along the main road due to underground obstructions.
- ICB-03: Letter of Credit Condition – Management was slow to resolve the issue of letter of credit contractual condition and establishing a contract effective date

Effect: As a result, PSC's response to contractors request for information were occasionally late, resulting in prolonged waiting time and delays, uncertainties, and contractors' filing claim for unproductive time.

Cause: The PSC's Quarterly meetings were spread too far in between to provide effective and efficient oversight on the KASP, including strategic direction, guidance, and to work with the PMU and PIAC on the execution of its decisions. In addition, based on our review of the meeting minutes of the Committee, in all of its meetings, we were unable to determine if a quorum was present as Executive Order No. 361, creating the Project Steering Committee, does not define a Quorum.

Recommendation: As the Project Steering Committee (PSC) was assigned the responsibility to provide the strategic direction, guidance, and oversight of the KASP, the PSC should have increased the frequency of its meetings and mandated attendance of meetings by its members. The frequency of the PSC meetings was especially critical to address such issues as access to project sites, constant and prolonged delays, negotiate travel arrangements for KASP technicians stranded abroad due to COVID-19 travel restrictions, capacity of PMU to provide oversight on the project, and such other pressing matters.

PPUC-KASP Response: *PPUC concurs with the findings that there were numerous delays but we disagree with the insinuation that PSC's slow response was the primary contributor to the delays. The PSC met frequently as necessary in order to ensure proper implementation of the project.*

The late response time for ICB-01 and ICB-02 is due to the lack of available documentation of existing underground structures/utilities, it was difficult to identify certain obstructions. As a result, upon the discovery of such obstruction and identification, certain checks are required before we can decide to break, augment, or bypass the obstruction, thus, certain unavoidable delays. Regarding the land and permit matters, this procedure took too much longer than can be reasonably anticipated. However, lesson has been learned and PPUC will endeavor that permits are obtained prior to awarding of contracts for future projects.

OPA's Comments: Per the PSC's meeting on September 5, 2018, the Minutes state in part: "Minister of Finance and Chairman of PSC emphasized that after five (5) months we still have the same issues and recommended a monthly meeting instead of quarterly meeting with issues done on timely matter." Records and discussion with the PIAC Administrative/Accounting Officer indicate that the monthly meetings did not materialize. It is evident that without more frequent meetings, other than quarterly meetings, decisions are delayed or are not timely made, especially at the onset of major issues such as land use rights, relocation of SPS, payment delays, letter of credit, etc. that required the PSC's attention.

Finding No. 9: Terms and Procedures of Payment

Criteria: General Conditions of KASP Contracts stipulate the terms and procedures for payment of works. GCC clause 49 for ICB-01 & ICB-02 states in part: Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously. The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor. The value of the work executed shall be determined by the Project Manager. Payments shall be adjusted for deductions

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for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. With respect to ICB-03, the GCC clause 12 states: The Employer shall pay the Contractor the amounts certified by the Project Manager within 45 days of the date of the Contractor’s monthly statement. Finally, the general conditions for all three contracts states: If Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

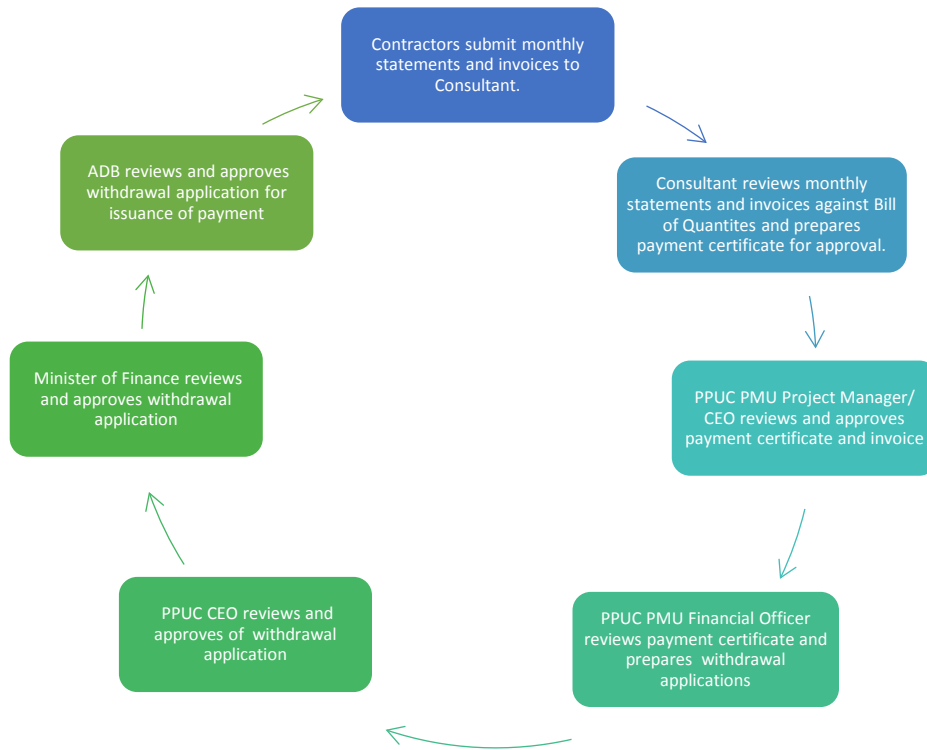
Condition: We noted that the KASP payment process involved multilayer review and approval process, as shown in Figure 5 below, manifesting the ADB’s loan disbursement procedures. In addition, the part of the review process involving contractors’ billings was highly technical requiring a person with knowledge in construction operations to be able to understand the billings process and thus certify the accuracy of such billings and statements. Hence, we noted in many instances delays in payments to contractors, some payments being unusually late as shown in Table 4 below:

Table 4: Schedule of Late Payments

KASP Component	No. of Payments	No. of Late Payments	% of payments Late	Total \$ Amount of Payments	Total \$ Amount of Late Payments	% of \$ Amounts of Late Payments
ICB-01	25	8	32%	\$ 3,964,388.51	\$ 584,665.73	15%
ICB-02	28	11	39%	\$ 2,734,816.22	\$ 1,076,309.93	39%
ICB-03	20	18	90%	\$ 8,355,947.13	\$ 8,119,237.91	97%

As shown above, for ICB-01, as of May 30, 2019, of the 25 payments to the contractor 8, or 32%, were late, ranging from a low of 8 days late to a high of 77 days, averaging payment processing time of 33 days. For ICB-02, as of August 5, 2019, of the 28 payments to the contractor 11, or 39%, were late, ranging from a low of 4 days late to a high of 33 days, averaging payment processing time of 27 days. For ICB-03, as August 6, 2019, of the 20 payments to the contractor 18, or 90%, were late, ranging from a low of 2 days late to a high of 159 days, averaging payment processing time of 94 days.

Figure 5: KASP Payment Process Flowchart



Effect: Although the tiered review and approval process was required to comply with the ADB loan disbursement process, there were glitches in the payment process that in many cases caused prolonged delays, holding up payments to contractors. Please refer to Table 4 above for details of late payments. The late payments caused contractors to file claims for interest charges, needlessly increasing the cost of the project. In addition, the late payments caused dissatisfaction with the PPUC’s contractual obligations, delays and suspension of work, and conflicts with contractors. For example, because of late payments, we found that a contractor filed claims for interest charges totaling \$104,150 for ICB-03, which compounded to \$128,793, due to failure to pay on time. Moreover, the contractor for ICB-03, at one point, suspended work on all procurement activities and placed pre-committed orders on hold, including submission of project designs and drawings for six months.

Cause: The cause for late payments was attributed to delays in, to the most part, reconciling monthly statements and invoices with contractors, approving withdrawal applications by the Ministry of Finance, and, for ICB-03, the delay by PPUC to deliver on the Letter of Credit contractual obligation.

Recommendation: As the PPUC was well aware that the payment process was cumbersome, involving a tiered review and approval process, it should have conferred with contractors in advance to straighten out potential problems that can cause delays in order to mitigate these issues. In addition, those officials involved in the review and approval process also should have conferred in advance to devise a process to expedite the payments process and avoid delays.

PPUC-KASP Response: *PPUC concurs, however, the contracts do not provide the adequate time for review as there are some invoices under dispute and requires further verification. Moreover, we cannot control the approving of the withdrawal applications by MOF.*

OPA's Comments: The OPA understands that certain billings and invoices will come under dispute and requires reconciliation between PPUC and contractor, especially under the payment system set forth in the contracts. However, the process could have been mitigated by, for example, agreeing to make payments on undisputed billings and invoices while working to reconcile disputed billings and invoices for payments later. This builds good faith and trust between PPUC and contractors so that work is not interrupted or stopped. In addition, the PPUC could have consulted with the Minister of Finance, who serves as Chairman of the PSC, to bring about a more expeditious process for approval of withdrawal applications by the Minister, as many of the late payments resulted from delayed approval by the Minister.

Finding No. 10: Letter of Credit

Criteria: ICB-03, Sewage Treatment Plant Upgrade, Contract Agreement under Article 3.1 states: The Effective Date upon which the period until the Time for Completion of the Facilities shall be counted from the date when all of the following conditions have been fulfilled:

- a) This Contract Agreement has been duly exercised for and on behalf of the Employer and the Contractor.
- b) The Contractor has submitted to the Employer the performance security and the advance payment guarantee.
- c) The Employer has paid the Contractor the advance payment.
- d) The Contractor has been advised that the documentary credit referred to in Article 2.2 above has been issued in its favor.

In addition, Contract Agreement Article 3.2 states: If the conditions used under 3.1 are not fulfilled within 2 months from the date of the Contract notification because of reasons not attributable to the Contractor, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Completion and/or other relevant conditions of the Contract.

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Condition: Based on our review, PPUC was able to satisfy the above conditions except for item (d) pertaining to the issuance of a documentary credit (Letter of Credit) in the contractor's favor. The PPUC tried to satisfy the Letter of Credit condition by submitting a Letter of Credit Application with Bank of Hawaii supported by a Commitment Letter from the ADB for the amount of \$3,806,468.99. Bank of Hawaii did not accept the ADB's Commitment Letter but instead insisted on a cash deposit in order to approve and issue a Letter of Credit on PPUC's behalf. The PPUC then submitted a Withdrawal Application to ADB requesting the same amount to be deposited to the PPUC's Water and Wastewater Operation savings account as collateral for the Letter of Credit; however, the Withdrawal Application was denied by the ADB. To remedy the prolonged delay of work, the PPUC and contractor agreed to amend Article 3.1 of the contract to provide for expedited reimbursement to the contractor for the cost of materials for the project (Sewage Treatment Plant).

Effect: As a result, the ICB-03's Contract Effective Date, which was dependent on the date of issuance of the Letter of Credit, was delayed for 10 months after signing of the contract. To provide an acceptable alternative to the Letter of Credit condition and to establish the contract Effective Date, the PPUC and the Contractor subsequently agreed to amend the conditions under Article 3.1, as set out in Change Order No. 1. Furthermore, because of the delay, the contractor submitted a claim for \$796,286.00 for unproductive time (loss of opportunity) for time extension on ICB-03, which PPUC agreed to pay and therewith needlessly increasing the cost of the project.

Cause: The cause of the above condition is lack of planning and preparation by the PPUC to ensure that it has the capacity to secure a letter of credit prior to agreeing to the terms and conditions of the contract requiring a letter of credit. If the PPUC had planned earlier and found its limitations to obtain a letter of credit, it could have considered other means, which it did so after exhausting all efforts to fulfill the letter of credit condition, needlessly prolonging the delay of work on the Wastewater Treatment Plant for up to 10 months and incurring substantial costs therewith.

Recommendation: We recommend that the PPUC makes project planning an essential component of its projects. Project planning is the most critical starting point of any project that allows project administrators to identify and assess, among other things, the financial aspects of the project, which, per the KASP, would include an assessment of the PPUC's capacity to execute specific deliverables before committing to such obligations in a contract. In this instance, PPUC committed itself to a contract calling for the issuance of a letter of credit for which it (PPUC) did not have the resources to deliver on and which ADB denied PPUC the funds to use as collateral for the letter of credit, thereby rendering PPUC's non-performance on its contractual obligations, delaying the project and substantially increasing its cost.

PPUC-KASP Response: *PPUC concurs. For future projects, the corporation should ensure that funds are available for security or bonding requirements before the contract signing.*

OPA’s Comments: The OPA has no further comments.

Finding No. 11: Changes to KASP Projected Completion Dates

Criteria: The Koror-Airai Sanitation Project (KASP) was implemented via the execution of three (3) separate contracts incorporating the three main components of the KASP: ICB-01: Sewer Network Rehabilitation and Expansion Works at Malakal and Meyuns Area, ICB-02: Sewer Network Rehabilitation and Expansion Works at Koror, and ICB-03: Sewage Treatment Plant Upgrade in Malakal. Each contract had a starting and completion date as follows:

Project Description	Contractor	Contract Amount	Starting Date	Projected Completion Date
ICB-01:Sewer Network Rehabilitation And Expansion Works at Malakal and Meyuns Area	Progetti Plant S.r.l	\$5,969,535.35	September 2016	March 2018
ICB-02: Sewer Network Rehabilitation and Expansion Works at Koror	Pacific Engineering Project Ltd.	\$4,672,999.86	September 2016	December 2017
ICB03: Sewage Treatment Plant Upgrade in Malakal	Pacific Engineering Project Ltd	\$9,605,780.53	March 2017	December 2018

Note: ICB-03’s Starting and Completion Dates above were tentative pending Change Order no. 1 and the fulfilment of the letter of credit contractual obligation by PPUC.

Condition: The audit revealed that each component of the KASP (ICB-01, ICB-02 and ICB-03) faced multiple delays during the pre-construction and construction phases of the project. The PPUC provides two options to grant time extensions: (1) Variation Order (VO) and (2) Construction Program (or Schedule) Update. We found that all three civil contracts did not meet their original projected completion dates; thus, compelling PPUC and contractors to execute multiple Variation Orders and Construction Program Updates to revise and extend the completion dates of each component, as shown in Table 6 below.

Table 6: KASP Completion Dates

Contract	Original Project Completion Date	VO #	VO Revision/Extension of Project Completion Date	Revision/Extension of Project Completion Date Per Construction Program Update	Total Extensions in days	Total Extensions in Years
ICB-01	3/23/2018	VO 7	8/27/2018	7/31/2019	495	1.36
ICB-02	12/28/2017	VO 2	8/31/2018	7/31/2019	580	1.59
ICB0-3	12/28/2018	VO 1	October 2019	2/7/2021	944	2.59

In the case of ICB-01, the original projected completion date was March 23, 2018; however, due to various circumstances causing delays (listed below), the PPUC and contractor executed Variation Order # 7 (VO 7) to revise and extend the completion date to August 27, 2018. Following the extension, work continued on ICB-01, however, contractor again was not able to meet the revised completion date of August 27, 2018 and submitted a time extension request supported by a Construction Program Update proposing to extend the completion date to July 31, 2019, which PPUC concurred to. Please refer to Appendix 2: KASP Time Extension, Page 40, for detailed time extensions for ICB-01. Following the second extension, a contract dispute arose between the PPUC and the contractor and eventually the contractor was terminated from ICB-01 on October 10, 2019. Efforts are presently underway by the PPUC to complete the unfinished work on ICB-01 under a re-bid package “Contract No. PAL 3060/61-KASP-Works ICB-05, Completion of Pumping Stations and Force Mains at Koror and Malakal.”



SPS 1, CIP Area (Unfinished under ICB-01, Rebid under ICB-05)

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For ICB-02, the original projected completion date was December 28, 2017; however, due to various circumstances causing delays (listed below), contractor requested time extension and the PPUC and contractor executed Variation Order #2 (VO 2) revising and extending the completion date to August 31, 2018. Following the extension, work continued on ICB-02; however, contractor again failed to meet the agreed completion date of August 31, 2018 and a subsequent revised completion date was agreed to July 31, 2019. Please refer to Appendix 2: KASP Time Extension, Page 40, for detailed time extensions for ICB-02. The ICB-02 is currently regarded as complete, and the PPUC issued a Certificate of Completion of Works on October 12, 2020, with a companion punch list of minor items projected to be completed by December 2020.

With respect to ICB-03, the tentative projected completion date was December 28, 2018, based on the contract condition that PPUC secures a Letter of Credit in favor of the contractor by March 2017; the effective date upon which the projected completion date would be based. The PPUC however was unable to secure a Letter of Credit, as explained in Finding No. 10, and, instead, executed Change Order No. 1 with the contractor to cure the letter of credit condition and therewith establish an effective date of February 5, 2018; thus, setting the projected completion date of October 2019. However, the contractor failed to meet the set completion date and submitted a revised Construction Program Update with a projected completion date of February 7, 2021. Please refer to Appendix 2, Page 40, for detailed time extension for ICB-03.

Effect: Although the overall timeline for KASP’s expected completion is February 2022, which included Airai, we found that each component of the KASP was delayed as follows:

ICB-01: delayed 495 days or 1.36 years based on the original completion date, Mar. 23, 2018.

ICB-02: delayed 580 days or 1.59 years based on the original completion date, Dec. 28, 2017.

ICB-03: delayed 944 days or 2.59 years based on the original completion date, Dec. 28, 2018.

In addition, as a result of protracted delays, contractors for ICB-01 and ICB-02 submitted requests for time extensions accompanied by claims for operations costs. For ICB-03, the contractor submitted requests for time extensions accompanied by claims for loss of opportunity. The claims were approved by the PPUC as shown in Table 7 below:

Table 7: Time Extension/Contractor Claims

Contract	VO #	Reason for Variation Order (VO)	VO Amount
ICB-01	VO# 7	Extension of time, Contractor claim for Operations Costs	\$ 350,000.00
ICB-02	VO# 2	Extension of time, Contractor Claim for Operations Costs	\$ 400,844.10
ICB0-3	VO# 4	Extension of time, Contractor Claim for Loss of Opportunity	\$ 796,286.00
Total			\$ 1,547,130.10

Note: The amounts are the same as those reported in Finding No. 1 and Finding No. 5.

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Cause: The cause of delays for ICB-01, ICB-02, and ICB-03 are described below:

ICB-01:

1. Work Site Access constraints
2. Unidentified Explosive Ordinance found in work areas (trenches)
3. Shortage of Materials (Sand & Aggregate)

These conditions were accommodated through Variation Order # 7 (VO 7).

ICB-02:

1. Work Site Access constraints
2. Revision of Site layout by PPUC
3. Revision of Pipe route by PPUC
4. Unidentified underground obstacles (PNCC wires, water pipes, rocks, underground water levels)
5. Changes in ICB-01 affecting contractor's schedule
6. Delay in Advance Payment

These conditions were accommodated through Variation Order # 2 (VO 2).

ICB-03:

1. PPUC's inability to deliver on the Letter of Credit contract condition.
2. Delay in establishing the contract Effective Date
3. Late Payments (suspension of works and procurement activities)

These conditions were accommodated through Variation Order # 1 (VO 1).

Each of the above-described causes of delays were beyond the control and responsibility of the contractor; nevertheless, affecting the timeline of each project and the overall timeline of the KASP. Furthermore, there were no detailed explanations for time extensions to support Construction Program Updates.

Recommendation: We recommend that for future capital infrastructure or improvement projects, PPUC develop a Project Plan for the projects. Capital infrastructure projects require significant capital investments such that proper planning is critical to guide the implementation and administration of the project from the planning phase to build-up to implementation and closure. For the KASP in particular, although a Project Administration Manual (PAM) was created to provide detailed guidelines for the administration of the project, including a designated Project Management Unit to manage the Project, the PAM did not include detailed plans of preliminary works (planning) that must be accomplished to prepare the project for the construction phase. For example, there were no detailed plans on securing project sites, logistics to prepare project sites for actual construction work, availability of materials, capacity of PPUC to administer the KASP, capacity of PPUC to deliver on the letter of credit obligation, etc. In addition, the underlying concept reports for the KASP including the Sanitation Development

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Feasibility Study, the Sanitation Master Plan Study and the Inception Report did not specifically address these key issues that are critical to the KASP implementation. These are basic planning and logistical issues that are critical to any project the failure of which can cause major delays and other problems during project execution. Project planning is the most critical component of any project, especially a major infrastructure project such as KASP, and PPUC should have given planning more time and attention to ensure that land use rights and public support are obtained to project sites, obstructions are demolished and removed, fallback options are identified, and such other preliminary efforts to minimize delays before and during project implementation.

PPUC-KASP Response: *PPUC relied on the expertise and the recommendations of the consultant. Although the project completion dates were delayed, the primary factors for the delay were mostly due to unforeseen site conditions, lack of materials, and to this day, COVID.*

Although PPUC had made changes to the original completion date, based on the new timeline, we are currently on schedule.

OPA's Comments: Along the same line of reasoning reported elsewhere in this report, the PPUC should have hired its own expertise to carry out and advance its interest from the start of the KASP to finish. Ideally, the PPUC's experts, with a completed KASP Project Plan developed by the PPUC, would work with the PIAC to implement the plan, taking into consideration the PIAC's advise throughout project implementation.

The delays caused by site conditions, lack of materials, etc., were unforeseen to a large extent by lack of and/or weaknesses in planning, COVID exempted.

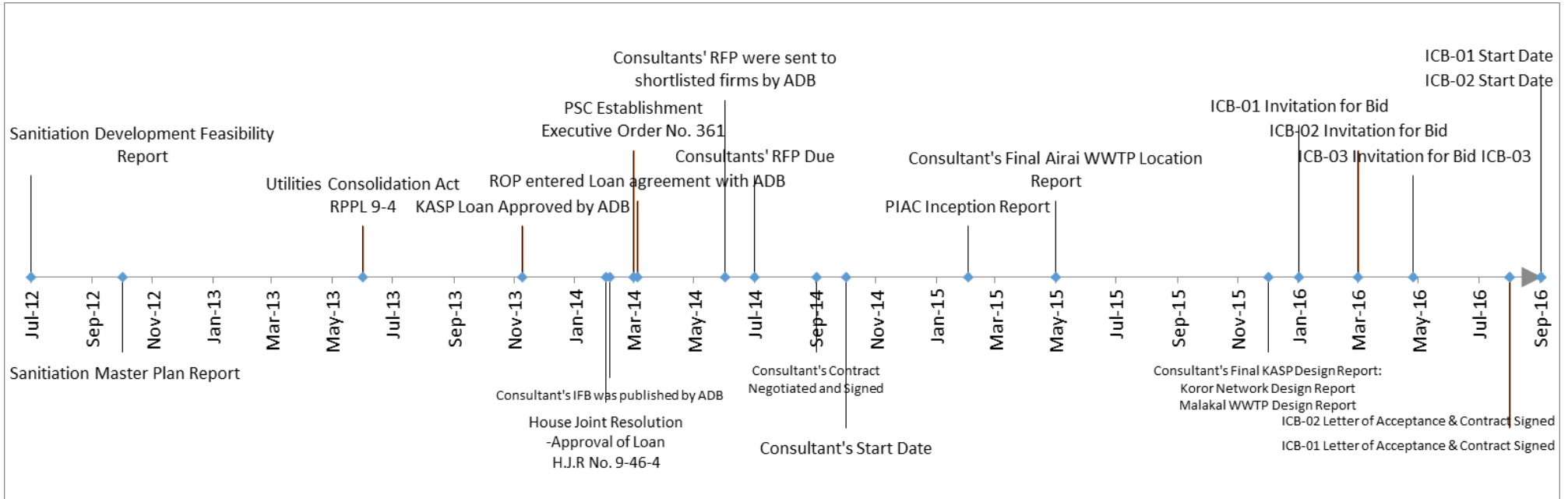
Finally, the Office of the Public Auditor would like to thank the staff and management of the PPUC and the Koror-Airai Sanitation Project for their professional courtesy and cooperation during this audit.

Sincerely,

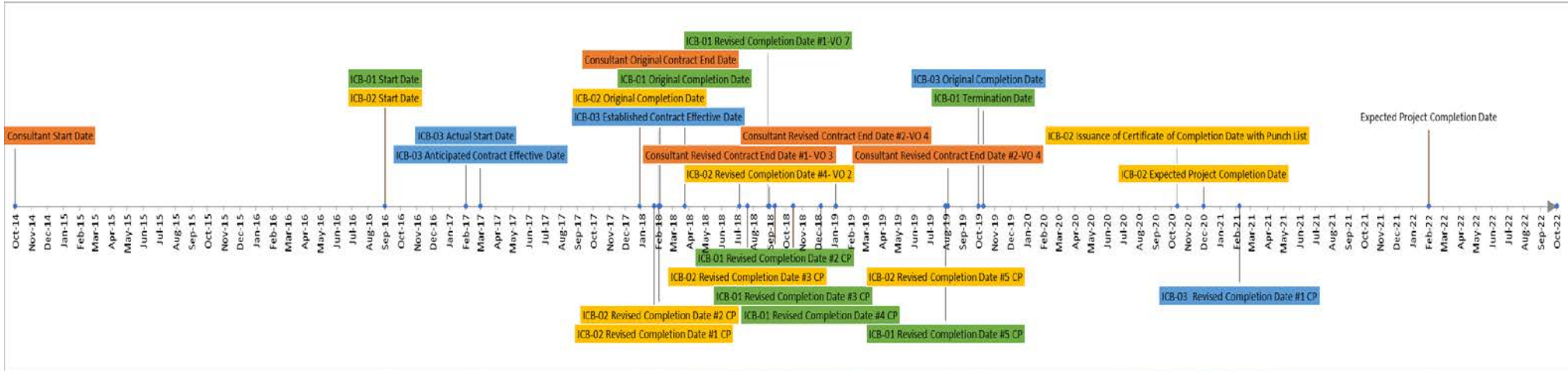


Satrunino Tewid
Acting Public Auditor

Appendix 1: Preliminary Activities Timeline



Appendix 2: KASP Time Extensions



Consultant		ICB-01		ICB-02		ICB-03	
Start Date	Oct-14	Start Date	Sep-2016	Start Date	Sep-2016	Actual Start Date	Feb-2017
Original Contract End Date	Feb-2018	Original Completion Date	Mar-2018	Original Completion Date	Dec-2017	Anticipated Contract Effective Date	Mar-2017
Revised Contract End Date #1 (VO 3)	Jul-2018	Revised Completion Date #1 (VO 7)	Aug-2018	Revised Completion Date #1 CP	Jan-2018	Established Contract Effective Date	Feb-2018
Revised Contract End Date #2 (VO 4) Firm Phase	Jan-2019	Revised Completion Date #2 CP	Sep-2018	Revised Completion Date #2 CP	Feb-2018	Original Completion Date	Oct-2019
Revised Contract End Date #2 (VO 4) Conditional Phase	Aug-2019	Revised Completion Date #3 CP	Oct-2018	Revised Completion Date #3 CP	Jul-2018	Revised Completion Date #1 CP	Feb-2021
		Revised Completion Date #4 CP	Dec-2018	Revised Completion Date #4 (VO 2)	Aug-2018		
		Revised Completion Date #5 CP	Jul-2019	Revised Completion Date #5 CP	Jul-2019		
		Termination Date	Oct-2019	Issuance of Certificate of Completion Date with Punch List	Oct-2020		
				Expected Project Completion Date	Dec-2020		

KASP Expected Completion Date: February 2022

Note: Contract Completion Date can be revised/extended via Variation Order (VO) or Construction Program Update (CP), as indicated in the above Time Extensions.



**ILLEGAL OR WASTEFUL ACTIVITIES
SHOULD BE REPORTED TO:**

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7:30 a.m. - 4:30 p.m.**

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