

**Independent Public Business Corporation
The Independent State of Papua New Guinea**

**DETAILED DESIGN (PHASE 2)
ON
PORT MORESBY SEWERAGE SYSTEM
UPGRADING PROJECT
IN
THE INDEPENDENT STATE OF
PAPUA NEW GUINEA**

FINAL REPORT

PART II: Bidding Documents

PQ Application Documents

December 2011

JAPAN INTERNATIONAL COOPERATION AGENCY

NJS CONSULTANTS CO., LTD.

Invitation for Prequalification (IFP)

[- Insert: Date -]

Independent State of Papua New Guinea

Japanese ODA Loan No.PN-P9

Port Moresby Sewerage System Upgrading Project

1. The Government of the Independent State of Papua New Guinea has received a Loan from Japan International Cooperation Agency toward the cost of the Port Moresby Sewerage System Upgrading Project under the Loan Agreement between these parties signed on 29 January 2010. It is intended that part of the proceeds of this Loan will be applied to eligible payments for which this Invitation for Prequalification is issued.
2. The Independent Public Business Corporation (IPBC) (hereinafter referred to as “the Employer”) intends to prequalify contractors and/or firms undertaking a complete package of works for the aforesaid project (hereinafter referred to as the “Project”) comprising the following six components:
 - (a) Construction of sewer network; comprising trunk sewer pipelines and branch sewer pipelines in a total length of approximately 35km,
 - (b) Construction/rehabilitation of 17 pumping stations (PS),
 - (c) Construction of a Sewage Treatment Plant (STP) with a treatment capacity of 18,400m³/day, including the construction of ocean outfall in a length of approximately 1.4km for discharging treated effluent from STP,
 - (d) Execution of a “Pilot Project” for providing water supply and sewerage facilities to a block of selected 20 houses built on the sea at Hnuabada village,
 - (e) Procurement of vehicles to be used for the operation and maintenance of the sewerage system, and
 - (f) Executing a “Social and Environmental Consideration Programme” aiming to maximize the benefits that can be derived from the Pilot Project in the near-shore village inhabitants and also preventing HIV/ AIDS from spreading.
3. It is expected that Invitation for Bids will be made in *[- insert month and year -]*.
4. Prequalification will be conducted through prequalification procedures specified in the Guidelines for Procurement under Japanese ODA Loans, March 2009, and is open to all bidders from eligible source countries, as defined hereunder:
 - (1) The eligible nationality of the contractor(s) shall be the following:
 - (a) Japan in the case of the prime contractor, and
 - (b) All countries and areas in the case of sub-contractor(s).
 - (2) With regard to sub-section (1) above, in case where the prime contractor is a joint venture, such joint venture will be eligible provided that the nationality of the lead

partner is Japan, that the nationality of the other partners is Japan and/or the Independent State of Papua New Guinea and that the total share of work of Japanese partners in the joint venture is more than fifty percent (50%) of the contract amount.

- (3) For goods and services, (i) the prime contractor or, in case of a joint venture, the lead partner and other partners regarded as the Japanese partners shall be nationals of Japan or juridical persons incorporated and registered in Japan, and which have their appropriate facilities for producing or providing the goods and services in Japan and actually conduct their business there, and (ii) in case of a joint venture, the partners except Japanese partners shall be nationals of the Independent State of Papua New Guinea or juridical persons incorporated and registered in the Independent State of Papua New Guinea, and which have their appropriate facilities for producing or providing the goods and services in Japan or the Independent State of Papua New Guinea and actually conduct their business there.
5. Interested eligible Applicants may obtain further information from and inspect the Prequalification Documents at the address given below,
- Contact Address: *[- state name and address of the office-]*
 - Office Hours: *[- indicate office hours -]*
6. A complete set of the Prequalification Document may be purchased by interested Applicant(s) on the submission of a written application to the address below and upon payment of a nonrefundable fee of *[- insert amount in Kina -]* or in *[insert amount in specified convertible currency]*.
7. Applications for prequalification should be submitted in sealed envelopes, delivered to the address below by *[- insert date -]* (not later than 17:00 hours in local time) and be clearly marked “Application to Prequalify for Port Moresby Sewerage System Upgrading Project – Contract No. *[- insert contract no. and name -]*”

[Address for Submission]

[Insert name of office]

[Insert name of person in charge]

[Insert postal address] and/or [Insert street address]

[Insert telephone number, indicate country and city code]

[Insert facsimile or cable number] [Insert E-mail address]

**PREQUALIFICATION
DOCUMENTS**

Issued on: [- *Insert: Date* -]

for

Procurement of

CONTRACT No. [- *insert contract no.* -]

Project:

**Port Moresby Sewerage System Upgrading
Project**

Employer:

**Independent Public Business Corporation
(IPBC)
Independent State of Papua New Guinea**

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PART 1 – Prequalification Procedures

Section I. Instructions to Applicants

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A. General

- 1. Scope of Application**
 - 1.1 In connection with the Invitation for Prequalification indicated in Section II, Prequalification Data Sheet (PDS), the Employer, as **defined in the PDS**, issues the Prequalification Documents (SPD) to Applicants interested in bidding for the Works described in Section VI, Scope of Works. The reference identification number of the contract, if any, is **provided in the PDS**.
- 2. Source of Funds**
 - 2.1 The Borrower **indicated in the PDS** has received a Japanese ODA Loan from Japan International Cooperation Agency (hereinafter referred to as “JICA”), with the number, in the amount, and on the signed date of the Loan Agreement **indicated in the PDS**, towards the cost of the project **named in the PDS**. The Borrower intends to apply a portion of the proceeds of the loan to eligible payments under the contract(s) resulting from the bidding for which this prequalification is conducted.
 - 2.2 Disbursement of a Japanese ODA Loan by JICA will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and “Guidelines for Procurement under Japanese ODA Loans”. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to loan proceeds.
 - 2.3 The above Loan Agreement will cover only part of the project cost. As for the remaining portion, the Borrower will take appropriate measures for finance.
- 3. Fraud and Corruption**
 - 3.1 It is JICA’s policy to require that Bidders and Contractors, as well as Borrowers under contracts funded with Japanese ODA Loans and other Japanese ODA, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, JICA:
 - (a) will reject a proposal for award if it determine that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
 - (b) will recognize a Bidder or Contractor as ineligible, for a period determined by JICA, to be awarded a contract funded with Japanese ODA Loans if it at any time determines that the Bidder or the Contractor has engaged in corrupt or fraudulent practices in competing for, or in executing another contract funded with Japanese ODA

Loans or other Japanese ODA.

4. Eligible Applicants

- 4.1 An Applicant may be a single entity or any combination of entities in the form of joint venture or association (JVA) with the formal intent, as evidenced by a letter of intent, to enter into an agreement or under an existing agreement. In the case of a JVA,
- (a) **unless otherwise specified in the PDS**, all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms, and
 - (b) the JVA shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the JVA during the prequalification process and, in the event the JVA is prequalified, during the bidding process, and in the event the JVA is awarded the Contract, during contract execution.
- 4.2 An Applicant and all partners constituting the Applicant shall be from an eligible source country as listed in Section V, List of Eligible Countries of Japanese ODA Loans.
- 4.3 An Applicant shall not have a conflict of interest. All Applicants found to have a conflict of interest shall be disqualified from participating in this prequalification process. An Applicant may be considered to have a conflict of interest with one or more parties in this prequalification process if:
- (a) an Applicant has been engaged by the Employer to provide consulting services for the preparation related to procurement for or implementation of the project;
 - (b) an Applicant is any of its associates/affiliates (inclusive of parent firms) mentioned in subparagraph (a) above; or
 - (c) an Applicant lends, or temporarily seconds its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
- 4.4 An Applicant shall submit only one application in the same Prequalification process, either individually as an Applicant or as a partner of a JVA. An Applicant who submits, or participates in, more than one application will cause all the applications in which the Applicant has participated to be disqualified. No Applicant can be a subcontractor while submitting an application individually or as a partner of a JVA in the same Prequalification process. A subcontractor in any

application may participate in more than one application, but only in that capacity.

- 4.5 An Applicant, that has been determined to be ineligible by JICA in accordance with ITA 3, shall not be eligible to be awarded a contract.
- 4.6 Applicants shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 5. Eligible Goods and Related Services**
- 5.1 All Goods and related services to be supplied under the Contract to be financed by JICA shall have their origin in any country in accordance with Section V, List of Eligible Countries of Japanese ODA Loans.

B. Contents of the Prequalification Documents

- 6. Sections of Prequalification Documents**
- 6.1 The documents for the prequalification of Applicants (hereinafter referred to as “Prequalification Documents”) consist of parts 1 and 2 which comprise all the sections indicated below, and should be read in conjunction with any Addendum issued in accordance with ITA 8.

PART 1 Prequalification Procedures

- Section I. Instructions to Applicants (ITA)
- Section II. Prequalification Data Sheet (PDS)
- Section III. Qualification Criteria and Requirements
- Section IV. Application Forms
- Section V. List of Eligible Countries of Japanese ODA Loans

PART 2 Works Requirements

- Section VI. Scope of Works
- 6.2 The “Invitation for Prequalification” issued by the Employer is not part of the Prequalification Documents.
- 6.3 The Employer accepts no responsibility for the completeness of the Prequalification Documents and its addenda unless they were obtained directly from the Employer.
- 6.4 The Applicant is expected to examine all instructions, forms, and terms in the Prequalification Documents and to furnish all information or documentation required by the Prequalification Documents.

- 6.5 General information on the climate, hydrology, topography, access to site, transportation and communications facilities, medical facilities, project layout, expected construction period, and other services and facilities to be provided by the Employer is furnished in Section VI, Scope of Works.
- 7. Clarification of Prequalification Documents**
- 7.1 A prospective Applicant requiring any clarification of the Prequalification Documents shall contact the Employer in writing at the Employer's address **indicated in the PDS**. The Employer will respond in writing to any request for clarification provided that such request is received no later than fourteen (14) days prior to the deadline for submission of applications. The Employer shall forward copies of its response to all Applicants who have acquired the Prequalification Document directly from the Employer including a description of the inquiry but without identifying its source. Should the Employer deem it necessary to amend the Prequalification Document as a result of a clarification, it shall do so following the procedure under ITA 8 and in accordance with the provisions of ITA 17.2.
- 8. Amendment of Prequalification Documents**
- 8.1 At any time prior to the deadline for submission of applications, the Employer may amend the Prequalification Documents by issuing addenda.
- 8.2 Any addendum issued shall be part of the Prequalification Documents and shall be communicated in writing to all who have obtained the Prequalification Documents from the Employer.
- 8.3 To give prospective Applicants reasonable time to take an addendum into account in preparing their applications, the Employer may, at its discretion, extend the deadline for the submission of applications.

C. Preparation of Applications

- 9. Cost of Applications**
- 9.1 The Applicant shall bear all costs associated with the preparation and submission of its application. The Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the prequalification process.
- 10. Language of Application**
- 10.1 The application as well as all correspondence and documents relating to the prequalification exchanged by the Applicant and the Employer, shall be written in the language **specified in the PDS**. Supporting documents and printed literature that are part of the application may be in another language, provided they

are accompanied by an accurate translation of the relevant passages in the language **specified in the PDS**, in which case, for purposes of interpretation of the application, the translation shall govern.

- 11. Documents Comprising the Application**
- 11.1 The application shall comprise the following:
- (a) Application Submission Form, in accordance with ITA 12;
 - (b) documentary evidence establishing the Applicant's eligibility to prequalify, in accordance with ITA 13;
 - (c) documentary evidence establishing the Applicant's qualifications, in accordance with ITA 14; and
 - (d) any other document required as **specified in the PDS**.
- 12. Application Submission Form**
- 12.1 The Applicant shall prepare an Application Submission Sheet using the form furnished in Section IV, Application Forms. This Form must be completed without any alteration to its format.
- 13. Documents Establishing the Eligibility of the Applicant**
- 13.1 To establish its eligibility in accordance with ITA 4, the Applicant shall complete the eligibility declarations in the Application Submission Form and Forms ELI (eligibility) 1.1 and 1.2, included in Section IV, Application Forms.
- 14. Documents Establishing the Qualifications of the Applicant**
- 14.1 To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Applicant shall provide the information requested in the corresponding forms included in Section IV, Application Forms.
- 15. Signing of the Application and Number of Copies**
- 15.1 The Applicant shall prepare one original of the documents comprising the application as described in ITA 11 and clearly mark it "ORIGINAL". The original of the application shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Applicant.
- 15.2 The Applicant shall submit copies of the signed original application, in the number **specified in the PDS**, and clearly mark them "COPY". In the event of any discrepancy between the original and the copies, the original shall prevail.

D. Submission of Applications

- 16. Sealing and Identification of Applications**
- 16.1 The Applicant shall enclose the original and the copies of the application in a sealed envelope that shall:
- (a) bear the name and address of the Applicant;
 - (b) be addressed to the Employer, in accordance with ITA 17.1; and
 - (c) bear the specific reference identification number of this prequalification process, if any, indicated in PDS 1.1.
- 16.2 The Employer will accept no responsibility for not processing any envelope that was not identified as required.
- 17. Deadline for Submission of Applications**
- 17.1 Applicants may always submit their applications by mail or by hand. Applications shall be received by the Employer at the address and no later than the deadline **indicated in the PDS**. A receipt will be given for all applications submitted.
- 17.2 The Employer may, at its discretion, extend the deadline for the submission of applications by amending the Prequalification Documents in accordance with ITA 8, in which case all rights and obligations of the Employer and the Applicants subject to the previous deadline shall thereafter be subject to the deadline as extended.
- 18. Late Applications**
- 18.1 The Employer reserves the right to accept or reject late applications.
- 19. Opening of Applications**
- 19.1 The Employer shall prepare a record of the opening of applications that shall include, as a minimum, the name of the Applicant. A copy of the record shall be distributed to all Applicants.

E. Procedures for Evaluation of Applications

- 20. Confidentiality**
- 20.1 Information relating to the evaluation of applications, and recommendation for prequalification, shall not be disclosed to Applicants or any other persons not officially concerned with such process until the notification of prequalification is made to all Applicants.
- 20.2 From the deadline for submission of applications to the time of notification of the results of the prequalification in accordance with ITA 28, any Applicant that wishes to contact the Employer on any matter related to the prequalification process, may do so but only in writing.

- 21. Clarification of Applications**
- 21.1 To assist in the evaluation of applications, the Employer may, at its discretion, ask any Applicant for a clarification of its application which shall be submitted within a stated reasonable period of time. Any request for clarification and all clarifications shall be in writing.
- 21.2 If an Applicant does not provide clarifications of the information requested by the date and time set in the Employer's request for clarification, its application may be rejected.
- 22. Responsiveness of Applications**
- 22.1 The Employer may reject any application which is not responsive to the requirements of the Prequalification Documents.
- 23. Subcontractors**
- 23.1 Applicants planning to subcontract any of the key activities indicated in Section III, Qualification Criteria and Requirements, shall specify the activity(ies) or parts of the Works to be subcontracted in the Application Submission Form. Applicants shall clearly identify the proposed specialist subcontractor(s) in Forms ELI-1.2 and EXP (experience)-4.2(b) in Section IV, Application Forms. Such proposed specialist subcontractor(s) shall meet the corresponding qualification requirements specified in Section III, Qualification Criteria and Requirements.
- 23.2 At this time, the Employer does not intend to execute certain specific parts of the Works by subcontractors selected in advance by the Employer (Nominated Subcontractors) **unless otherwise stated in the PDS.**

F. Evaluation of Applications and Prequalification of Applicants

- 24. Evaluation of Applications**
- 24.1 The Employer shall use the factors, methods, criteria, and requirements defined in Section III, Qualification Criteria and Requirements to evaluate the qualifications of the Applicants. The use of other methods, criteria, or requirements shall not be permitted. The Employer reserves the right to waive minor deviations in the qualification criteria if they do not materially affect the capability of an Applicant to perform the contract.
- 24.2 Only the qualifications of subcontractors that have been identified in the application may be considered in the evaluation of an Applicant. However, the general experience and financial resources of subcontractors may not be added to those of the Applicant for purposes of prequalification of the Applicant.

- 24.3 **Unless otherwise indicated in the PDS**, this prequalification shall be for a single contract.
- 25. Employer’s Right to Accept or Reject Applications**
- 25.1 The Employer reserves the right to accept or reject any application, and to annul the prequalification process and reject all applications at any time, without thereby incurring any liability to Applicants.
- 26. Prequalification of Applicants**
- 26.1 All Applicants, whose applications have been determined to be substantially responsive to the requirements of the Prequalification Documents and who have met or exceeded (“passed”) the specified threshold criteria, shall be prequalified by the Employer.
- 27. Notification of Prequalification**
- 27.1 Once the Employer has completed the evaluation of the applications, it shall notify all Applicants in writing of the names of those Applicants who have been prequalified.
- 28. Invitation for Bids**
- 28.1 Promptly after the notification of the results of the prequalification, the Employer shall invite bids from all the Applicants that have been prequalified.
- 28.2 Bidders may be required to provide a Bid Security acceptable to the Employer in the form and an amount to be specified in the Bidding Documents, and the successful Bidder shall be required to provide a Performance Security to be specified in the Bidding Documents.
- 29. Changes in Qualifications of Applicants**
- 29.1 Any change in the structure or formation of an Applicant after being prequalified in accordance with ITA 26 and invited to bid shall be subject to a written approval of the Employer prior to the deadline for submission of bids. Any such changes shall be submitted to the Employer not later than fourteen (14) days after the date of the Invitation for Bids. Such approval shall be denied if as a consequence of the change;
- (a) the prequalified Applicant, after the change, no longer substantially meets the qualification criteria set forth in Section III, Qualification Criteria and Requirements; or
 - (b) in the opinion of the Employer, a substantial reduction in competition may result.

Section II. Prequalification Data Sheet

Section II. Prequalification Data Sheet

A. General	
ITA 1.1	The reference identification number of this Invitation for Prequalification is: POMSSUP-PQ
ITA 1.1	The name of the Employer is: Independent Public Business Corporation (IPBC)
ITA 2.1	The name of the Borrower is: The Independent State of Papua New Guinea
ITA 2.1	The number of the Loan Agreement is PN-P9. The amount of a Japanese ODA Loan is: Japanese Yen 8,261,000,000.- The signed date of the Loan Agreement is: January 29, 2010
ITA 2.1	The name of the Project is: Port Moresby Sewerage System Upgrading Project
B. Contents of the Prequalification Documents	
ITA 7.1	For clarification purposes only, the Employer's address is: Attention: <i>[insert full name of person in charge]</i> Street Address: <i>[insert street address and number]</i> Floor/Room number: <i>[insert floor and room number, if applicable]</i> City: Port Moresby ZIP Code: <i>[insert postal (ZIP) code, if applicable]</i> Country: Independent State of Papua New Guinea Telephone: <i>[insert telephone number including country and city codes]</i> Facsimile number: <i>[insert fax number including country and city codes]</i> Electronic mail address: <i>[insert E-mail address, if applicable]</i>
C. Preparation of Applications	
ITA 10.1	The language of the application as well as of all correspondence is: English

ITA 11.1 (d)	<p>The Applicant shall submit with its application, the following additional documents:</p> <ul style="list-style-type: none"> ■ Certification of ISO9001 and ISO14001 issued to the applicant and nominated specialist subcontractor(s), if any ■ Company brochure written in English of the applicant and nominated specialist subcontractor(s), if any <p>(Note)</p> <p>**In case of a joint venture or associate, the above documents of all partners should be submitted.</p>
ITA 15.2	<p>In addition to the original, the number of copies to be submitted with the application is: <i>[insert number of copies]</i> (The original should be marked "ORIGINAL" and copies marked "COPY".)</p>
D. Submission of Applications	
ITA 17.1	<p>For application submission purposes only, the Employer's address is:</p> <p>Attention: <i>[insert full name of person in charge]</i></p> <p>Street Address: <i>[insert street address and number]</i></p> <p>Floor/Room number: <i>[insert floor and room number, if applicable]</i></p> <p>City: Port Moresby</p> <p>ZIP Code: <i>[insert postal (ZIP) code, if applicable]</i></p> <p>Country: Independent State of Papua New Guinea</p> <p>Telephone: <i>[insert telephone number including country and city codes]</i></p> <p>Facsimile number: <i>[insert fax number including country and city codes]</i></p> <p>Electronic mail address: <i>[insert E-mail address, if applicable]</i></p> <p>The deadline for application submission is:</p> <p>Date: : <i>[insert date]**</i></p> <p>Time: <i>[insert time, and identify if a.m. or p.m. i.e. 10:30 a.m.]</i></p> <p>(Note)</p> <p><i>**It is recommended to allow at least two months (or 60 days) for the submission of Prequalification Documents.</i></p>
E. Procedures for Evaluation of Applications	
ITA 23.2	<p>At this time the Employer does not intend to execute certain specific parts of the Works by subcontractors selected in advance (Nominated Subcontractors).</p>
F. Evaluation of Applications and Prequalification of Applicants	
ITA 24.3	<p>As stipulated in ITA 1.1, this prequalification exercise shall be for a single contract.</p>

Section III. Qualification Criteria and Requirements

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Qualification Criteria and Requirements

Eligibility and Qualification Criteria		Compliance Requirements					Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
1. Eligibility							
1.1	Nationality	Nationality in accordance with ITA Sub-Clause 4.2	Must meet requirement	Existing or intended JVA must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	Conflict of Interest	No conflicts of interest in ITA Sub-Clause 4.3	Must meet requirement	Existing or intended JVA must meet requirement	Must meet requirement	N/A	Application Submission Form
1.3	JICA Ineligibility	Not having been declared ineligible by JICA, as described in ITA Sub-Clause 4.5	Must meet requirement	Existing JVA must meet requirement	Must meet requirement	N/A	Application Submission Form

Qualification Criteria and Requirements

Eligibility and Qualification Criteria		Compliance Requirements				Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract did not occur within the last two (2) years prior to the deadline for application submission based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the Dispute Resolution Mechanism under the respective contract and where all appeal instances available to the Applicant have been exhausted.	Must meet requirement by itself or as partner to past or existing JVA	N/A	Must meet requirement by itself or as partner to past or existing JVA	N/A	Form CON-2
2.2	Pending Litigation	All pending litigation shall in total not represent more than 50 % of the Applicant's net worth and shall be treated as resolved against the Applicant.	Must meet requirement by itself or as a partner to past or existing JVA	N/A	Must meet requirement by itself or as a partner to past or existing JVA	N/A	Form CON – 2

Qualification Criteria and Requirements

Eligibility and Qualification Criteria		Compliance Requirements					Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
3. Financial Situation							
3.1	Financial Performance	Submission of audited balance sheets or if not required by the law of the Applicant's country, other financial statements acceptable to the Employer, for the last five (5) years to demonstrate the current soundness of the Applicant's financial position and its prospective long term profitability. As the minimum requirement, an Applicant's net worth calculated as the difference between total assets and total liabilities should be positive.	Must meet requirement	N/A	Must meet requirement	N/A	Form FIN – 3.1 with attachments
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of US\$ two hundred ten million (US\$210,000,000.-) equivalent, calculated as total certified payments received for contracts in progress or completed, within the last five (5) years.	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40% of the requirement	Form FIN – 3.2

Qualification Criteria and Requirements

Eligibility and Qualification Criteria		Compliance Requirements					Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
4. Experience							
4.1	General Construction Experience	Experience under construction contracts in the role of contractor, management contractor, or subcontractor, for at least the last five (5) years prior to the application submission deadline, and with activity in at least nine (9) months in each year.	Must meet requirement	N/A	Must meet requirement	N/A	Form EXP – 4.1
4.2 (a)	Specific Construction Experience	Experience exclusively in the role of prime contractor, in at least two (2) contracts** for the works indicated as (A) below and one (1) contract for the works indicated as (B) below respectively within the last ten (10) years, that have been successfully and substantially completed and that are similar to the proposed Works. The similarity shall be based on the physical size, complexity, methods/technology or other characteristics of	Must meet requirement (can be a specialist subcontractor for works “B”)	Must meet requirement (can be a specialist subcontractor for works “B”)	N/A	N/A	Form EXP – 4.2 (a)

Qualification Criteria and Requirements

Eligibility and Qualification Criteria		Compliance Requirements			Documentation		
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
		works as follows: A. onstruction of Sewage Treatment Plant (STP) with the following treatment process and capacity: ■ ewage treatment process: Oxidation Ditch Process or Activated Sludge Process ■ reatment Capacity: 5,000 m ³ /day or larger B. onstruction of sewer pipeline system in a total length of 10km or more (Note) **As for a contract covering the construction of STPs more than one STP, the number of contract can be accounted as per the number of STPs constructed under the					

Qualification Criteria and Requirements

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
		contract.					
4.2 (b)		<p>For the above or other contracts executed during the period stipulated in 4.2 (a) above, a minimum construction experience, as prime contractor or management contractor in completion of at least one (1) STP and also sewer pipeline network construction as indicated in 4.2 (a) above, including testing, commissioning, as well as operation and maintenance training of STP, in a country out of his home country that is situated in conditions similar to the Project site. (Note) The STP shall be one having been operated for more than two years as at the date of deadline for the submission of application for the prequalification.</p>	<p>Must meet requirements (can be a specialist subcontractor for works "B")</p>	<p>Must meet requirements (can be a specialist subcontractor for works "B")</p>	N/A	N/A	Form EXP – 4.2 (b)

Section IV. Application Forms

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Application Submission Form

Date: *[insert day, month, year]*

Reference ID No.: *[insert number, if any]*

To: Independent Public Business Corporation

We, the undersigned, apply to be prequalified for the contract of referenced number and declare that:

- (a) We have examined and have no reservations to the Prequalification Documents, including Addendum(s) No(s), issued in accordance with Instructions to Applicants (ITA) Clause 8: *[insert the number and issuing date of each addendum]*.
- (b) We, including any subcontractors or suppliers for any part of the contract resulting from this prequalification process, have nationalities from eligible countries of Japanese ODA Loans, in accordance with ITA Sub-Clause 4.2: *[insert the nationality of the Applicant, including that of all partners in case of a Joint Venture, and the nationality of each already identified subcontractor and supplier of related services, if applicable]*;
- (c) We, including any subcontractors or suppliers for any part of the contract resulting from this prequalification, do not have any conflict of interest, in accordance with ITA Sub-Clause 4.3;
- (d) We, including any subcontractors or suppliers for any part of the contract resulting from this prequalification, have not been declared ineligible by JICA, in accordance with ITA Sub-Clause 4.5;
- (e) We, in accordance with ITA Sub-Clause 23.1, plan to subcontract the following key activities and/or parts of the Works:

[insert any of the key activities identified in Section III- 4.2 (b) which the Applicant intends to subcontract]

- (f) We understand that you may cancel the prequalification process at any time and that you are neither bound to accept any application that you may receive nor to invite the prequalified Applicants to bid for the contract subject of this prequalification, without incurring any liability to the Applicants, in accordance with ITA Clause 25.

Signed [insert signature(s) of an authorized representative(s) of the Applicant]

Name [insert full name of person signing the application]

In the capacity of [insert capacity of person signing the application]

Duly authorized to sign the application for and on behalf of:

Applicant's name [insert full name of Applicant]

Address [insert street number/town or city/country address]

Dated on [insert day number] day of [insert month], [insert year]

Form ELI -1.1

Applicant Information Form

Date: *[insert day, month, year]*Reference ID No.: *[insert number, if any]*Page *[insert page number]* of *[insert total number]* pages

Applicant's legal name <i>[insert full legal name]</i>
In case of Joint Venture (JV), legal name of each partner: <i>[insert full legal name of each partner in JV]</i>
Applicant's actual or intended country of constitution: <i>[indicate country of Constitution]</i>
Applicant's actual or intended year of constitution: <i>[indicate year of Constitution]</i>
Applicant's legal address in country of constitution: <i>[insert street/ number/ town or city/ country]</i>
Applicant's authorized representative information Name: <i>[insert full legal name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate E-mail address]</i>
Attached are copies of original documents of <input type="checkbox"/> Articles of incorporation or documents of constitution, and documents of registration of the legal entity named above, in accordance with ITA 4.1 and 4.2. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITA 4.1.

Form ELI -1.2

Applicant Partner Information Form

[The following form shall be filled in for the Applicant's partners including partner(s) of a joint venture, subcontractors, suppliers and other partners]

Date: *[insert day, month, year]*

Reference ID No.: *[insert number, if any]*

Page *[insert page number]* of *[insert total number]* pages

JV Applicant legal name: <i>[insert full legal name]</i>
Applicant Partner's legal name: <i>[insert full legal name of Applicant partners]</i>
Applicant Partner's country of registration: <i>[indicate country of registration]</i>
Applicant Partner's year of constitution: <i>[indicate year of constitution]</i>
Applicant Partner's legal address in country of constitution: <i>[insert street/ number/ town or city/ country]</i>
Applicant Partner's authorized representative information Name: <i>[insert full legal name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate E-mail address]</i>
Attached are copies of original documents of <input type="checkbox"/> Articles of incorporation or documents of constitution, and registration documents of the legal entity named above, in accordance with ITA 4.1 and 4.2.

Form CON – 2 Historical Contract Non-Performance

[The following table shall be filled in for the Applicant and for each partner of a Joint Venture]

Date: *[insert day, month, year]*
 Applicant’s Legal Name: *[insert full name]*
 Applicant’s Party Legal Name :*[insert full name]*
 Reference ID No.: *[insert number, if any]*
 Page *[insert page number]* of *[insert total number]* pages

1. History of Non-Performing Contracts

Non-Performing Contracts			
<input type="checkbox"/> Contract non-performance did not occur during the <i>[number]</i> years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed during the <i>[number]</i> years specified in Section III, Qualification Criteria and Requirements, requirement 2.1			
Year	Non performed portion of contract	Contract Identification	Total Contract Amount (current value, US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for non-performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

2. Pending Litigation

Pending Litigation			
<input type="checkbox"/> No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2 as indicated below.			
Year	Outcome as Percentage of Net Worth	Contract Identification	Total Contract Amount (current value, US\$ equivalent)
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i>	<i>[insert amount]</i>

Form FIN – 3.1 Financial Situation

[The following table shall be filled in for the Applicant and for each partner of a Joint Venture]

Date: *[insert day, month, year]*
 Applicant’s Legal Name: *[insert full name]*
 Applicant’s Party Legal Name: *[insert full name]*
 Reference ID No.: *[insert number, if any]*
 Page *[insert page number]* of *[insert total number]* pages

1. Financial data

Historic Information for Previous <i>[insert number]</i> years, <i>[insert in words]</i> (US\$ Equivalent)				
Year 1	Year 2	Year 3	Year 4	Year 5

Information from Balance Sheet

Total Assets (TA)					
Total Liabilities (TL)					
Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					

Information from Income Statement

Total Revenue (TR)					
Profits Before Taxes (PBT)					
Profits After Taxes (PAT)					

2. Financial documents

The Applicant and its partners shall provide copies of the balance sheets and/or financial statements for *[number]* years pursuant to Section III, Qualifications Criteria and Requirements, Sub-factor 3.1. The financial statements shall:

- (a) reflect the financial situation of the Applicant or partner to a JV, and not sister or parent companies.
 - (b) be audited by a certified accountant.
 - (c) be complete, including all notes to the financial statements.
 - (d) correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).
- Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the *[number]* years, as indicated above, and complying with the requirements.

Form FIN - 3.2 Average Annual Construction Turnover

[The following table shall be filled in for the Applicant and for each partner of a Joint Venture]

Date: *[insert day, month, year]*
 Applicant's Legal Name: *[insert full name]*
 Applicant's Party Legal Name: *[insert full name]*
 Reference ID No.: *[insert number, if any]*
 Page *[insert page number]* of *[insert total number]* pages

Annual Turnover Data (Construction only)			
Year	Amount and Currency	Exchange Rate	US\$ Equivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>	<i>[insert applicable exchange rate]</i>	<i>[insert amount in US\$ equiv.]</i>
Average Annual Construction Turnover *			

* Average Annual Construction Turnover calculated as total certified payments received for work in progress or completed, divided by the number of years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 3.2.

Form EXP - 4.1 General Construction Experience

[The following table shall be filled in for the Applicant and for each partner of a Joint Venture]

Date: *[insert day, month, year]*
 Applicant's Legal Name: *[insert full name]*
 Applicant's Party Legal Name: *[insert full name]*
 Reference ID No.: *[insert number, if any]*
 Page *[insert page number]* of *[insert total number]* pages

[Identify contracts that demonstrate continuous construction work over the past [number] years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 4.1. List contracts chronologically, according to their commencement (starting) dates.]

General Construction Experience			
Starting Month / Year	Ending Month / Year	Contract Identification	Role of Applicant
<i>[indicate month/ year]</i>	<i>[indicate month/ year]</i>	Contract name: <i>[insert full name]</i> Brief description of the Works performed by the Applicant: <i>[describe Works performed briefly]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Contractor" or "Management Contractor" or "Subcontractor"]</i>

Form EXP - 4.2(a)

Specific Construction Experience (a)

[The following table shall be filled in for contracts performed by the Applicant, each partner of a Joint Venture.]

Date: *[insert day, month, year]*

Applicant's Legal Name: *[insert full name]*

Applicant's Party Legal Name: *[insert full name]*

Reference ID No.: *[insert number, if any]*

Page *[insert page number]* of *[insert total number]* pages

Fill up one (1) form per contract.

Contract of Similar Size and Nature			
Similar Contract No.	Information		
<i>[insert number] of [insert number of similar contracts required]</i>			
Contract Identification	<i>[insert contract name and Reference ID number, if applicable]</i>		
Award Date	<i>[insert day, month, year, i.e., 15 June, 2015]</i>		
Completion Date	<i>[insert day, month, year, i.e., 03 October, 2017]</i>		
Role in Contract	Prime Contractor Only		
Total Contract Amount	<i>[insert total contract amount in US\$]</i>		
If partner in a JV, specify participation in total contract amount	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"><i>[insert a percentage amount]</i></td> <td style="width: 50%; padding: 5px;"><i>[insert total contract amount in US\$]</i></td> </tr> </table>	<i>[insert a percentage amount]</i>	<i>[insert total contract amount in US\$]</i>
<i>[insert a percentage amount]</i>	<i>[insert total contract amount in US\$]</i>		
Employer's Name:	<i>[insert full name]</i>		
Address:	<i>[indicate street / number / town or city / country]</i>		
Telephone/Fax Number:	<i>[insert telephone/fax numbers, including country and city area codes]</i>		
E-mail:	<i>[insert E-mail address, if available]</i>		

Form EXP - 4.2(a) (cont.)
Specific Construction Experience (a) (cont.)

Similar Contract No. <i>[insert number] of [insert number of similar contracts required]</i>	Information
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
A. For Contract of Work "A"	
1. Amount of Works	<i>[insert amount in US\$]</i>
2. Physical Size (Treatment Capacity of the Constructed STP)	<i>[insert treatment capacity of the constructed STP in m³/day]</i>
3. Location of the Constructed STP	<i>[insert the name of location, city and country]</i>
4. Methods/Technology (Treatment Process of the Constructed STP)	<i>[insert the common name of treatment Process/method adopted for the constructed STP]</i>
5. Other Associated Works performed	<i>[insert description of other associated works performed, such as testing, commissioning, operation & maintenance training, if any]</i>
B. For Contract of Work "B"	
1. Amount of Works	<i>[insert amount in US\$]</i>
2. Physical Size (Total Length of Constructed Sewers)	<i>[insert total length of constructed sewers by category of sewers (trunk sewers or branch sewers; materials and diameter of pipes)]</i>
3. Location of the Constructed STP	<i>[insert the name of location, city and country]</i>
4. Methods/Technology (Method used for pipe laying)	<i>[insert description of methods used for pipe laying]</i>
5. Other Associated Works performed	<i>[insert description of associated works performed, if any]</i>

(Note) Fill applicable items either A or B.

Form EXP - 4.2(b) Specific Construction Experience (b)

Date: *[insert day, month, year]*
 Applicant's Legal Name: *[insert full name]*
 Applicant's Party Legal Name: *[insert full name]*
 Subcontractor's Legal Name (as per ITA 23.1) *[insert full name]*
 Reference ID No.: *[insert number, if any]*
 Page *[insert page number]* of *[insert total number]* pages

Fill up one (1) form per contract.

1. Key Activity No. (1) ____: *[insert brief description of the Activity, emphasizing its specificity]*

Contract with Similar Key Activities			
Item	Information		
Contract Identification	<i>[insert contract name and number, if applicable]</i>		
Award Date	<i>[insert day, month, year, i.e., 15 June, 2015]</i>		
Completion Date	<i>[insert day, month, year, i.e., 03 October, 2017]</i>		
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total Contract Amount	<i>[insert total contract amount in US\$]</i>		
If partner in a JV or subcontractor, specify participation of total contract amount	<i>[insert a percentage amount]</i>	<i>[insert total contract amount in US\$]</i>	
Employer's Name:	<i>[insert full name]</i>		
Address:	<i>[indicate street / number / town or city / country]</i>		
Telephone/Fax Number:	<i>[insert telephone/fax numbers, including country and city area codes]</i>		
E-mail:	<i>[insert E-mail address, if available]</i>		

Form EXP - 4.2 (b) (cont.)
Specific Construction Experience (b) (cont.)

Similar Contract No. <i>[insert number] of [insert number of similar contracts required]</i>	Information
Description of Works	
A. For Contract of Work "A"	
1. Amount of Works	<i>[insert amount in US\$]</i>
2. Physical Size (Treatment Capacity of the Constructed STP)	<i>[insert treatment capacity of the constructed STP in m³/day]</i>
3. Location of the Constructed STP	<i>[insert the name of location, city and country]</i>
4. Methods/Technology (Treatment Process of the Constructed STP)	<i>[insert the common name of treatment Process/method adopted for the constructed STP]</i>
5. Other Associated Works performed	<i>[insert description of other associated works performed, such as testing, commissioning, operation & maintenance training, if any]</i>
B. For Contract of Work "B"	
1. Amount of Works	<i>[insert amount in US\$]</i>
2. Physical Size (Total Length of Constructed Sewers)	<i>[insert total length of constructed sewers by category of sewers (trunk sewers or branch sewers; materials and diameter of pipes)]</i>
3. Location of the Constructed STP	<i>[insert the name of location, city and country]</i>
4. Methods/Technology (Method used for pipe laying)	<i>[insert description of methods used for pipe laying]</i>
5. Other Associated Works performed	<i>[insert description of associated works performed, if any]</i>

(Note)

Fill applicable items either A or B.

Duplication with Specific Work Experience (a) is allowed.

PART 2 – Works Requirements

Section VI. Scope of Works

Contents

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Section V. List of Eligible Countries of Japanese ODA Loans

Eligibility for the Provision of Goods, Works and Services in JICA-Financed Procurement

For the provision of goods, works and services with the proceeds of the Japanese ODA Loans (hereinafter referred to as the “Loan”) provided for the Port Moresby Sewerage System Upgrading Project (hereinafter referred to as the “Project”) under the Loan Agreement No. PN-P9 between JICA and the Independent State of Papua New Guinea dated 29th January 2010, all the countries and areas are considered as eligible countries; provided, however, that the following conditions shall be applied:

- (1) The eligible nationality of the contractor(s) or supplier(s) shall be the following:
 - (a) Japan in the case of the prime contractor, and
 - (b) All countries and areas in the case of sub-contractor(s).
- (2) With regard to sub-section (1) above, in case where the prime contractor is a joint venture, such joint venture will be eligible provided that the nationality of the lead partner is Japan, that the nationality of the other partners is Japan and/or the Independent State of Papua New Guinea and that the total share of work of Japanese partners in the joint venture is more than fifty percent (50%) of the contract amount.
- (3) With regard to sub-section (1) and (2) mentioned above,

For goods and services, (i) the prime contractor or, in case of a joint venture, the lead partner and other partners regarded as the Japanese partners shall be nationals of Japan or juridical persons incorporated and registered in Japan, and which have their appropriate facilities for producing or providing the goods and services in Japan and actually conduct their business there, and (ii) in case of a joint venture, the partners except Japanese partners shall be nationals of the Independent State of Papua New Guinea or juridical persons incorporated and registered in the Independent State of Papua New Guinea, and which have their appropriate facilities for producing or providing the goods and services in Japan or the Independent State of Papua New Guinea and actually conduct their business there.
- (4) The total costs of goods and services procured from Japan shall not be less than thirty percent (30%) of the total price of contracts to be financed under Category (A) of the Loan provided for the Project (i.e., Japanese Yen 6,812,000,000).
- (5) With regard to sub-section (4) mentioned above, the goods procured from the eligible local manufacturing company(ies) (hereinafter referred to as the “Eligible Local Manufacturing Company(ies)”) invested by Japanese companies can be regarded and

counted as Japanese origin if such Eligible Local Manufacturing Company(ies) satisfy(ies) the following conditions:

- (a) Juridical persons incorporated and registered in the Independent State of Papua New Guinea, and which have their appropriate facilities for producing or providing the goods and services in the Independent State of Papua New Guinea and actually conduct their business there;
 - (b) Not less than ten percent (10%) of shares are held by a single Japanese company; and
 - (c) The proportion of the shares held by the Japanese company mentioned in (b) above (or the company having the largest share among Japanese companies if more than one Japanese company meets the condition stated in (b) above) is the same as or greater than that of the shares held by any company of a third country.
- (6) With regard to sub-section (4) mentioned above, the goods procured from the eligible development partners' manufacturing company(ies) (hereinafter referred to as the "Eligible Development Partners' Manufacturing Company (ies)") invested by Japanese companies can be regarded and counted as Japanese origin if such Eligible Development Partners' Manufacturing Company(ies) satisfy(ies) the following conditions:
- (a) Juridical persons incorporated and registered in a country or area in DAC List of ODA Recipients effective at the time of conclusion of Loan Agreement and which have their appropriate facilities for producing or providing the goods and services in the country or area and actually conduct their business there;
 - (b) Not less than one-third of shares are held by a single Japanese company; and
 - (c) The proportion of the shares held by the Japanese company mentioned in (b) above (or the company having the largest share among Japanese companies if more than one Japanese company meets the condition stated in (b) above) is the same as or greater than that of the shares held by any company of a third country.

1. Description of the Works

The Port Moresby Sewerage Upgrading Project (hereinafter called “POMSSUP” or “the Project”) is to upgrade and expand the existing sewerage system in Port Moresby, the National Capital District (NCD) of Papua New Guinea (PNG). The Works for the Project broadly comprise the following six components:

1. Construction of sewer network
2. Pumping stations
3. Sewage Treatment Plant (STP)
4. Pilot Project for providing water supply and sewerage services to a block of selected 20 built over the sea at Hanuababa Village
5. Procurement of vehicles to be used for the operation and maintenance of the sewerage system
6. Executing a “Social Environmental Consideration Programme” aiming to maximize the benefits that can be derived from the Pilot Project in the near-shore village inhabitants and also preventing HIV/ AIDS from spreading.

A map showing the overall profile of the Project is given in Figure VI-1.

Outline of the works or activities for the respective component is described hereunder. It is noted, however, that these information are given only for reference and details may be changed at the bidding stage.

1. Construction of sewer network

The sewer network to be constructed under the Project broadly comprise:

- (1) Construction of a trunk sewer pipeline in a total length of approximately 17.7 km, and
- (2) Construction of branch sewer networks in nine districts in a total length of approximately 17.4 km

- (1) Construction of a trunk sewer pipeline

As the sewage service areas are situated in undulating terrains, collected sewages are conveyed to the STP through a trunk sewer pipeline connecting a series of pumping stations built up at several intermediate locations. The trunk sewer pipeline is laid with two types of pipelines; (a) force main pipeline and (b) gravity flow pipeline. HDPE pipes with a diameter ranging from 100mm to 600mm will be used for the force main pipeline in a total length of approximately 15.8 km, whilst uPVC (or HDPE) pipes and RC pipes used for the gravity flow pipeline in a total length of approximately 1.9 km.

- (2) Construction of branch sewer networks

The construction of branch sewer networks will be limited to the construction of collection pipes under public roads and excludes house connection pipes. The sites for these works are widely spread over the town, and pipelines to be laid for these branch sewer networks are as long as approximately 17.4 km in total.

2. Pumping Stations

There are nine existing pumping stations located in the Project areas. The works comprise the construction of 13 new pumping stations and rehabilitation of four existing pumping stations.

3. Sewage Treatment Plant (STP)

The Sewage Treatment Plant (STP) to be constructed under the Project has a treatment capacity of 18,400 m³/day adopting the Oxidation Ditch process for sewage treatment, for which the site is located along the coast of Joyee Bay in Kila Kila district, the coastal area of Port Moresby, the National Capital District (NCD). (see Location Map).

Given below is the design sewage quality of the STP.

	BOD (mg/L)	SS (mg/L)	T-N (mg/L)	Coliform Group (MPN/cm ³)	Oil & Grease (mg/L)
Inflow Sewage	190	180	45	N/A	N/A
Treated Effluent	20	20	20	3,000	10

The Works include, but are not limited to, the construction of the following facilities:

- (1) Complete package of STP plant and off-site facilities
- (2) Access road to the STP site in a length of approximately 1.73 km
- (3) 1.4 km long ocean outfall to discharge treated effluent from the STP

As the ocean outfall crosses coral breeding area in Joyee Bay, the works require special environmental consideration to minimize affect to existing corals, in particular by taking adequate means for preserving existing corals before the construction of the ocean outfall.

4. Pilot Project

The Pilot Project aims to demonstrate the provision of water supply and sewerage services to a block of selected 20 houses among those built over the sea along the coast at Hanuababa Village. (See Figure VI-1.)

Scope of the works for the Pilot Project to be executed under POMSSUP includes, but is not limited to, the followings:

- (1) Installation of water service pipes up to each tap and a water meter in each house, and installation of a bulk meter at a connection point from the public water supply main.
- (2) Installation of a water distribution pipe connecting water service pipes in each house to the existing water distribution pipe.
- (3) Supply and installation of flush toilet basin and sewage collection facilities in each house.
- (4) Installation of sewage and wastewater collection pipes and house connections in each house.

- (5) Installation of a sewer pipe to connect the house connection installed in each house to the trunk sewer pipe that will be constructed under the POMSSUP.
 - (6) Construction of adequate support facilities for the sewer pipe, house connection, water distribution pipe and water service pipe to be installed under the jetty under the Pilot Project.
 - (7) Installation of manholes and other associated works for connecting the sewer pipe to the trunk sewer pipeline, as well as those for connecting the water distribution pipe to the existing water distribution pipe.
5. Procurement of vehicles to be used for the operation and maintenance of the sewerage system

The vehicles to be procured and furnished by the Contractor are as follows:

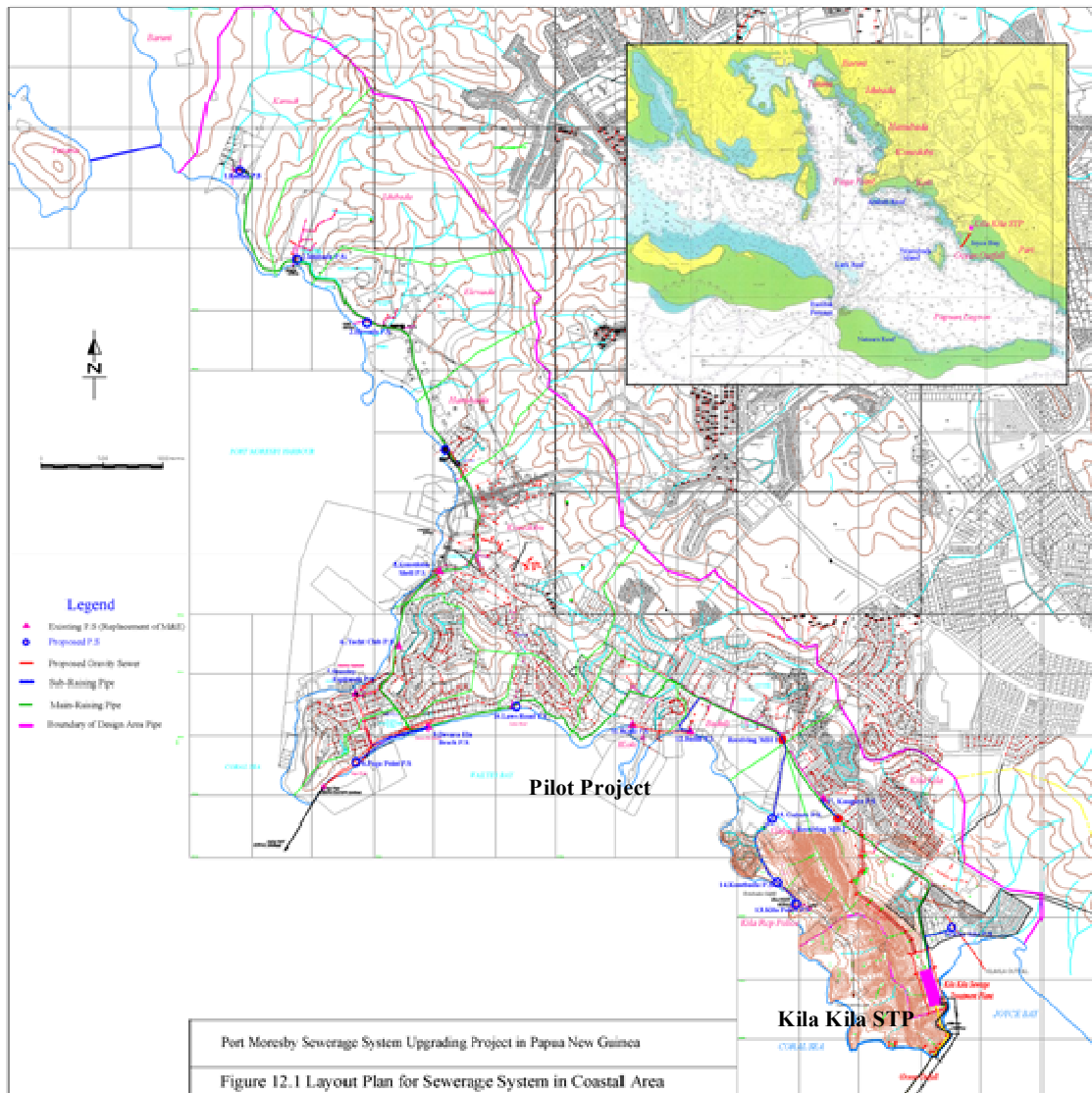
- High-velocity Jet Truck:
- Dump Truck:
- Car equipped with Television Inspection

6. Social and Environmental Consideration Programmes

To execute a “Social and Environmental Consideration Programme” aiming to maximize the benefits that can be derived from the Pilot Project in the near-shore village inhabitants and also preventing HIV/ AIDS from spreading, which comprise:

1. Social and Environmental Education and Dissemination Programme for the 20 households of the Pilot Project area in Hanuabada water village; and
2. HIV/AIDS Preventive Promotion Programme for the construction workers and neighbouring communities

Figure VI-1. Map showing the overall profile of the Project



2. Construction Period

The Contract is required to complete the whole scope of works for POMSSUP as follows:

- Construction Period: 1190 days from the commencement of works (defined as Commencement Date) until taking-over of the whole works by the Employer (defined as Completion Date).
- Defect Notification Period: subsequent 365 days following the Completion Date.

3. Site and Other Data

(1) Project Location

The Project is the upgrading and expansion of the existing sewerage system in Port Moresby. Port Moresby lies in the southeast part of Papua New Guinea (PNG) at longitude 9° 26' south and 147° 13' East. It is the capital of PNG, administratively defined as the National Capital District (NCD), and the centre of political, economic and cultural activities in PNG. Port Moresby is divided into Coastal Areas and Inland Areas. The rocky Coastal Areas have been heavily developed with brisk economic activities, whilst the Inland Areas being less developed with some wide areas reserved for future developments. The Project sites are located in the Coastal Areas of Port Moresby.

(2) Topography and Geology

Port Moresby areas consist of rocky coastal strip and inland valley areas, separated by 100 m to 200 m high ridges. There are few plains in the inland, whilst the coastal areas being occupied by steep areas along the coast with natural drainage towards the sea. The inland area is divided into East and West Region by the North-South boundary. The Western Region gently slopes towards Waigani Swamp whilst the Eastern Region gently sloping towards Laloki River. The geology of the hillside areas indicates widespread calcareous and siliceous mudstone, mostly hard and strong angular, mudstone gravel, and sandy clay overlay the lower slopes. The flatter areas around Konedobu and Badili have soil, which is generally firm plastic clay with some gravel.

(3) Climate

The climate throughout PNG with the exception of the Highlands is tropical. The altitude of the Highlands ameliorates the heat of the tropics and provides a stable warm climate

throughout the year (13°C to 26°C).

In Port Moresby, the climate is determined by the influenced of two surface pressure systems, namely: the Northwest Monsoon (December to April) and the southeast trade winds (May to November) giving wet and dry seasons, respectively. The average temperature ranges from

22°C to 31°C with very little variation throughout the year. The lowest temperature ever

recorded in the city was 10.4°C, and the highest was 36.3°C.

Port Moresby lies in a rain shadow with an average annual rainfall of just over 1,000 mm. There are parts in the Highlands with over 12,000 mm rainfall per year. The historical records of past 67 years before and after World War II indicates the total annual rainfall ranging from 684 mm to 1,732 mm with a mean of 1,019 mm. Most of the rain falls between December and April with February as the wettest month. Rainfall is unpredictable and can be very heavy at this time of the year. Unlike in many tropical countries, the city's rainfall has no regularity - it falls at any time of the day or night.

Humidity is always high; typically above 80% at 9:00 a.m. during the wet season and rarely drops below 60%. The Northwest Monsoon brings occasional "guba", a short and sharp squall, which blows in over Fairfax Harbour. During the south-easterly season, which occurs roughly between May to November, the city becomes very dry, brown and dusty. The south-easterly trade winds blow strongly and almost constantly. Late in the year, there is a period of doldrums, when it is hot and windless. The cycle starts again when the north-westerly rains come as a welcome relief.

(4) Environmental Conditions requiring Particular Consideration

Environmental conditions requiring particular consideration are, among others, the protection of coral breeding in Papuan Lagoon that lies offshore the STP site, because the construction of STP effluent outfall pipe will be laid passing the Papuan Lagoon.

The main area of Papuan Lagoon is divided into three types as follows:

- a) Intertidal area
- b) Coral reef
 - Fringing reef (inshore)
 - Patch reef (mid lagoon)
 - Barrier reef (Offshore)
- c) Other seabed
 - Generally sand with some limited coral or sea grass present

The area is a flooded valley with a fringing coral reef along most of the undeveloped shoreline of the Lagoon. The sub-marine habitats are derived from coral, sand and mudflats. A good example of a fringing reef in the Lagoon is located near Gemo Island. The Eastern Lagoon however is made up of a barrier reef running from Basilisk passage (the main ship entry) southeast when it breaks opposite Pyramid Point which is the entry to Bootless Bay. There is one modestly sized island (Manubada or Local island) offshore from Kila Kila village (the area where the STP to be located) and two smaller islands, inshore and to the north west of Manubada Island.

The lagoon inshore of the Barrier reef to the mainland is a submerged valley about 1km wide near Pyramid Point extending to a width of 4km between Paga Hill and the Basilisk passage. Shallow waters are found near the mainland.

In the eastern Lagoon waters there is a patch reef (shallow underwater island of coral) about 200m offshore from Ela Beach. The water between the beach and the patch reefs is about 15-18 metres deep. Another patch reef (Lark Reef) exists inshore from the Basilisk passage.

The seabed generally is made up of sand, where the barrier, fringing and patch reefs do not occur. This sand bed has some scattered coral growth, based on old coral rubble or some artefacts. The percentages of coral cover vary from practically nothing to over 30% depending upon location.

The inter-tidal fringing reefs of Papuan Lagoon are covered with cobbles, coral and artefacts. The vegetative cover is usually sea-grass and the habitat is occupied by a range of crabs, shellfish and snails. The submerged fringing reef flats also have mud and/or sand, but with more coral rubble present. Below low tide, live coral become more common, especially near the edges of the fringe reef. The most common corals of the fringe found are Porites, Montipora and Diploastrea. The descending slopes are made up of coral rubble, dead coral and live coral, usually Porites and Diploastrea.

The coral reefs of the Lagoon are strongly affected by high levels of sediment, turbidity, nutrient levels and possibly metals and hydrocarbons from the various industrial activities especially in the main harbour.

(5) Supply of utilities

A. Electric Power

Electric power is supplied through the national grid of PNG Power Ltd that is the state power company in PNG. The power supply is 240 V, 50 Hz.

B. Water

City water is supplied by EDA RANU that is the state company operating water supply and sewerage system in the National Capital District.