

Appendix -9. Technical Memorandum

**Technical of Memorandum
on the Preparatory Survey for
the Project for Improvement of Honiara International Airport
in the Solomon Islands**

The Preparatory Survey Team for the Outline Design (hereinafter referred to as “the JICA Team”) of the Preparatory Survey for the Project for Improvement of Honiara International Airport in the Solomon Islands (hereinafter referred to as “the Project”), headed by Takao Yamaguchi, Chief Consultant of the JICA Team had conducted the survey, from May 8 to June 23, 2017. The Study Team held a series of discussions with the officials of the Government of Solomon Islands on the technical result of the survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Honiara, June 22, 2017



Takao Yamaguchi
Chief Consultant
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Moses S. Virivolomo
Permanent Secretary
Ministry of Communication and Aviation
Solomon Islands

ATTACHMENT

1. Facility Layout Plan
 - 1.1 The JICA Team explained preliminary layout plan of the international departure building, a new control tower and ATS building, a new fire station, apron expansion and a new taxiway as attached in Annex 1.
 - 1.2 The Solomon Islands side basically agreed the layout plan.
2. Apron and Taxiways Plan
 - 2.1 The JICA Team explained expansion plan of the apron and construction plan of a new taxiway. There are four parking spots for small size jet such as B737 and A320. Western side of the two parking spots for small size jet will be used for a parking spot for medium size jet such as B767. There are six parking spots for turboprop aircraft, which consists of two spots for DASH-8 and four spots for DHC-6.
 - 2.2 The JICA Team explained a new taxiway is planned at western side of the apron to connect between the apron and the runway. The taxiway is designed based on the ICAO Aircraft Category of 4D.
 - 2.3 Solomon Airlines requested to apply ICAO Code of 4E for taxiway design because Solomon Airlines plans to purchase A330 near future. The JICA Team will study the possibility to apply 4E.
 - 2.4 Both sides agreed to re-name the taxiway. The new taxiway is "A", the existing international taxiway is "B", domestic taxiways are "C" and "D", and the final taxiway is "E".
3. Construction of a new International Departure Building
 - 3.1 As a result of discussions between both sides, it was agreed that a new International Departure Building would be built instead of a new Domestic Passenger Terminal Building, which was agreed in the scope of work of the minutes of discussions signed on 19 May 2017. Tentative layout plan is attached in Annex 2.
 - 3.2 The Solomon Islands side basically agreed the layout plan.
4. Renovation of the Existing Building
 - 4.1 The JICA Team explained that the existing international passenger building would be renovated to international arrival and domestic passenger building. The renovation plan is attached in Annex 3.
 - 4.2 MCA requested to put toilets at the arrival hall before immigration counter because passengers have to wait in the area long time and toilets are necessary. The JICA Team will study the location of the toilets.
5. Existing Control Tower
 - 5.1 During the survey, the JICA Team found severe crack on 2 columns of existing ~~building~~

- control tower. The JICA Team recommended stopping using the control cabin because it is dangerous in case if large-scale earthquake happened.
- 5.2 The Solomon Islands side understood the situation and will move the control cabin to a temporary facility.
6. Electrical and Mechanical System
- 6.1 The JICA Team explained planning policy of electrical and mechanical system as attached in Annex 5.
- 6.2 NZ CAA Aviation Security advisor explained there is a plan to install access control system in Honiara Airport and it is preferable to use Category 6E cable for LAN network because the access control system requires high category cable. The JICA Team noted the requirement.
- 6.3 MCA requested to install discharge point for wastewater from aircraft in the airside,. The JICA Team will study the suitable location.
- 6.4 MCA requested to study possibility to use Solar Power System to save electrical cost. The JICA Team will study and will report to MCA.
7. Air Field Lighting System
- 7.1 The JICA Team explained taxiway edge lights, mandatory information signs, apron flood lights, AFL monitoring and control system, and CCR will be included in the air field lighting system.
- 7.2 The JICA Team explained it is necessary to relocate Aerodrome Beacon from top of the existing control tower to the TX station area.
- 7.3 The Solomon Islands side basically agreed the plan.
8. Control Tower Equipment
- 8.1 The JICA Team explained basic policy of installation of control tower equipment. Scope of control tower equipment is shown in Annex 6.
- 8.2 The JICA Team explained that the JICA Team would not restore or upgrade CNS/ATM equipment procured from INDRA.
- 8.3 The Solomon Islands side basically agreed the plan.
9. Other electrical system
- 9.1 The JICA Team explained that CCTV, FIDS and PAS would be installed in the international departure building and the existing building.
- 9.2 The Solomon Islands side basically agreed the plan.
10. Security Equipment
- 10.1 The JICA Team explained New Zealand Government had been assisted to maintain standards of aviation security level in South Pacific. The JICA Team recommended to install Standard-3 Dual View X-ray equipment with Liquid Explosive Detection

System for cabin baggage screening and Dual View X-ray equipment for hold baggage screening in accordance with the aviation security policy commonly used in international airports in the region.

- 10.2 The JICA Team explained security check with security equipment such as X-ray machine is not applied in most of domestic airports in the region except PNG. The JICA Team explained security check is conducted manually for domestic turboprop aircraft which seats are less than 90 in New Zealand. The JICA Team recommended manual inspection of domestic passengers and cabin baggage without using security equipment in domestic passenger building considering these situations.
- 10.3 The Solomon Islands side agreed the policy of security equipment.
- 11. Flood Mitigation Measure
 - 11.1 The JICA Team explained the plan to construct a dike at the southern side of the runway as flood mitigation measure and details of the dike would be planned after obtaining the results of topographic survey.
 - 11.2 The Solomon Islands side basically agreed the plan.
- 12. Soft Component
 - 12.1 The JICA Team recommended including the soft component to the project. The objective of the soft component is to assist MCA to establish proper maintenance system for pavements, building equipment, AFL and control tower equipment. The outcome of the soft component will be maintenance manual and maintenance procedures.
 - 12.2 The Solomon Islands side agreed to include the soft component.
- 13. UXO Certificate
 - 13.1 The Solomon Islands side and the JICA Team could not find an official document to verify that the UXO survey was conducted in the project site.
 - 13.2 Both sides understand it is not necessary to conduct UXO survey in the project site because this site was used by RAMSI in 2003 as their base and accommodation. The satellite image of the airport in 2003 is attached in Annex 7.
- 14. Environmental Procedure
 - 14.1 The JICA Team explained the schedule of the environmental approval as shown in Annex 8.
 - 14.2 The Solomon Islands side agreed the schedule and will submit the application in accordance with the schedule.
- 15. Temporary Yards
 - 15.1 The JICA Team explained preferable location of the temporary yards in Annex 9. The facility in the temporary yards will include, offices, accommodations, laboratory,

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concrete plant, asphalt plant, crushing plant, material stock yards and car park and road. The required area is approximately 3 ha.

15.2 The Solomon Islands side will survey the possibility of utilization of the area as the temporary yards.

16. Undertakings by Solomon Islands

16.1 Solomon Islands side agreed to undertake the following works.

1) Tax Exemption:

- Import Duty, Sales Tax, Income Tax, etc.

2) VISA and Work Permit exemption for Japanese Staff and Foreign Labor

3) Land Preparation : Temporary Facility Area

- Disposal Area

- Temporary Yards

- Quarry (River Site)

4) Investigation of Unexposed Bomb: Airport and Quarry

5) Demolition of Obstacles:

- Buildings (MCA office at the western side of the passenger building, well house in the new apron area, and catering factory), Electrical Pole and Cable, trees in the airport staff house area

6) Demolition of Existing Control Tower

7) Utility :

- Reinforcement & New Transformers, Usage of Water-supply Main Pipe

- Relocation of power cable in the new control tower and ATS building area

8) Governmental Process:


- Building Permit, Environmental Approval, etc.

9) Others

- Radio Frequency Permission for Microwave Communication

- NOTAM

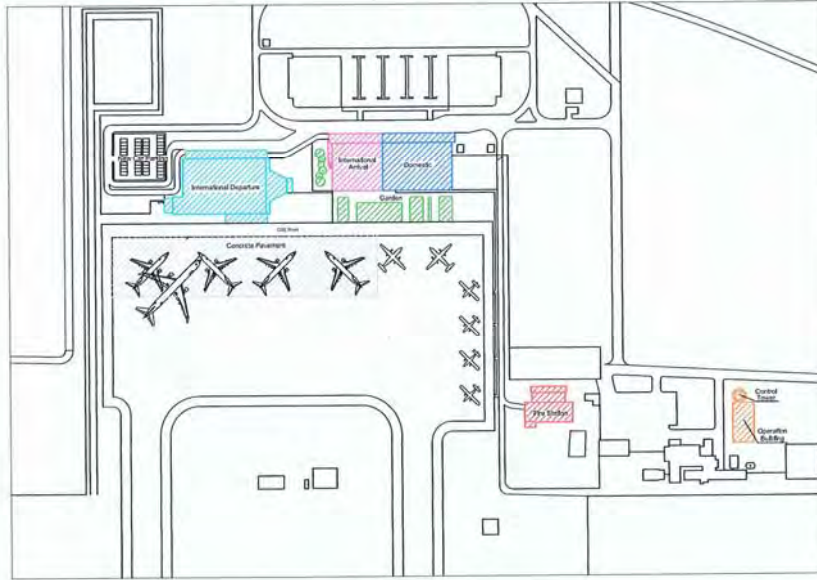
17. Final Scope of the Project

17.1 The JICA Team will assess the feasibility of the above items through the survey and will report the findings to JICA and the Government of Japan. The final scope of the Project will be decided by the Government of Japan. 

[END]



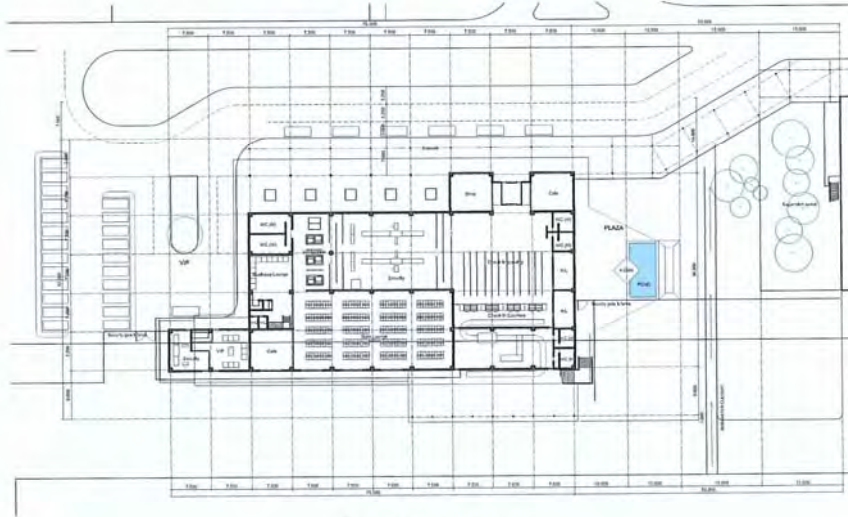
Annex 1 Preliminary Facility Layout Plan



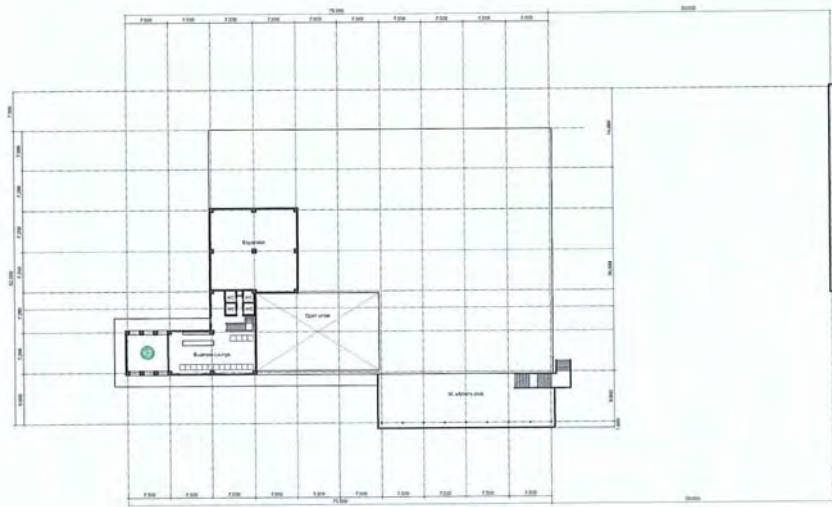
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Annex 2 Tentative Layout Plan of International Departure Building



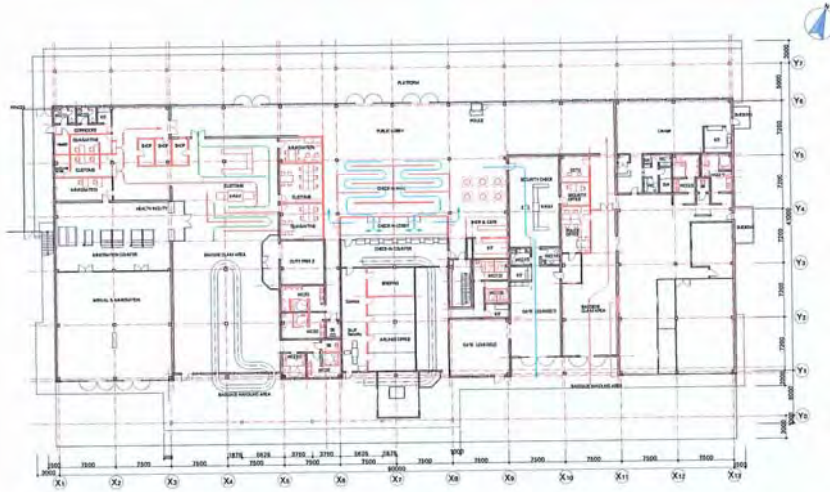
Ground Floor Layout



1st Floor Layout

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Annex 3 Renovation plan of the existing building



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Annex 5 Electrical and Mechanical System Plan

Electrical System Plan

| Building Name | Power Supply system | Lighting system | Communication & other system *1 |
|---|--|--------------------|---------------------------------|
| Existing Terminal Building | Partially modified Note; Existing transformer and Emergency generator to be up graded | Partially modified | Completely modified |
| New International Departure Building | Newly provided | Newly provided | Newly provided |
| New Control tower | Newly provided | Newly provided | Newly provided |
| New ATS Building | Newly provided | Newly provided | Newly provided |
| New Fire station | Newly provided | Newly provided | Newly provided |

Note: *1. Communication and other system includes: Telephone system, Public address system, LAN system, Fire alarm system, Master Antenna system

Mechanical System Plan

| Building Name | Plumbing system *1 | Air conditioning system *2 | Fire Protection system *3 |
|---|---|----------------------------|--|
| Existing Terminal Building | Partially modified Note.1; Water supply system and WTP to be completely modified | Partially modified | Completely modified (Hose reel system, Fire extinguisher) |
| New International Departure Building | Newly provided | Newly provided | Newly provided (Hose reel system, Fire extinguisher) |
| New Control tower | Newly provided | Newly provided | Newly provided (E) |
| New ATS Building | Newly provided | Newly provided | Newly provided (E) |
| New Fire station | Newly provided | Newly provided | Newly provided (E) |

*1. Plumbing system includes: Domestic water supply, Domestic hot water supply, Sewage drainage and vent, Sanitary Fixtures, Waste water treatment plant

Water source for potable water should be changed from deep well water to the city water.

*2. Air conditioning system includes: Split type air conditioners and Mechanical ventilators

*3. Fire protection system includes:

H: Hose reel system

E: Fire extinguisher

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Annex 6 Control Tower Equipment

| Component | Equipment | Quantities | Scope |
|-----------|---|------------|-----------------|
| CONSOLE | Console for control tower, 2 positions for 2 FIS officers | 1 L.S. | New |
| | Voice communication and control system (VCS) | 1 L.S. | New |
| COM | VHF air/ground main transmitter and receiver with antenna, dual configuration, antenna on new tower (FSS Honiara: 118.1MHz) | 1 set | New |
| | VHF air/ground main transmitter and receiver with antenna, dual configuration, (Honiara airport surface: 120.6MHz) | 1 set | New |
| | VHF air/ground main transmitter and receiver with antenna, dual configuration, antenna on new tower (Emergency: 121.5MHz) | 1 set | New |
| | VHF multi-frequency portable transceiver with antenna | 3 sets | New |
| | HF multi-frequency portable transceiver with antenna | 1 set | New |
| | Air traffic light gun | 1 set | Re-use |
| AIS | AIS terminal including CADAS (control tower and AIS room) | 2 sets | New |
| MET | MET observation display at control tower | 1 set | Re-use |
| AFL | AFL Remote Control & Monitoring Display | 1 set | New |
| OTHER | Main distribution frame and Intermediate distribution terminals | 1 L.S. | New |
| POWER | UPS and batteries | 1set | New |
| WORKS | Temporary works (temporary cable connection, etc) for temporary control tower | 1 L.S. | To be discussed |
| | Removal of ex-equipment and cables in old control tower | 1 L.S. | To be discussed |
| | Demolition of old control tower | 1 L.S. | To be discussed |

Note:

1. The existing VHF and HF transmitters and receivers at Transmitter and Receiver sites will remain as they are.
2. The JICA Project will prepare an interface unit in new console/voice communication and control system. MCA may interface the existing HF and/or VHF system with a new console/voice communication control system as necessary.




Annex 7 Satellite Image of the Project Site in 2003



Annex 8 Environmental Approval Schedule

| Procedure | Implementing Ministry | Estimated timing of Completion |
|---|-----------------------|--|
| Submission of Proposal Application | MCA | December, 2017 (soon after Discussion of Draft Final Report) |
| Screening & Scoping | MECDM | January, 2018 |
| Submission of Development Application & PER/EIS | MCA | February, 2018 |
| 1st Review of PER/EIS | MECDM | March, 2018 |
| Public Display and Participation of PER/EIS | MECDM | April, 2018 |
| 2nd Review of PER/EIS | MECDM | May, 2018 |
| Approval | MECDM | May, 2018 |

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Annex 9 Preferable Temporary Yard Location



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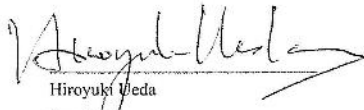
Appendix -10. Minutes of Discussions (M/D) -2


**Minutes of Discussions
on the Preparatory Survey for
the Project for Improvement of Honiara Airport
(Explanation on Draft Preparatory Survey Report)**

With reference to the minutes of discussions (hereinafter referred to as "M/D") on the Project for Improvement of Honiara Airport (hereinafter referred to as "the Project") signed between the Ministry of Communication and Aviation (hereinafter referred to as "MCA") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on May 19, 2017, JICA dispatched the Preparatory Survey Team (hereinafter referred to as "the Team"), headed by Hiroyuki Ueda, Senior Transport Sector Advisor of JICA, to Solomon Islands for the explanation of Draft Preparatory Survey Report (hereinafter referred to as "the Draft Report") for the Project.

As a result of the discussions between authorities concerned of the Government of Solomon Islands and JICA, both sides agreed on the main items described in the attached sheets.

Honiara, February 16, 2018


Hiroyuki Ueda
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan


Moses S. Virivolomo
Permanent Secretary
Ministry of Communication and Aviation
Solomon Islands

ATTACHEMENT

1. Objective of the Project

The objective of the Project is to strengthen safety of airport operations, to cope with future growth of air traffic demands and to reduce vulnerability of airport facilities against natural disaster through the improvement of facilities and equipment at Honiara Airport, thereby contributing to socio-economic development of Solomon Islands.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey for the Project for the Project for Improvement of Honiara Airport”.

3. Project Site

Both sides confirmed that the site of the Project is in Honiara Airport, which is shown in Annex 1.

4. Responsible Authority for the Project

Both sides confirmed the authorities responsible for the Project are as follows:

- 4-1. MCA will be the executing agency for the Project (hereinafter referred to as “the Executing Agency”). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be taken care by relevant authorities properly and on time until the completion of the Project. The organization chart of MCA is shown in Annex 2.
- 4-2. Solomon Islands Airports Corporation Limited (SIACL) will be responsible for operation and maintenance of Honiara Airport. Honiara Airport is currently owned by MCA, and its ownership is planned to be transferred with operation and maintenance obligation to SIACL in 2018.
- 4-3. The Solomon Islands side assures that adequate staff and budget will be allocated for operation and maintenance of Honiara Airport, and report to JICA from time to time on the progress of transfer of Honiara Airport from MCA to SIACL

5. Contents of the Draft Report

After the explanation of the contents of the Draft Report by the Team, the Solomon Islands side agreed to its contents.

The scope of the Project was decided as follows:

- a) Rehabilitation of existing taxiway and apron
- b) Expansion of existing apron

- c) Constuction of new connecting taxiway
- d) Installation of new airfield lights
- e) Renovation of existing international passenger terminal building for international arrivals and domestic operations (changed based on the Technical Memorandum on June 22, 2018, from renovation of existing international passenger terminal building requested in the M/D on May 19, 2017)
- f) Construction of a new international departure passenger terminal building (changed based on the Technical Memorandum on June 22, 2018, from construction of a new domestic passenger terminal building requested in the M/D on May 19, 2017)
- g) Construction of flood protection embankment

The follwing components in the requested items in the minutes of discussions between MCA and JICA on May 19, 2017 was excluded from the scope of the Project.

- h) Construction of a new control tower building with equipment
- i) Constriution of a new rescue and firefighting station
- j) Construction of a car park for the new international departure passenger terminal building

6. Cost Estimate

The Team explained to the Solomon Islands side that the rough estimate of the Project Cost as described in Annex 3. Both sides confirmed that the cost estimate in Annex 3 including contingency is provisional and will be examined further by the Government of Japan for its approval. The contingency would cover the additional cost against natural disaster, unexpected natural conditions, etc.

7. Confidentiality of the Cost Estimate and Technical Specifications

Both sides confirmed that the cost estimate and technical specifications of the Project should never be disclosed to any third parties until all the contracts under the Project are concluded.

8. Timeline for the Project Implementation

The Team explained to the Solomon side that the expected timeline for the project implementation is as attached in Annex 4.

9. Expected Outcomes and Indicators

Both sides agreed that key indicators for expected outcomes of the Project are as follows. The Solomon Islands side will be responsible for the achievement of agreed key indicators targeted in year 2024 and shall monitor the progress based on those indicators.
[Quantitative Effects]

| Indicators | Baseline Value (Year 2017) | Target Value (Year 2024) 3 years after completion of the Project |
|---|----------------------------|--|
| Number of international passengers (persons/year) | 93,484 | 125,000 |
| Number of aircraft takeoffs and landings (movements/year) | 8,595 | 9,000 |

[Qualitative Effects]

- Improvement in safety of airport and convenience of users
- Disaster mitigation and continuous airport operation under heavy rainfall conditions
- Contribution to industrial development and improvement in environment for tourism development and business investments
- Promotion of economic and social development

10. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 5. With regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in (2)-8 of Annex 5, both sides confirmed that such customs duties, internal taxes and other fiscal levies shall be clarified in the bid documents by MCA during the implementation stage of the Project.

The Solomon Islands side assured to take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project. It is further agreed that the costs are indicative, i.e. at Outline Design level. More accurate costs will be calculated at the Detailed Design stage.

Both sides also confirmed that the Annex 5 will be used as an attachment of G/A.

11. Monitoring during the Implementation

The Project will be monitored by the Executing Agency and reported to JICA by using the form of Project Monitoring Report (PMR) attached as Annex 6. The timing of submission of the PMR is described in Annex 6.

12. Project Completion

Both sides confirmed that the project completes when all the facilities constructed and equipment procured by the grant are in operation. The completion of the Project will be reported to JICA promptly, but in any event not later than six months after completion of the Project.

13. Ex-Post Evaluation

JICA will conduct ex-post evaluation after three (3) years from the project completion, in principle, with respect to five evaluation criteria (Relevance, Effectiveness, Efficiency,

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Impact, Sustainability). The result of the evaluation will be publicized. The Solomon side is required to provide necessary support for the data collection.

14. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Solomon Islands side around May 2018.

15. Environmental and Social Considerations

15-1 General Issues

15-1-1 Environmental Guidelines and Environmental Category

The Team explained that 'JICA Guidelines for Environmental and Social Considerations (April 2010)' (hereinafter referred to as "the Guidelines") is applicable for the Project. The Project is categorized as B. It is not likely to have a significant adverse impact on the environment because the Project is not considered as a large-scale airport project, is not located in a sensitive area, and has none of the sensitive characteristics under the Guidelines.

15-1-2 Environmental Checklist

The environmental and social considerations including major impacts and mitigation measures for the Project are summarized in the Environmental Checklist attached as Annex 7. Both sides confirmed that in case of major modification of the content of the Environmental Checklist, the Solomon Islands side shall submit the modified version to JICA in a timely manner.

15-2 Environmental Issues

15-2-1 Environmental Impact Assessment (EIA)

Both sides confirmed the EIA report will be approved by the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) in June 2018.

15-2-2 Environmental Management Plan and Environmental Monitoring Plan

Both sides confirmed Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP) of the Project respectively as Annex 8 and 9. Both side agreed that environmental mitigation measures and monitoring shall be conducted based on the EMP and EMoP, which may be updated in the later stage of the Project.

15-3 Environmental and Social Monitoring

15-3-1 Environmental Monitoring

Both sides agreed that the Solomon Islands side will submit results of environmental monitoring to JICA with PMR by using the monitoring form attached as Annex 10, which may also be updated in accordance with changes in Annex 8 and 9. The timing of submission of the monitoring form is described in Annex 5.

15-3-2 Information Disclosure of Monitoring Results

Both sides confirmed that the Solomon Islands side will disclose results of environmental and social monitoring to local stakeholders through their website / in their field offices.

The Solomon Islands side agreed that JICA will disclose results of environmental and social monitoring submitted by the Solomon Islands side as the monitoring forms attached as Annex 10 on its website.

16. Other Relevant Issues

16-1. Disclosure of Information

Both sides confirmed that the Preparatory Survey Report excluding cost estimation of the Project will be disclosed to the public after completion of the Preparatory Survey. The comprehensive report including cost estimation of the Project will be disclosed to the public after all the contracts under the Project are concluded.

16-2. Assistance from World Bank

World Bank (WB) will launch Solomon Islands Roads and Aviation Project (SIRAP) around March 2018, one of which components will be development works at Honiara Airport.

The Solomon Islands side confirmed that the scope of the Japanese Grant project and the scope of the WB SIRAP should be complementary to each other, and there will be no overlapping between the two projects.

Annex 1 Project Site

Annex 2 Organization Chart

Annex 3 Cost of Estimation

Annex 4 Project Implementation Schedule

Annex 5 Major Undertakings to be taken by the Government of Solomon Islands

Annex 6 Project Monitoring Report (template)

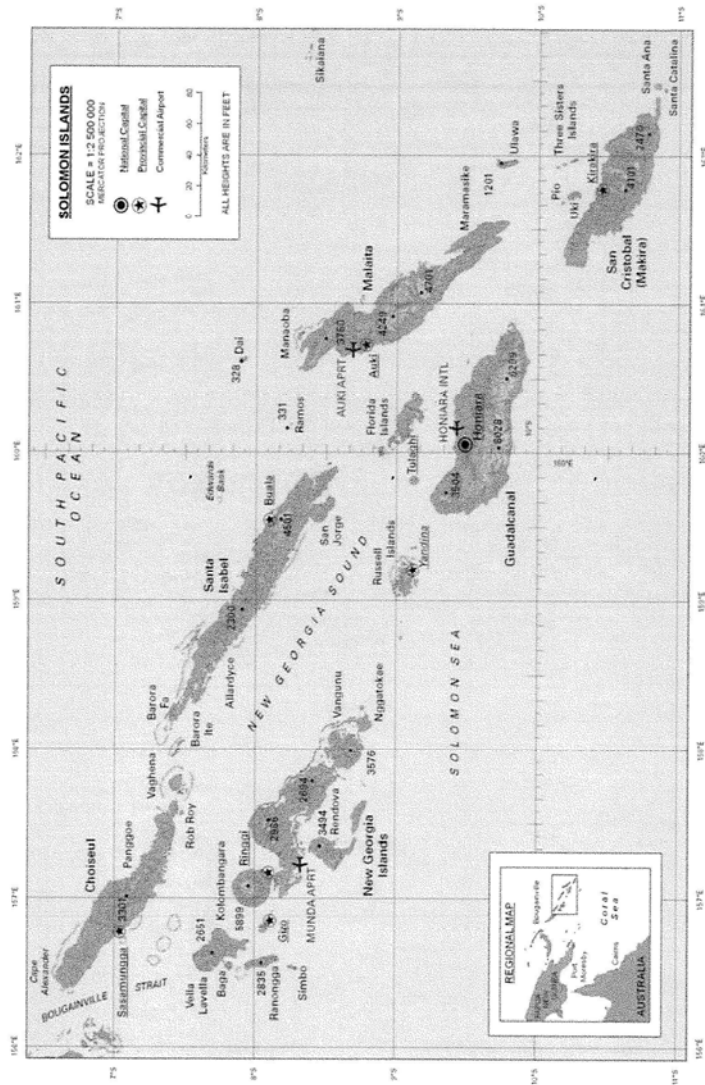
Annex 7 Environmental Check List

Annex 8 Environmental Management Plan

Annex 9 Environmental Monitoring Plan

Annex 10 Environmental and Social Monitoring Form

PROJECT SITE

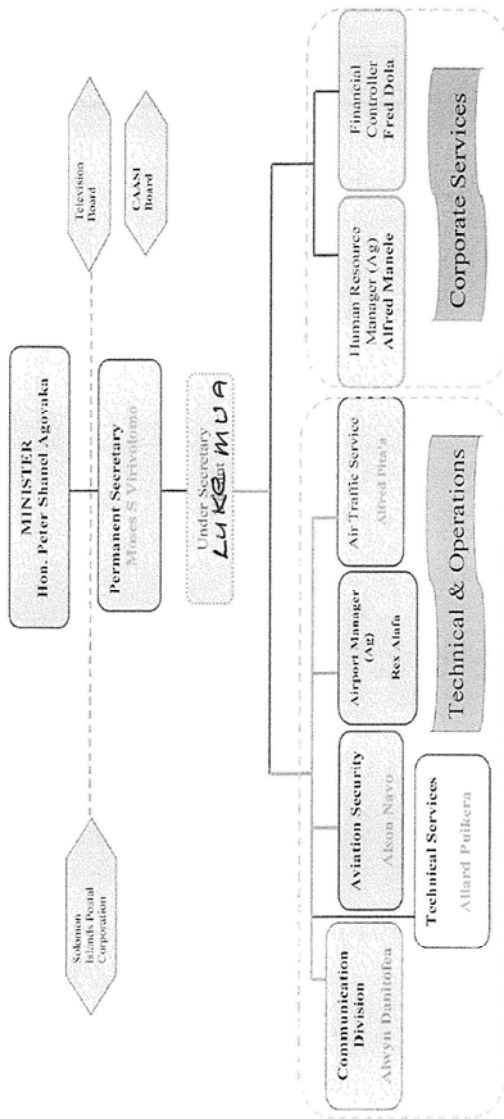


Produced by the Joint Geospatial Support Facility for the Hon. Cabinet Office in 2007

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ORGANIZATION CHART OF MINISTRY OF COMMUNICATION AND AVIATION



COST ESTIMATE OF THE PROJECT

1. Cost Estimate borne by the Government of Japan

Confidential Information

2. Cost Estimate borne by the Government of Solomon Islands

| Item | Estimated Cost (Thousand Solomon Islands Dollar) |
|----------------------------------|--|
| Removal of Buildings | 704 |
| Survey of Unexploded Bombs | 744 |
| Solomon Power Construction Works | 1,850 |
| Bank Commission | 296 |
| TOTAL | 3,594 |

Notes:

1) Conditions of cost estimation

- Estimated timing: June 2017
- Exchange rates: USD 1.00 = JPY 112.84
Solomon Islands Dollar 1.00 = JPY 14.21

2) Others

The project is implemented in accordance with the system of Japanese Grant. The above cost estimation does not assure the ceiling cost on the E/N and will be reviewed by the Government of Japan before the conclusion of E/N between the two governments.

The cost estimate borne by the Government of Solomon Islands in the above is provisional, and requires review for implementation.




PROJECT IMPLEMENTATION SCHEDULE

Estimated Timeline for the Project Implementation is as follows:

- E/N and G/A: May 2018
- Detailed Design and Procurement of the Contractor: May 2018 – January 2019
- Construction Works: February 2019 – September 2021
- Defect Liability Inspection: September 2022



**MAJOR UNDERTAKINGS TO BE TAKEN BY
THE GOVERNMENT OF SOLOMON ISLANDS**

1. Specific obligations of the Government of Solomon Islands which will not be funded with the Grant

(1) Before the Tender

| NO | Items | Deadline | In charge | Estimated Cost | Ref. |
|----|---|--|-----------|----------------|------|
| 1 | To open bank account (B/A) | within 1 month after the signing of the G/A | MCA | | |
| 2 | To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant | within 1 month after the signing of the contract with Consultant (June 2018) | MCA | | |
| 3 | To obtain approval of IEE/EIA (with conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation | within 1 month after the signing of the G/A (June 2018) | M/C | | |
| 4 | To submit Project Monitoring Report (with the result of Detail Design) | before preparation of bidding documents | MCA | | |
| 5 | To finalize location of riverbed and conclude the contract with owner of the riverbed where rocks and stones for gravel will be taken for the Project | before announcement of the tender (October 2018) | MCA | | |
| 6 | To decide dump site of construction waste materials with EIA certificate | before announcement of the tender (October 2018) | MCA | | |
| 7 | To conduct UXO survey of the riverbed and temporary yard | before announcement of the tender (October 2018) | MCA | | |
| 8 | To secure the lots of land necessary for the Project including land for site office, plant yards (asphalt, concrete, crusher etc), material storage yard, motor pool, temporary construction yard, and waste disposal site with good access to the Project sites; | before announcement of the tender (October 2018) | MCA | | |
| 9 | To supply water and electricity for the temporary yard | before announcement of the tender (October 2018) | MCA | | |

Note: B/A: Banking Arrangement, A/P: Authorization to pay,

(2) During the Project Implementation

| NO | Items | Deadline | In charge | Estimated Cost | Ref. |
|----|--|----------------|-----------|----------------|------|
| 1 | To issue A/P to a bank in Japan (the Agent Bank) for the | within 1 month | MCA | | |

| | | | | | |
|----|--|---|-----|--|--|
| | payment to the Contractor(s) and Supplier(s) | after the signing of the contract(s) with Contractor(s) and Supplier(s) | | | |
| 2 | To bear the following commissions to a bank in Japan for the banking services based upon the B/A 1) Advising commission of A/P | | MCA | | |
| | 2) Payment commission for A/P | within 1 month after the signing of the contract(s) with Contractor(s) and Supplier(s) every payment for Consultant, Contractor(s) and Supplier(s) | | | |
| 3 | 1) To relocate existing utilities within the Project sites; | 1 month before construction work | MCA | | |
| | 2) To obtain or arrange for license, permission and other necessary procedures for the Project | 1 month before construction work | MCA | | |
| 4 | To remove the hangar and office of general aviation operator located in the south of international apron | 1 month before construction work | MCA | | |
| 5 | To enable provision of electric power supply for the equipment | 1 month before installation of each equipment | MCA | | |
| 6 | To ensure prompt unloading and customs clearance at ports of disembarkation in recipient country and to assist the Contractor(s) and/or Supplier(s) with internal transportation therein | during the Project | MCA | | |
| 7 | To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work | during the Project | MCA | | |
| 8 | To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services | during the Project | MCA | | |
| 9 | To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project | during the Project | MCA | | |
| 10 | To clear Unexploded Objects (UXOs) in the Project site and designated riverbed when UXOs are found by the survey | during the Project | MCA | | |
| 11 | 1) To submit Project Monitoring Report | every month | MCA | | |
| | 2) To submit Project Monitoring Report (final) | within 1 month after signing of Certificate of Completion for the works under the contract(s) | MCA | | |
| | 3) To submit a report concerning completion of the Project | within 6 months after completion of the Project | MCA | | |
| 12 | To submit a report concerning completion of the Project | within 6 months after completion of the Project | MCA | | |
| 13 | To take necessary measure for safety of construction and installation | during the the Project | MCA | | |

Annex 5 - 2

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|----|--|--|-----|--|--|
| 14 | To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s) | | MCA | | |
| | 1) Electricity The distributing line to the site | before start of the construction | | | |
| | 2) Water Supply The city water distribution main to the site | 6 months before completion of the construction | | | |
| | 3) Drainage The city drainage main (for storm, sewer and others) to the site | 6 months before completion of the construction | | | |
| 15 | To implement EMP and EMoP | during the construction | MCA | | |
| 16 | To submit results of environmental monitoring to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report | during the construction | MCA | | |

(3) After the Project

| NO | Items | Deadline | In charge | Estimated Cost | Ref. |
|----|--|--------------------------------------|-----------|----------------|------|
| 1 | To implement EMP and EMoP | for a period based on EMP and EMoP | MCA | | |
| 2 | To submit results of environmental monitoring to JICA, by using the monitoring form, semiannually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between MCA and JICA. | for three years after the Project | MCA | | |
| 3 | To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection | after completion of the construction | MCA | | |

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| <p><u>Project Monitoring Report</u> on <u>Project Name</u> <u>Grant Agreement No. XXXXXXXX</u> 20XX, Month</p> |
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Organizational Information

| | | |
|-------------------------|--------------------------|--|
| (Recipient) | Signer of the G/A | Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____ |
| Executing Agency | | Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____ |
| Line Ministry | | Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____ |

General Information:

| | |
|--------------------------|---|
| Project Title | |
| E/N | Signed date: _____ Duration: _____ |
| G/A | Signed date: _____ Duration: _____ |
| Source of Finance | Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____ |

| | |
|-------------------------------|--|
| 1: Project Description | |
|-------------------------------|--|

1-1 Project Objective

| |
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| |
|--|

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

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1-3 Indicators for measurement of "Effectiveness"

| Quantitative indicators to measure the attainment of project objectives | | |
|---|----------------|--------------|
| Indicators | Original (Yr) | Target (Yr) |
| | | |
| | | |
| Qualitative indicators to measure the attainment of project objectives | | |
| | | |

| |
|----------------------------------|
| 2: Details of the Project |
|----------------------------------|

2-1 Location

| Components | Original <i>(proposed in the outline design)</i> | Actual |
|------------|---|--------|
| 1. | | |

2-2 Scope of the work

| Components | Original* <i>(proposed in the outline design)</i> | Actual* |
|------------|--|---------|
| 1. | | |
| | | |
| | | |

Reasons for modification of scope (if any).

| |
|-------|
| (PMR) |
|-------|

2-3 Implementation Schedule

| Items | Original | | Actual |
|-------|---|---|--------|
| | <i>(proposed in the outline design)</i> | <i>(at the time of signing the Grant Agreement)</i> | |
| | | | |

Reasons for any changes of the schedule, and their effects on the project (if any)

| |
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| |
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2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

| Components | | | Cost (Million Yen) | |
|------------|---|--|--|--------|
| | Original <i>(proposed in the outline design)</i> | Actual <i>(in case of any modification)</i> | Original ^{1),2)} <i>(proposed in the outline design)</i> | Actual |
| 1. | | | | |
| | | | | |
| Total | | | | |

Note: 1) Date of estimation:

2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

| Components | Cost |
|------------|------|
| | |

| | | | (1,000 Taka) | |
|--|--|---|---|--------|
| | Original (proposed in the outline design) | Actual (in case of any modification) | Original ^{1),2)} (proposed in the outline design) | Actual |
| | 1. | | | |
| | | | | |
| | | | | |

Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original (at the time of outline design)

name:
role:
financial situation:
institutional and organizational arrangement (organogram):
human resources (number and ability of staff):

Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

| |
|--|
| Original <i>(at the time of outline design)</i> |
| Actual <i>(PMR)</i> |

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

| |
|--|
| Original <i>(at the time of outline design)</i> |
| Actual <i>(PMR)</i> |

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks *(at the time of outline design)*

| Potential Risks | Assessment |
|--------------------------|--|
| 1. (Description of Risk) | Probability: High/Moderate/Low |
| | Impact: High/Moderate/Low |
| | Analysis of Probability and Impact: |
| | Mitigation Measures: |
| | Action required during the implementation stage: |
| | |

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| | Contingency Plan (if applicable): |
| 2. (Description of Risk) | Probability: High/Moderate/Low |
| | Impact: High/Moderate/Low |
| | Analysis of Probability and Impact: |
| | Mitigation Measures: |
| | Action required during the implementation stage: |
| | Contingency Plan (if applicable): |
| 3. (Description of Risk) | Probability: High/Moderate/Low |
| | Impact: High/Moderate/Low |
| | Analysis of Probability and Impact: |
| | Mitigation Measures: |
| | Action required during the implementation stage: |
| | Contingency Plan (if applicable): |
| Actual Situation and Countermeasures (PMR) | |

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

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Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

Attachment

1. Project Location Map
 2. Specific obligations of the Recipient which will not be funded with the Grant
 3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
 - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
 5. Environmental Monitoring Form / Social Monitoring Form
 6. Monitoring sheet on price of specified materials (Quarterly)
 7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final) only)
 8. Pictures (by JPEG style by CD-R) (PMR (final) only)
 9. Equipment List (PMR (final) only)
 10. Drawing (PMR (final) only)
 11. Report on RD (After project)

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Monitoring sheet on price of specified materials

| 1. Initial Conditions (Confirmed) | | Initial Volume A | Initial Unit Price (¥) B | Initial total Price C=A×B | 1% of Contract Price D | Condition of payment Price (Increased) F=C+D |
|-----------------------------------|--------|---------------------|--------------------------------|---------------------------------|------------------------------|---|
| 1 | Item 1 | ●●●t | ●● | ●● | ●● | ●● |
| 2 | Item 2 | ●●●t | ●● | ●● | ●● | |
| 3 | Item 3 | | | | | |
| 4 | Item 4 | | | | | |
| 5 | Item 5 | | | | | |

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

| Items of Specified Materials | 1st month, 2015 | 2nd month, 2015 | 3rd month, 2015 | 4th | 5th | 6th |
|---------------------------------|--------------------|--------------------|--------------------|-----|-----|-----|
| 1 Item 1 | | | | | | |
| 2 Item 2 | | | | | | |
| 3 Item 3 | | | | | | |
| 4 Item 4 | | | | | | |
| 5 Item 5 | | | | | | |

(3) Summary of Discussion with Contractor (if necessary)

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Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
 (Actual Expenditure by Construction and Equipment each)

| | Domestic Procurement (Recipient Country) A | Foreign Procurement (Japan) B | Foreign Procurement (Third Countries) C | Total D |
|-----------------------------|--|-------------------------------------|---|------------|
| Construction Cost | (A/D%) | (B/D%) | (C/D%) | |
| Direct Construction Cost | (A/D%) | (B/D%) | (C/D%) | |
| others | (A/D%) | (B/D%) | (C/D%) | |
| Equipment Cost | (A/D%) | (B/D%) | (C/D%) | |
| Design and Supervision Cost | (A/D%) | (B/D%) | (C/D%) | |
| Total | (A/D%) | (B/D%) | (C/D%) | |

ENVIRONMENTAL AND SOCIAL CONSIDERATION CHECK LIST

| Category | Environmental Item | Main Check Items | Yes: Y No: N | Confirmation of Environmental Considerations (Reasons, Mitigation Measures) |
|------------------------------|--|---|-------------------------------|--|
| 1 Permits and Explanation | (1) EIA and Environmental Permits | (a) Have EIA reports been prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved if conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government? | (a)N (b)N (c)N (d)NA | (a),(b),(c) Proposal Application has submitted from MCA to ECD. ECD will evaluate the Proposal Application and decide whether EIA is required for this projects not. (d) Not Required. |
| | (2) Explanation to the Local Stakeholders | (a) Have contents of the project and the potential impacts been adequately explained to the local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design? | (a)N (b)N | (a) Contents of the project and potential impacts will be discussed in EIA procedures. If ECD requires the stakeholder meeting, MCA will hold the stakeholder meeting. (b) Comments from stakeholders will be reflected to the project design. |
| | (3) Examination of Alternatives | (a) Have alternative plans of the project been examined with social and environmental considerations? (b) Are there any potential impacts caused by air pollutants that are emitted from airplanes? Do pollutants comply with the country's standards? Are adequate measures taken? (c) In the case of the condition of air pollution already exceed the country's standards, will the project worsen the air quality? Are adequate measures taken? | (a)Y (b)Y (c)NA | (a) Alternative plans have been examined regarding construction site, construction method and floor protection facility. (b) Impacts caused by air pollutants that are emitted from airplane are insignificant and movements of airplanes will not increase suddenly after completion of the project. (c) There is no standard regarding air pollution in Solomon Islands. |
| | (4) Air Quality | (a) Do pollutants, such as Suspended Solids (SS), and oils contained in effluents comply with the country's effluent standards (BOD, COD etc.)? Is there a possibility that the effluents from the project will cause areas not to comply with the country's ambient water quality standards? | (a)NA | (a) There is no standard regarding water quality in Solomon Islands. Currently, the sewage from Honiara airport is not disposed adequately because septic tank is not working. Installation of new septic tank is planned in this project and it will contribute to improvement of water quality. |
| | (5) Water Quality | (a) Are wastes generated from the airport and other project facilities properly treated and disposed of in accordance with the country's regulations? | (a)Y | (a) There is no standard regarding waste disposal. Wastes from Honiara airport are disposed at local dumpsite. |
| | (6) Noise and Vibration | (a) Is there a possibility that noise and vibrations from various sources, such as airport users vehicles and vehicles for airport operations will adversely affect ambient noise levels? If impacts are anticipated, are adequate noise mitigation measures considered? (b) Has the soil in the project site been contaminated in the past? Are adequate measures taken to prevent soil contamination by leachings of fuels? | (a)NA (b)Y | (a) There is no standard regarding noise and vibration. (b) Impacts of noise and vibration are insignificant because residential areas, stores and public facilities are located more than 100m away from Honiara airport. |
| 2 Pollution Control | (9) Soil Contamination | (a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence? | (a)N (b)NA | (a) The soil in the project site has not been contaminated. Leachings of fuels will be prevented by fueling adequately. (b) The extraction of groundwater is not planned in this project. |

| | | | | | | |
|-----------------------|---------------------|---|--|--|--|--|
| | (7) Other | <p>(a) Are there any odor sources? Are adequate odor control measures taken?</p> <p>(b) Is the project site located in protected areas designated by the county's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?</p> <p>(c) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?</p> <p>(d) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?</p> <p>(e) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?</p> <p>(f) Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms?</p> <p>(g) Is there any possibility that alteration of drainage systems due to the construction of airports and related facilities will adversely affect surface water and groundwater flows? Do the facilities affect adversely flow regimes, waves, tides, currents of rivers and etc. if the project facilities are constructed entry the seas?</p> | <p>(a) N/A (b) N/A (c) N/A (d) N/A (e) N/A (f) N/A (g) N/A</p> | <p>(a) There will be no odor source in the project site. (b) There is no protected area around the project site. (c) There is no such place around the project site. (d) There is no protected habitat of endangered species around the project site. (e) Significant ecological impact is not anticipated. (f) Significant impact to sensitive environments is not anticipated.</p> | <p>(a) N/A (b) N/A (c) N/A (d) N/A (e) N/A (f) N/A (g) N/A</p> | <p>(a) Address impacts to surface water and groundwater flows are not anticipated. Adverse impacts to flow regimes, waves, tides, currents of rivers are not anticipated.</p> <p>(b) The project does not require the large scale change of topography/geographic features/landscape measures prevent slope failures or landslides will be considered (c) the soil runoff will be prevented by taking adequate measures (d) The project is not offshore project.</p> <p>(e) The project does not require the resettlement.</p> |
| 3 Natural Environment | (1) Protected Areas | <p>(a) Does the project require the large scale change of topography/geographic features? Is there a possibility that activities such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff? (b) In the case of offshore projects, is there any possibility that the project will create natural boesches?</p> | <p>(a) N/A (b) N/A</p> | <p>(a) The project does not require the large scale change of topography/geographic features/landscape measures prevent slope failures or landslides will be considered (b) the soil runoff will be prevented by taking adequate measures (c) The project is not offshore project.</p> | <p>(a) N/A (b) N/A</p> | <p>(a) Address impacts to surface water and groundwater flows are not anticipated. Adverse impacts to flow regimes, waves, tides, currents of rivers are not anticipated.</p> |
| 4 Social Environment | (1) Resettlement | <p>(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?</p> <p>(b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement?</p> <p>(c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?</p> <p>(d) Are the compensations going to be paid prior to the resettlement?</p> <p>(e) Are the compensation policies prepared in document?</p> <p>(f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?</p> <p>(g) Are agreements with the affected people obtained prior to resettlement?</p> <p>(h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?</p> <p>(i) Are any plans developed to monitor the impacts of resettlement?</p> <p>(j) Is the grievance redress mechanism established?</p> | <p>(a) N/A (b) N/A (c) N/A (d) N/A (e) N/A (f) N/A (g) N/A (h) N/A (i) N/A (j) N/A</p> | <p>(a) The project does not require the resettlement.</p> | <p>(a) N/A (b) N/A (c) N/A (d) N/A (e) N/A (f) N/A (g) N/A (h) N/A (i) N/A (j) N/A</p> | <p>(a) The project does not require the large scale change of topography/geographic features/landscape measures prevent slope failures or landslides will be considered (b) the soil runoff will be prevented by taking adequate measures (c) The project is not offshore project.</p> |

| | | |
|---|--|--|
| <p>(e) Is there any possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>(f) Is there any possibility that the project causes the change of land uses in the neighboring areas to affect adversely the health of local people?</p> <p>(g) Is there any possibility that the project causes the change of land uses in the neighboring areas to affect adversely the health of local people, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?</p> <p>(h) Is sufficient infrastructure (e.g., roads) available for the project implementation? If the existing infrastructure is insufficient, is a plan developed to construct new infrastructure or improve the existing infrastructure?</p> <p>(i) Is there any possibility that the airports and other project structures will cause a sun-shading and radio interference?</p> | <p>(a) (N) (b) (N) (c) (Y) (d) (Y) (e) (N)</p> | <p>(a) Through impacts to the living conditions of inhabitants is insignificant, mitigation measures will be taken to reduce the impacts. (b) Inspection vehicles used for the project are very few compared to traffic volume around the project site. Impacts to the change of land use are not anticipated. (c) There is little risk of infection of diseases due to immigration of workers associated with the project. Adequate measures will be taken to minimize the risk. (d) Sufficient infrastructure is available in the vicinity of the project site. (e) Sun shading and radio interference are not anticipated.</p> |
| <p>(2) Living and Livelihood</p> | <p>(a) (N) (b) (N)</p> | <p>(a) There is not local archeological, historical, cultural, and religious heritage. The memorial park of WWII is located at the north side of the project site. Adequate mitigation measures will be taken to minimize the risk to affect to the memorial park. (b) There is no local landscape that should be considered and no adverse impacts are anticipated.</p> |
| <p>(3) Heritage</p> | <p>(a) (N)</p> | <p>(a) Impacts on the culture and lifestyle of ethnic minorities and indigenous peoples are not anticipated. (b) Impacts on the culture and lifestyle of ethnic minorities and indigenous peoples are not anticipated.</p> |
| <p>(4) Landscape</p> | <p>(a) (N)</p> | <p>(a) The contractor will comply with laws and ordinances associated with the working conditions. (b) Tangible safety considerations will be included in construction plan. (c) Arranging measures will be included in construction plan. (d) Appropriate measures will be taken to ensure that security guards not to violate safety of other individuals involved, or local residents.</p> |
| <p>(5) Ethnic Minorities and Indigenous Peoples</p> | <p>(a) (N/A) (b) (N/A)</p> | <p>(a) Adequate measures will be taken to reduce impacts during construction. (b) Adverse impacts to the natural environment are not anticipated. (c) Adverse impacts to the social environment are not anticipated.</p> |
| <p>(6) Working Conditions</p> | <p>(a) (Y) (b) (Y) (c) (Y)</p> | <p>(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents? (a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impact? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impact?</p> |
| <p>(7) Impact during Construction</p> | <p>(a) (Y) (b) (N/A) (c) (N/A)</p> | <p>(a) (Y) (b) (N/A) (c) (N/A)</p> |
| <p>6 Others</p> | <p>(a) (Y) (b) (N/A) (c) (N/A)</p> | <p>(a) (Y) (b) (N/A) (c) (N/A)</p> |

| | | | | |
|---|----------------|--|--|---|
| | (2) Monitoring | <p>(A) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>(B) What are the items, methods and frequency of the monitoring program?</p> <p>(C) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>(D) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?</p> <p>(E) Where necessary, pertinent items described in the Roads, Railways, and Bridges checklist should also be checked (e.g., projects including large areas of deforestation).</p> <p>(F) If the airport is constructed on the sea, pertinent items described in the Ports and Harbors checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).</p> <p>(G) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).</p> <p>(H) If necessary, the impacts to trans boundary or global issues should be confirmed. If necessary (e.g., the project includes factors that may cause problems, such as trans boundary waste treatment, acid rain, destruction of the ozone layer, or global warming).</p> | <p>(A) Y (B) N/A (C) N/A (D) N/A</p> <p>(E) N/A (F) N/A (G) N/A</p> <p>(H) N/A</p> | <p>(A) Monitoring program will be included in PEREIS and implemented in accordance with the regulation of Solomon Islands. (B) Decided in PEREIS. (C) Suggested in PEREIS. (D) Decided in PEREIS.</p> <p>(E) The project is not include any constructions other than the airport. (F) Honiara airport is not the airport on the sea. (G) The project does not include large areas of deforestation.</p> <p>(H) Impacts to trans boundary or global issues is not anticipated.</p> |
| <p>6 Note</p> <p>Reference to Checklist of Other Sectors</p> <p>Note on Using Environmental Checklist</p> | | | | |

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made. In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

ENVIRONMENTAL MANAGEMENT PLAN (EMP) (DRAFT)

| Impact Item | Survey Results | Responsible Body | Regulator | Cost |
|---------------------|---|---------------------------|-----------|---|
| Air Pollution | <p><u>Before/during Construction</u></p> <ul style="list-style-type: none"> · Choose the appropriate transport route in transporting materials. The route should be the shortest and must be determined in consideration of the surrounding environment. · When transporting materials, take measures such as covering the load with sheets to prevent dust from scattering. · Turn off the engine of the construction machines frequently to avoid idling. · Sprinkle water according to the situation during work, to suppress dust scattering. · Maintain the plants, construction machinery and transportation vehicles in good condition to reduce exhaust emissions. · Use low emission construction machinery and transportation vehicles if possible. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Water Contamination | <p><u>Before/during Construction</u></p> <ul style="list-style-type: none"> · Refuel carefully so as not to spill oil and avoid refueling as much as possible during rain. · Frequently collect small garbage etc. generated at the work place by using a vacuum cleaner and the like. · Cover the materials at the temporary storage place and soil exposed during work by using sheets etc. to prevent scattering as necessary. · Maintain the plants, construction machinery and transportation vehicles well and keep them in good condition so as not to cause oil leakage. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | <p><u>During Operation</u></p> <ul style="list-style-type: none"> · Implement appropriate maintenance so that the newly constructed septic tank functions properly. | Construction Company, MCA | MCA | Included in construction cost (additional cost is not needed) |
| Wastes | <p><u>Before/during Construction</u></p> <ul style="list-style-type: none"> · Frequently collect and transport generated wastes to the designated disposal site, site. · When transporting wastes, take measures to prevent falling and scattering, such as covering the loading platform with a sheet. · Reduce soil residue by using soil generated during construction as much as possible for embankment and levee construction. · Concrete and asphalt crushed pieces are transported to the designated disposal site with environmental permit. · Select the work plan and materials to reduce wastes as much as possible. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Soil Contamination | <p><u>Before/during Construction</u></p> <ul style="list-style-type: none"> · Refuel carefully so as not to spill oil and avoid | Construction Company | MCA | Included in construction |

| Impact Item | Survey Results | Responsible Body | Regulator | Cost |
|--|--|----------------------------------|-----------|---|
| | refueling during rain as much as possible. <ul style="list-style-type: none"> • Frequently collect small garbage etc. generated at the work place by using a vacuum cleaner and the like. • When doing material processing work etc. on the soil, spread sheets and the like to prevent chips etc. from falling on the soil. | | | cost (additional cost is not needed) |
| Noise and Vibration | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Limit plant operating hours and avoid nighttime operation. • Maintain plants, construction machines and transportation vehicles in good condition and avoid operation under excessive load. • Frequently turn off the engines of plants, construction machines and transport vehicles to avoid idling. • Use low noise construction machinery if possible. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Ecosystem | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Mitigation measures mentioned in Air Pollution, Water Contamination, Wastes and Soil Contamination will be conducted to reduce impacts. • If coastal area is chosen as a disposal site, consultant will suggest MCA to consider impacts on ecosystem. | Construction Company, Consultant | MCA | Included in construction cost (additional cost is not needed) |
| Hydro-meteor | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Mitigation measures mentioned in Water Contamination, Wastes and Soil Contamination will be conducted to reduce impacts. • If coastal area is chosen as a disposal site, consultant will suggest MCA to consider impacts on hydro-meteor. | Construction Company, Consultant | MCA | Included in construction cost (additional cost is not needed) |
| Topology and Geology | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Use as much soil generated during construction as possible for embankment and levee construction. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Regional Economy such as Employ. and Livelihood Measures | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Instruct third-country laborers not to affect the local regional economy by conducting business etc. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Existing Social Infrastructure and Social Services | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Establish a construction plan that would minimize the impact on the airport operation during construction. • Partition the work area thoroughly and clearly divide the operation area from the work area. • Ensure that transport vehicles travel on the appropriate route complying with traffic rules. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | <u>During Operation</u> <ul style="list-style-type: none"> • Educate the airport staff so that the facilities expanded by this project are properly operated. | MCA | MCA | Included in construction cost |

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| Impact Item | Survey Results | Responsible Body | Regulator | Cost |
|--------------------------------------|---|----------------------|-----------|---|
| | | | | (additional cost is not needed) |
| Cultural Heritages | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Provide barricades between the war dead memorial park and the work area and carefully work around the boundary. • Set up procedures in case that legacy or remains are discovered during construction, and notify the workers in advance. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Infectious Diseases such as HIV/AIDS | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Educate all construction workers on prevention of infectious diseases. • In case of suspected infection, prompt the workers to seek medical attention. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Work Environ. including Safety | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Develop a work plan that fully takes into account the safety of workers. • Conclude labor contracts in accordance with the local labor standards. • In addition to the health check at the time of employment, regularly confirm the health condition of workers during construction. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Accidents | <u>Before/during Construction</u> <ul style="list-style-type: none"> • Implement safety education for construction workers. • Ensure workers to wear protective equipment (helmet, safety belt, gloves, etc.). • Partition the work area clearly. Particularly, the section of heavy equipment operation range is to be clearly defined. | Construction Company | MCA | Included in construction cost (additional cost is not needed) |

Source: JICA Study Team

ENVIRONMENTAL MONITORING PLAN (EMoP) (DRAFT)

| Environmental Item | Item | Location | Frequency | Responsible Body | Regulator | Cost |
|------------------------------|---|----------|---------------------|----------------------|-----------|---|
| [Before Construction] | | | | | | |
| Air Pollution | Construction plan (operating plan of plants and construction machinery) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (transport plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Water Contamination | Construction plan (operating plan of plants and construction machinery) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (temporary facilities plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (material storage plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (waste disposal plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (sewage treatment facility plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Wastes | Construction plan (waste disposal plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Soil Contamination | Construction plan (operating plan of plants and construction machinery) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (material storage plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Noise and Vibration | Construction plan (operating plan of plants and construction machinery) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (transport plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Ecosystem | Construction plan (operating plan of plants and construction) | - | Before construction | Construction Company | MCA | Included in construction cost |

| Environmental Item | Item | Location | Frequency | Responsible Body | Regulator | Cost |
|---|---|----------|---------------------|----------------------|-----------|---|
| | machinery) | | | | | (additional cost is not needed) |
| | Construction plan (transport plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (temporary facilities plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (material storage plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (sewage treatment facility plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (waste disposal plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Hydro-meteor | Construction plan (operating plan of plants and construction machinery) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (temporary facilities plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (material storage plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (sewage treatment facility plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (waste disposal plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Topology and Geology | Construction plan (material storage plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (material procurement plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Regional Economy such as jobs and Livelihood Measures | Construction plan (workforce plan) | | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |

Annex 9 - 2

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| Environmental Item | Item | Location | Frequency | Responsible Body | Regulator | Cost |
|--|--|--------------------------|---------------------|----------------------|-----------|---|
| Existing Social Infrastructure and Social Services | Construction plan (temporary facilities plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (construction process) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (transport plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Cultural Heritages | Construction plan (temporary facilities plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (procedures when discovering a heritage and remains bone) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Infectious Diseases such as HIV/AIDS | Construction plan (health management plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Working Environment | Construction plan (health management plan) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Accidents | Construction plan (construction method) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Construction plan (safety measures) | - | Before construction | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| 【During Construction】 | | | | | | |
| Air Pollution | Operation Situation of plants, construction machinery (operation time, load, etc.) | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Maintenance situation of plants, construction machinery and transport vehicles | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.). | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of transportation (route, mitigation measure for dust, etc.). | Around construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Water Contamination | Maintenance situation of plants, construction machinery and | Construction site | Monthly | Construction Company | MCA | Included in construction cost |

Annex 9 - 3

| Environmental Item | Item | Location | Frequency | Responsible Body | Regulator | Cost |
|---------------------|--|----------------------------------|---------------|----------------------|-----------|---|
| | transport vehicles | | | | | (additional cost is not needed) |
| | Situation of fueling | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.). | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of sewage treatment of workers' lodgings | Workers' lodging | Semi-annually | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Wastes | Situation of transport and disposal of wastes | construction site, Disposal site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Waste volume generated | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Soil Contamination | Maintenance situation of plants and construction machinery and transport vehicles | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Noise and Vibration | Maintenance situation of plants and construction machinery and transport vehicles | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Ecosystem | Operation Situation of plants, construction machinery (operation time, load, etc.) | construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Maintenance situation of plants, construction machinery and transport vehicles | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.). | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of transportation (route, mitigation measure for dust, etc.). | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of fueling | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of sewage treatment of workers' lodgings | Construction site | Semi-annually | Construction Company | MCA | Included in construction cost (additional cost is not needed) |

Annex 9 - 4

| Environmental Item | Item | Location | Frequency | Responsible Body | Regulator | Cost |
|---|--|----------------------------------|---------------------|----------------------|-----------|---|
| | Situation of transport and disposal of wastes | construction site, Disposal site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Hydro-meteor | Maintenance situation of plans, construction machinery and transport vehicles | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of fueling | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.). | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of sewage treatment of workers' lodgings | Workers' lodging | Semi-annually | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Topology and Geology | Situation of storage and reuse of excavated soil. | Around construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Regional Economy such as jobs and Livelihood Measures | Employment situation of local workers | - | Semi-annually | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Existing Social Infrastructure and Social Services | Confirmation of partition of work area | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Confirmation of airport operation | Honiara Airport | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Cultural Heritages | Working situation near the war-dead memorial park | Construction site | At appropriate time | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Infectious Diseases such as HIV/AIDS | Health condition of workers | - | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Working Environment | Content of the labor contract for workers | - | Semi-annually | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Health condition of workers | - | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| Accidents | Confirmation of workers' usage of protection equipment | Construction site | Monthly | Construction Company | MCA | Included in construction cost |

Annex 9 - 5

| Environmental Item | Item | Location | Frequency | Responsible Body | Regulator | Cost |
|--|---|------------------------|---|----------------------|-----------|---|
| | | | | | | (additional cost is not needed) |
| | Partition of work area | Construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| | Situation of airport operation | Near construction site | Monthly | Construction Company | MCA | Included in construction cost (additional cost is not needed) |
| 【During Operation】 | | | | | | |
| Water Pollution | Operation situation of sewage disposable facilities | Airport | Semi-annually (the first year of operation) | MCA | MCA | Included in construction cost (additional cost is not needed) |
| Existing Social Infrastructure and Social Services | Situation of airport operation | Airport | Semi-annually (the first operational year) | MCA | MCA | Included in construction cost (additional cost is not needed) |

Source: JICA Study Team

ENVIRONMENTAL AND SOCIAL MONITORING FORM (DRAFT)

- If environmental reviews indicate the need of monitoring by JICA, JICA undertakes monitoring for necessary items that are decided by environmental reviews. JICA undertakes monitoring based on regular reports including measured data submitted by the project proponent. When necessary, the project proponent should refer to the following monitoring form for submitting reports.
- When monitoring plans including monitoring items, frequencies and methods are decided, project phase or project life cycle (such as construction phase and operation phase) should be considered.

Air Pollution

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|---------------------|---|
| Before Construction | | |
| Construction plan (operating plan of plants and construction machinery) | Before construction | |
| Construction plan (transport plan) | Before construction | |
| During Construction | | |
| Operation Situation of plants, construction machinery (operation time, load, etc.) | Monthly | |
| Maintenance situation of plants, construction machinery and transport vehicles | Monthly | |
| Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.) | Monthly | |
| Situation of transportation (route, mitigation measure for dust, etc.) | Monthly | |

Water Contamination

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|---------------------|---|
| Before Construction | | |
| Construction plan (operating plan of plants and construction machinery) | Before construction | |
| Construction plan (temporary facilities plan) | Before construction | |
| Construction plan (material storage plan) | Before construction | |
| Construction plan (waste disposal plan) | Before construction | |
| Construction plan (sewage treatment facility plan) | Before construction | |

| During Construction | | |
|--|--|--|
| Maintenance situation of plants, construction machinery and transport vehicles | Monthly | |
| Situation of fueling | Monthly | |
| Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.). | Monthly | |
| Situation of sewage treatment of workers' lodgings | Semi-annually | |
| During Operation | | |
| Operation situation of sewage disposable facilities | Semi-annually (the first year of operation) | |

Waste

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|---------------------|---|
| Before Construction | | |
| Construction plan (waste disposal plan) | Before Construction | |
| During Construction | | |
| Situation of transport and disposal of wastes | Monthly | |
| Waste volume generated | Monthly | |

Soil Contamination

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|---------------------|---|
| Before Construction | | |
| Construction plan (operating plan of plants and construction machinery) | Before Construction | |
| Construction plan (material storage plan) | Before Construction | |
| During Construction | | |
| Maintenance situation of plants and construction machinery and transport vehicles | Monthly | |

Noise / Vibration

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|---------------------|---|
| Before Construction | | |
| Construction plan (operating plan of plants and construction machinery) | Before Construction | |
| Construction plan (transport plan) | Before | |

Annex 10 - 2

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|---|--------------|--|
| | Construction | |
| During Construction | | |
| Maintenance situation of plants and construction machinery and transport vehicles | Monthly | |

Ecosystem

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|---------------------|---|
| Before Construction | | |
| Construction plan (operating plan of plants and construction machinery) | Before Construction | |
| Construction plan (transport plan) | Before Construction | |
| Construction plan (temporary facilities plan) | Before Construction | |
| Construction plan (material storage plan) | Before Construction | |
| Construction plan (sewage treatment facility plan) | Before Construction | |
| Construction plan (waste disposal plan) | Before Construction | |
| During Construction | | |
| Operation Situation of plants, construction machinery (operation time, load, etc.) | Monthly | |
| Maintenance situation of plants, construction machinery and transport vehicles | Monthly | |
| Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.) | Monthly | |
| Situation of transportation (route, mitigation measure for dust, etc.) | Monthly | |
| Situation of fueling | Monthly | |
| Situation of sewage treatment of workers' lodgings | Semi-annually | |
| Situation of transport and disposal of wastes | Monthly | |

Hydro-meteor

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|---------------------|---|
| Before Construction | | |
| Construction plan (operating plan of plants and construction machinery) | Before Construction | |
| Construction plan (temporary facilities plan) | Before | |

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|---|------------------------|--|
| | Construction | |
| Construction plan (material storage plan) | Before Construction | |
| Construction plan (sewage treatment facility plan) | Before Construction | |
| Construction plan (waste disposal plan) | Before Construction | |
| During Construction | | |
| Maintenance situation of plans, construction machinery and transport vehicles | Monthly | |
| Situation of fueling | Monthly | |
| Implementation of mitigation measure to prevent scattering of dust (spraying water, etc.) | Monthly | |
| Situation of sewage treatment of workers' lodgings | Semi-annually | |

Topology and Geology

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|------------------------|---|
| Before Construction | | |
| Construction plan (material storage plan) | Before Construction | |
| Construction plan (material procurement plan) | Before Construction | |
| During Construction | | |
| Situation of storage and reuse of excavated soil. | Monthly | |

Regional Economy such as jobs and Livelihood Measures

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---------------------------------------|------------------------|---|
| Before Construction | | |
| Construction plan (workforce plan) | Before Construction | |
| During Construction | | |
| Employment situation of local workers | Semi-annually | |

Existing Social Infrastructure and Social Services

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|------------------------|---|
| Before Construction | | |
| Construction plan (temporary facilities plan) | Before Construction | |

Annex 10 - 4

| | | |
|--|--|--|
| Construction plan (construction process) | Before Construction | |
| Construction plan (transport plan) | Before Construction | |
| During Construction | | |
| Confirmation of partition of work area | Monthly | |
| Confirmation of airport operation | Monthly | |
| During Operation | | |
| Situation of airport operation | Semi-annually (the first operational year) | |

Cultural Heritages

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|---|------------------------|---|
| Before Construction | | |
| Construction plan (temporary facilities plan) | Before Construction | |
| Construction plan (procedures when discovering a heritage and remains bone) | Before Construction | |
| During Construction | | |
| Working situation near the war-dead memorial park | At appropriate time | |

Infectious Diseases such as HIV/AIDS

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|--|------------------------|---|
| Before Construction | | |
| Construction plan (health management plan) | Before Construction | |
| During Construction | | |
| Health condition of workers | Monthly | |

Working Environment

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|--|------------------------|---|
| Before Construction | | |
| Construction plan (health management plan) | Before Construction | |
| During Construction | | |
| Content of the labor contract for workers | Semi-annually | |
| Health condition of workers | Monthly | |

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Accidents

| Monitoring Item | Frequency | Monitoring Results during Report Period |
|--|---------------------|---|
| Before Construction | | |
| Construction plan (construction method) | Before Construction | |
| Construction plan (safety measures) | Before Construction | |
| During Construction | | |
| Confirmation of workers' usage of protection equipment | Monthly | |
| Partition of work area | Monthly | |
| Situation of airport operation | Monthly | |

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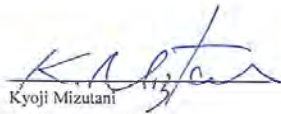
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Appendix -11. Minutes of Discussions (M/D)-3

**Revised Minutes o Discussions
on the Preparatory Survey for
the Project for Improvement of Honiara Airport
(Explanation on Draft Preparatory Survey Report)**

With reference to the Minutes of Discussions (hereinafter referred to as "M/D") on the Project for Improvement of Honiara Airport (hereinafter referred to as "the Project") signed between the Ministry of Communication and Aviation (hereinafter referred to as "MCA") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on February 16, 2018, both sides agreed to replace Annex 8, 9 and 10 of M/D with ones attached herewith.

Honiara, 13th April 2018



Kyoji Mizutani
Resident Representative
Solomon Islands Office
Japan International Cooperation Agency
Japan



Moses S. Virivolomo
Permanent Secretary
Ministry of Communication and Aviation
Solomon Islands

Annex 8 Environmental Management Plan
Annex 9 Environmental Monitoring Plan
Annex 10 Environmental and Social Monitoring Form

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

| Impact Item | Mitigation Measures | Location | Implementation Timing | Implementation Organization | Management Organization | Cost |
|--|--|--|-----------------------|-----------------------------|-------------------------|-------------------------------|
| Air Pollution | Choose the appropriate transport route in transporting materials. The route should be the shortest and must be determined in consideration of the surrounding environment. | Transportation Route | Before Construction | Construction Company | MCA | Included in construction cost |
| | When transporting materials, take measures such as covering the load with sheets to prevent dust from scattering. | Transportation Route | During Construction | Construction Company | MCA | Included in construction cost |
| | Turn off the engine of the construction machines frequently to avoid idling. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Sprinkle water according to the situation during work, to suppress dust scattering. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Maintain the plants, construction machinery and transportation vehicles in good condition to reduce exhaust emissions. | Project Site, Transportation Route, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Use low emission construction machinery and transportation vehicles if possible. | Project Site, Transportation Route, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Although EIA is not needed, MCA will implement the Initial Environmental Examination (IEE) on the quarry after the quarry is decided. | Quarry | Before Construction | MCA | MCA | MCA will cover |
| | Water Contamination | Refuel carefully so as not to spill oil and avoid refueling as much as possible during rain. | Project Site, Quarry | During Construction | Construction Company | MCA |
| Frequently collect small garbage etc. generated at the work place by using a vacuum cleaner and the like. | | Project Site, Quarry | During Construction | Construction Company, | MCA | Included in construction cost |
| Cover the materials at the temporary storage place and soil exposed during work by using sheets etc. to prevent scattering as necessary. | | Project Site, | During Construction | Construction Company | MCA | Included in construction cost |
| Maintain the plants, construction machinery and transportation vehicles well and keep them in good condition so as not to cause oil leakage. | | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| Although EIA is not needed, MCA will implement the Initial Environmental Examination (IEE) on the quarry after the quarry is decided. | | Quarry | Before Construction | MCA | MCA | MCA will cover |

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| Impact Item | Mitigation Measures | Location | Implementation Timing | Implementation Organization | Management Organization | Cost |
|---------------------|---|--|----------------------------|-----------------------------|-------------------------|-------------------------------|
| | Implement appropriate maintenance so that the newly constructed septic tank functions properly. | Honiara Airport | During Operation | MCA | MCA | Included in operation cost |
| Wastes | Frequently collect and transport generated wastes. | Project Site, Transportation Route | During Construction | Construction Company | MCA | Included in construction cost |
| | When transporting wastes, take measures to prevent falling and scattering, such as covering the loading platform with a sheet. | Transportation Route | During Construction | Construction Company | MCA | Included in construction cost |
| | Reduce soil residue by using soil generated during construction as much as possible for embankment and levee construction. | Project Site | During Construction | Construction Company | MCA | Included in construction cost |
| | Wastes are transported to Ranadi Dumpsite, a designated disposal site with environmental permit. | Transportation Route, Disposal Site | During Construction | Construction Company | MCA | Included in construction cost |
| | Select the work plan and materials to reduce wastes as much as possible. | Project Site | Before/During Construction | Construction Company | MCA | Included in construction cost |
| Soil Contamination | Refuel carefully so as not to spill oil and avoid refueling during rain as much as possible | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Frequently collect small garbage etc. generated at the work place by using a vacuum cleaner and the like. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | When doing material processing work etc. on the soil, spread sheets and the like to prevent chips etc. from falling on the soil. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Although EIA is not needed, MCA will implement the Initial Environmental Examination (IEE) on the quarry after the quarry is decided. | Quarry | Before Construction | MCA | MCA | MCA will cover |
| Noise and Vibration | Limit plant operating hours and avoid nighttime operation. | Project Site | During Construction | Construction Company | MCA | Included in construction cost |
| | Maintain plants, construction machines and transportation vehicles in good condition and avoid operation under excessive load. | Project Site, Transportation Route, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Frequently turn off the engines of plants, construction machines and transport vehicles to avoid idling. | Project Site, Transportation Route, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Use low noise construction machinery if possible. | Project Site, Transportation Route, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Although EIA is not needed, MCA will implement the Initial | Quarry | Before Construction | MCA | MCA | MCA will cover |

Annex 8 - 2

KM

7/7

| Impact Item | Mitigation Measures | Location | Implementation Timing | Implementation Organization | Management Organization | Cost |
|--|---|--|----------------------------|-----------------------------|-------------------------|-------------------------------|
| | Environmental Examination (IEE) on the quarry after the quarry is decided. | | | | | |
| Ecosystem | Turn off the engine of the construction machines frequently to avoid idling. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Maintain the plants, construction machinery and transportation vehicles in good condition to reduce exhaust emissions. | Project Site, Transportation Route, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Refuel carefully so as not to spill oil and avoid refueling as much as possible during rain. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Frequently collect and transport generated wastes. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Although EIA is not needed, MCA will implement the Initial Environmental Examination (IEE) on the quarry after the quarry is decided. | Quarry | Before Construction | MCA | MCA | MCA will cover |
| Hydro-meteor | Maintain the plants and construction machinery well to keep them in good condition so as not to cause oil leakage. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Refuel carefully so as not to spill oil and avoid refueling as much as possible during rain. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Frequently collect and transport generated wastes. | Project Site, Transportation Vehicle | During Construction | Construction Company | MCA | Included in construction cost |
| | Although EIA is not needed, MCA will implement the Initial Environmental Examination (IEE) on the quarry after the quarry is decided. | Quarry | Before Construction | MCA | MCA | MCA will cover |
| Topology and Geology | Use as much soil generated during construction as possible for embankment and construction of the dike | Project Site | During Construction | Construction Company | MCA | Included in construction cost |
| | Quarrying in the designated area based on the contract. | Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Although EIA is not needed, MCA will implement the Initial Environmental Examination (IEE) on the quarry after the quarry is decided. | Quarry | Before Construction | MCA | MCA | MCA will cover |
| Regional Economy such as Employ. and Livelihood Measures | Instruct third-country laborers not to affect the local regional economy by conducting business etc. | Project Site | Before/During Construction | Construction Company | MCA | Included in construction cost |
| Land Use and Regional | Quarrying in the designated area based on the contract. | Quarry | During Construction | Construction Company | MCA | Included in construction |

Annex 8 - 3

KM

TH

| Impact Item | Mitigation Measures | Location | Implementation Timing | Implementation Organization | Management Organization | Cost |
|--|---|----------------------|------------------------------|-----------------------------|-------------------------|-------------------------------|
| Resource Use | Although EIA is not needed, MCA will implement the Initial Environmental Examination (IEE) on the quarry after the quarry is decided. | Quarry | Before Construction | MCA | MCA | MCA will cover |
| | | | | | | cost |
| Existing Social Infrastructure and Social Services | Establish a construction plan that would minimize the impact on the airport operation during construction. | Project Site | Before Construction | Construction Company | MCA | Included in construction cost |
| | Partition the work area thoroughly and clearly divide the operation area from the work area. | Project Site | During Construction | Construction Company | MCA | Included in construction cost |
| | Ensure that transport vehicles travel on the appropriate route complying with traffic rules. | Transportation Route | During Construction | Construction Company | MCA | Included in construction cost |
| | Educate the airport staff so that the facilities expanded by this project are properly operated. | Honiara Airport | During Operation | MCA | MCA | Included in operation cost |
| Cultural Heritages | Provide barricades between the war dead memorial park and the work area and carefully work around the boundary. | Project Site | During Construction | Construction Company | MCA | Included in construction cost |
| | Set up procedures in case that legacy or remains are discovered during the construction, and notify the workers in advance. | Project Site | During Construction | Construction Company | MCA | Included in construction cost |
| Infectious Diseases such as HIV/AIDS | Educate all construction workers on prevention of infectious diseases. | - | During Construction | Construction Company | MCA | Included in construction cost |
| | In case of suspected infection, prompt the workers to seek medical attention. | - | During Construction | Construction Company | MCA | Included in construction cost |
| Working Environment | Develop a work plan that fully takes into account the safety of workers. | - | Before Construction | Construction Company | MCA | Included in construction cost |
| | Conclude labor contracts in accordance with the local labor standards. | - | Before / During Construction | Construction Company | MCA | Included in construction cost |
| | In addition to the health check at the time of employment, regularly confirm the health condition of workers during construction. | - | Before / During Construction | Construction Company | MCA | Included in construction cost |
| Accidents | Implement safety education for workers. | - | Before / During Construction | Construction Company | MCA | Included in construction cost |
| | Ensure workers to wear protective equipment (helmet, safety belt, gloves, etc.). | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |
| | Partition the work area clearly. Particularly, the section of heavy equipment operation range is to be clearly defined. | Project Site, Quarry | During Construction | Construction Company | MCA | Included in construction cost |

Source: JICA Study Team

Annex 8 - 4

KAI

SH

ENVIRONMENTAL MONITORING PLAN (EMoP)

| 【Before Construction】 | | | | | | |
|---|---|-------------------------------|---------------------|-----------------------------|-----------------------------|-------------------------|
| Item | Method | Period | Frequency | Implementation Organization | Management Organization | |
| Air Pollutions, Water Contamination, Soil Contaminations, Noise Vibrations, Ecosystems, Hydro-meteorare, Topology Geology, Land Use and Regional Resource Use | Review if air pollutions, water contamination, soil contaminations, noise vibrations, ecosystems, hydro-meteorare, topology geology, land use and regional resource use are properly considered in IEE of quarry site in accordance with JICA Environment and Social Consieration Guideline | Before construction | At least once | MCA | MCA | |
| Air Pollution, Water Contamination, Wastes, Soil Contamination, Noise and Vibration, Ecosystem, Hydro-meteor, Topology and Geology, Regional Economy such as Employ and Livelihood Measures, Land Use and Regional Resource Use, Existing Social Infrastructure and Social Services, Cultural Heritages, Infectious Diseases such as HIV/AIDS, Working Environment, Accidents | Confirm if mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | Before construction | At least once | MCA | MCA | |
| Item | Method | Location | Period | Frequency | Implementation Organization | Management Organization |
| Air Pollution | Measure the PM2.5 Concentration | Project site, Quarry | Before construction | At least once | MCA | MCA |
| Water | Measure the COD of drainage, river | Project site, Quarry | Before construction | At least once | MCA | MCA |
| | Measure the amount of phenols included in drainage, river | Project site, Quarry | Before construction | At least once | MCA | MCA |
| 【During Construction】 | | | | | | |
| Item | Method | Period | Frequency | Implementation Organization | Management Organization | |
| Air Pollutions, Water Contamination, Soil Contaminations, Noise Vibrations, Ecosystems, Hydro-meteorare, Topology Geology, Land Use and Regional Resource Use | Check implementation status and effect of mitigation measures described in IEE of quarry site | Entire period of construction | Monthly | MCA | MCA | |
| Item | Method | Location | Period | Frequency | Implementation Organization | Management Organization |
| Air Pollution | Monitor the operation | Project site, | Entire | Monthly | MCA | MCA |

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| | | | | | | |
|---------------------|---|--|-------------------------------|---------------|-----|-----|
| | situation of plants, construction machineries and transportation vehicles (operation time, load, etc.). | Transportation route, Quarry | period of construction | | | |
| | Monitor the maintainance situation of plants, construction machineries and transportation vehicles. | Project site, Transportation route, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the implementation situation of mitigation measurs to prevent scattering of dust (spraying water, etc.). | Project site, Transportation route, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of transportation (route, mitigation measures for scattering, etc.). | Transportation route | Entire period of construction | Monthly | MCA | MCA |
| | Measure the PM2.5 concentration | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| Water Contamination | Monitor the maintainance situation of plants, construction machineries and transportation vehicles. | Project site, Transportation route, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of fueling. | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | Project site, Transportation route, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of sewage treatment of workers' lodgings. | Wokers' lodgings | Entire period of construction | Semi-annually | MCA | MCA |
| | Measure the COD of drainage, river | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Measure the amount of phenols included in drainage, river | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| Wastes | Monitor the transportation and disposal situation of wastes. | Transportation route Disposal site | Entire period of construction | Monthly | MCA | MCA |
| | Confirm waste volume generated. | Project site | Entire period of construction | Monthly | MCA | MCA |
| Soil Contamination | Monitor the maintainance situation of plants, construction machineries and transportation vehicles. | Project site, Transportation route, Quarry | Entire period of construction | Monthly | MCA | MCA |
| Noise and Vibration | Monitor the maintainance situation of plants, construction machineries and transportation vehicles. | Project site, Transportation route Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Measure the Noise level | Boundary of the project site, quarry | Entire period of construction | Monthly | MCA | MCA |
| Ecosystem | Monitor the operation | Project site, | Entire | Monthly | MCA | MCA |

Annex 9 - 2

KM

| | | | | | | |
|---|---|---|-------------------------------|---------------------|-----|-----|
| | situation of plants, construction machineries and transportation vehicles (operation time, load, etc.). | Transportation route Quarry | period of construction | | | |
| | Monitor the maintainance situation of plants, construction machineries and transportation vehicles. | Project site, Transportation route Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | Project site, Transportation route Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of fueling. | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of sewage treatment of workers' lodgings. | Workers' lodgings | Entire period of construction | Semi-annually | MCA | MCA |
| | Monitor the situation of transportation and disposal of wastes. | Transportation route Disposal site | Entire period of construction | Monthly | MCA | MCA |
| Hydro-meteor | Monitor the maintainance situation of plants, construction machineries and transportation vehicles. | Project site, Transportation route Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of fueling. | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | Project site, Transportation route, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of sewage treatment of workers' lodgings. | Workers' lodgings | Entire period of construction | Semi-annually | MCA | MCA |
| Topology and Geology | Monitor the situation of storage and reuse of excavated soil. | Project site | Entire period of construction | Monthly | MCA | MCA |
| Regional Economy such as jobs and Livelihood Measures | Monitor the employment situation of local workers. | - | Entire period of construction | Semi-annually | MCA | MCA |
| Land Use and Regional Resource Use | Monitor the working situation at the quarry. | Quarry | Entire period of construction | Monthly | MCA | MCA |
| Existing Social Infrastructure and Social Services | Monitor the situation of partition of work area. | Project site, Transportation route | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the operation situation of the airport. | Honiara airport | Entire period of construction | Monthly | MCA | MCA |
| Cultural Messages | Monitor the working situation near the sea-dead reservoir par | Project site | Entire period of construction | At appropriate time | MCA | MCA |
| Infectious Diseases such | Confirm the health condition of workers | - | Entire period of | Monthly | MCA | MCA |

Annex 9 - 3

KM

RD

| | | | | | | |
|--|--|----------------------|-------------------------------|--|------------------------------------|--------------------------------|
| as HIV/AIDS | | | construction | | | |
| Working Environment | Confirm the content of the labor contract for workers. | - | Entire period of construction | Semi-annually | MCA | MCA |
| | Confirm the health condition of workers | - | Entire period of construction | Monthly | MCA | MCA |
| Accidents | Monitor the situation of workers' usage of protection equipment. | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the situation of partition of work area | Project site, Quarry | Entire period of construction | Monthly | MCA | MCA |
| | Monitor the operation situation of the airport. | Honiara airport | Entire period of construction | Monthly | MCA | MCA |
| 【During Operation】 | | | | | | |
| Item | Method | Location | Period | Frequency | Implementation Organization | Management Organization |
| Water Contamination | Monitor the operation situation of new sewage disposable facilities. | Honiara Airport | Entire period of construction | Semi-annually (for 3 years after construction) | MCA | MCA |
| Existing Social Infrastructure and Social Services | Monitor the operation situation of the airport. | Honiara Airport | Entire period of construction | Semi-annually (for 3 years after construction) | MCA | MCA |

Source: JICA Study Team

*MCA will report the result of monitoring in the form of Environmental and Social Monitoring Form to the consultant monthly, and the consultant will submit the Environmental and Social Monitoring Form to JICA.

Annex 9 - 4

KM

ST

Annex 10

ENVIRONMENTAL AND SOCIAL MONITORING FORM

- If environmental reviews indicate the need of monitoring by JICA, JICA undertakes monitoring for necessary items that are decided by environmental reviews. JICA undertakes monitoring based on regular reports including measured data submitted by the project proponent. When necessary, the project proponent should refer to the following monitoring form for submitting reports.
- When monitoring plans including monitoring items, frequencies and methods are decided, project phase or project life cycle (such as construction phase and operation phase) should be considered.

Air Pollution

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Air pollution is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| PM2.5 concentration at the project site, quarry. | 10 $\mu\text{g}/\text{m}^3$ (WHO Guideline) | At least once | $\mu\text{g}/\text{m}^3$ | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | | Monthly | Acceptable Unacceptable | |
| Operation situation of plants, construction machineries and transportation vehicles (operation time, load, etc.). | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | - | Monthly | Acceptable Unacceptable | |
| Situation of transportation (route, mitigation measures for scattering, etc.). | - | Monthly | Acceptable Unacceptable | |
| PM2.5 concentration at the project site, quarry. | 10 $\mu\text{g}/\text{m}^3$ (WHO Guideline) | Monthly | $\mu\text{g}/\text{m}^3$ | |

Annex 10 - 1

KM

HT

Water Contamination

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Water Contamination is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| COD of drainage, river. | Drainage:120mg/l River:8mg/l (Ministry of the Environment of Japan) | At least once | Drainage: mg/l River: mg/l | |
| Phenols included in drainage, river. | Drainage:5mg/l (Ministry of the Environment of Japan) | At least once | Drainage: mg/l River: mg/l | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintainance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Situation of fueling. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | - | Monthly | Acceptable Unacceptable | |
| Situation of sewage treatment of workers' lodgings. | - | Semi-annually | Acceptable Unacceptable | |
| COD of drainage, river. | Drainage:120mg/l River:8mg/l (Ministry of the Environment of Japan) | Monthly | Drainage: mg/l River: mg/l | |
| Phenols included in drainage, river. | Drainage:5mg/l (Ministry of the Environment of Japan) | Monthly | Drainage: mg/l River: mg/l | |

Annex 10 - 2

KM

| During Operation | | | | |
|--|---|---|----------------------------|--|
| Operation situation of new sewage disposable facilities. | - | Semi-annually (for 3 years after construction) | Acceptable Unacceptable | |

Waste

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---------------------------|------------------|--|----------------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Transportation and disposal situation of wastes. | - | Monthly | Acceptable Unacceptable | |
| Waste volume generated. | - | Monthly | Acceptable Unacceptable | |

Soil Contamination

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|---|---------------------------|------------------|--|----------------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Soil Contamination is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |

Annex 10 - 3

KM

Noise / Vibration

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Noise / Vibration is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Noise level at the boundary of the construction site. | 85db (Ministry of the Environment of Japan) | Monthly | db | |

Ecosystem

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Ecosystem is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Operation situation of plants, construction machineries and transportation vehicles (operation time, load, etc.). | - | Monthly | Acceptable Unacceptable | |

Annex 10 - 4

KM

HB

| | | | | |
|---|---|---------------|----------------------------|--|
| Maintainance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | - | Monthly | Acceptable Unacceptable | |
| Situation of fueling. | - | Monthly | Acceptable Unacceptable | |
| Situation of sewage treatment of workers' lodgings. | - | Semi-annually | Acceptable Unacceptable | |
| Situation of transportation and disposal of wastes . | - | Monthly | Acceptable Unacceptable | |

Hydro-meteor

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|---|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Hydro-meteor is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintainance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Situation of fueling. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | - | Monthly | Acceptable Unacceptable | |
| Situation of sewage treatment of workers' lodgings. | - | Semi-annually | Acceptable Unacceptable | |

Annex 10 - 5

KM

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Topology and Geology

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Topology and Geology are properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Situation of storage and reuse of excavated soil. | - | Monthly | Acceptable Unacceptable | |

Regional Economy such as Employ and Livelihood Measures

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Employment situation of local workers. | - | Semi-annually | Acceptable Unacceptable | |

Land Use and Regional Resource Use

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Land Use and Regional Resource Use are properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |

Annex 10 - 6

KM

AK

| During Construction | | | | |
|--|---|---------|----------------------------|--|
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Working situation at the quarry. | - | Monthly | Acceptable Unacceptable | |

Existing Social Infrastructure and Social Services

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---------------------------|--|--|----------------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Situation of partition of work area. | - | Monthly | Acceptable Unacceptable | |
| Operation situation of the airport. | - | Monthly | Acceptable Unacceptable | |
| During Operation | | | | |
| Operation situation of the airport. | - | Semi-annually (for 3 years after construction) | Acceptable Unacceptable | |

Cultural Heritages

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---------------------------|---------------------|--|----------------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Working situation near the war-dead memorial park. | - | At appropriate time | Acceptable Unacceptable | |

Annex 10 - 7

KM

HL

Infectious Diseases such as HIV/AIDS

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Health condition of workers. | - | Monthly | Acceptable Unacceptable | |

Working Environment

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Content of the labor contract for workers. | - | Semi-annually | Acceptable Unacceptable | |
| Health condition of workers. | - | Monthly | Acceptable Unacceptable | |

Accidents

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Situation of workers' usage of protection equipment. | - | Monthly | Acceptable Unacceptable | |
| Situation of partition of work area. | - | Monthly | Acceptable Unacceptable | |

Annex 10 - 8

KM

JK

| | | | | |
|-------------------------------------|---|---------|----------------------------|--|
| Operation situation of the airport. | - | Monthly | Acceptable Unacceptable | |
|-------------------------------------|---|---------|----------------------------|--|

Source: JICA Study Team

Annex 10 - 9

KM

HE

Appendix -12. Draft Monitoring Form

ENVIRONMENTAL AND SOCIAL MONITORING FORM

- If environmental reviews indicate the need of monitoring by JICA, JICA undertakes monitoring for necessary items that are decided by environmental reviews. JICA undertakes monitoring based on regular reports including measured data submitted by the project proponent. When necessary, the project proponent should refer to the following monitoring form for submitting reports.
- When monitoring plans including monitoring items, frequencies and methods are decided, project phase or project life cycle (such as construction phase and operation phase) should be considered.

Air Pollution

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Air pollution is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| PM2.5 concentration at the project site, quarry. | 10 μ g/m ³ (WHO Guideline) | At least once | μ g/m ³ | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | | Monthly | Acceptable Unacceptable | |
| Operation situation of plants, construction machineries and transportation vehicles (operation time, load, etc.). | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation | - | Monthly | Acceptable | |

| | | | | |
|--|--|---------|----------------------------|--|
| measures to prevent scattering of dust (spraying water, etc.). | | | Unacceptable | |
| Situation of transportation (route, mitigation measures for scattering, etc.). | - | Monthly | Acceptable Unacceptable | |
| PM2.5 concentration at the project site, quarry. | 10 $\mu\text{g}/\text{m}^3$ (WHO Guideline) | Monthly | $\mu\text{g}/\text{m}^3$ | |

Water Contamination

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Water Contamination is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| COD of drainage, river. | Drainage:120mg/l River:8mg/l (Ministry of the Environment of Japan) | At least once | Drainage: mg/l River: mg/l | |
| Phenols included in drainage, river. | Drainage:5mg/l (Ministry of the Environment of Japan) | At least once | Drainage: mg/l River: mg/l | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Situation of fueling. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | - | Monthly | Acceptable Unacceptable | |

| | | | | |
|--|---|---|-------------------------------|--|
| Situation of sewage treatment of workers' lodgings. | - | Semi-annually | Acceptable Unacceptable | |
| COD of drainage, river. | Drainage:120mg/ℓ River:8mg/ℓ (Ministry of the Environment of Japan) | Monthly | Drainage: mg/ℓ River: mg/ℓ | |
| Phenols included in drainage, river. | Drainage:5mg/ℓ (Ministry of the Environment of Japan) | Monthly | Drainage: mg/ℓ River: mg/ℓ | |
| During Operation | | | | |
| Operation situation of new sewage disposable facilities. | - | Semi-annually (for 3 years after construction) | Acceptable Unacceptable | |

Waste

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Transportation and disposal situation of wastes. | - | Monthly | Acceptable Unacceptable | |
| Waste volume generated. | - | Monthly | Acceptable Unacceptable | |

Soil Contamination

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |

| | | | | |
|---|---|---------------|----------------------------|--|
| Soil Contamination is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |

Noise / Vibration

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Noise / Vibration is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Noise level at the boundary of the construction site. | 85db (Ministry of the Environment of Japan) | Monthly | db | |

Ecosystem

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |

| | | | | |
|--|---|---------------|----------------------------|--|
| Ecosystem is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Operation situation of plants, construction machineries and transportation vehicles (operation time, load, etc.). | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | - | Monthly | Acceptable Unacceptable | |
| Situation of fueling. | - | Monthly | Acceptable Unacceptable | |
| Situation of sewage treatment of workers' lodgings. | - | Semi-annually | Acceptable Unacceptable | |
| Situation of transportation and disposal of wastes. | - | Monthly | Acceptable Unacceptable | |

Hydro-meteor

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|---|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Hydro-meteor is properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |

| During Construction | | | | |
|---|---|---------------|----------------------------|--|
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Maintenance situation of plants, construction machineries and transportation vehicles. | - | Monthly | Acceptable Unacceptable | |
| Situation of fueling. | - | Monthly | Acceptable Unacceptable | |
| Implementation situation of mitigation measures to prevent scattering of dust (spraying water, etc.). | - | Monthly | Acceptable Unacceptable | |
| Situation of sewage treatment of workers' lodgings. | - | Semi-annually | Acceptable Unacceptable | |

Topology and Geology

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---------------------------|------------------|--|----------------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Topology and Geology are properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | - | Monthly | Acceptable Unacceptable | |
| Situation of storage and reuse of excavated soil. | - | Monthly | Acceptable Unacceptable | |

Regional Economy such as Employ and Livelihood Measures

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Employment situation of local workers. | - | Semi-annually | Acceptable Unacceptable | |

Land Use and Regional Resource Use

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| Land Use and Regional Resource Use are properly considered in IEE of quarry site in accordance with JICA Environment and Social Consideration Guideline. | - | At least once | Yes No | |
| During Construction | | | | |
| Implementation status and effect of mitigation measures described in IEE of quarry site. | | Monthly | Acceptable Unacceptable | |
| Working situation at the quarry. | - | Monthly | Acceptable Unacceptable | |

Existing Social Infrastructure and Social Services

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |

| During Construction | | | | |
|--------------------------------------|---|---|----------------------------|--|
| Situation of partition of work area. | - | Monthly | Acceptable Unacceptable | |
| Operation situation of the airport. | - | Monthly | Acceptable Unacceptable | |
| During Operation | | | | |
| Operation situation of the airport. | - | Semi-annually (for 3 years after construction) | Acceptable Unacceptable | |

Cultural Heritages

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---------------------------|---------------------|--|----------------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Working situation near the war-dead memorial park. | - | At appropriate time | Acceptable Unacceptable | |

Infectious Diseases such as HIV/AIDS

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|---------------------------|------------------|--|----------------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Health condition of workers. | - | Monthly | Acceptable Unacceptable | |

Working Environment

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Content of the labor contract for workers. | - | Semi-annually | Acceptable Unacceptable | |
| Health condition of workers. | - | Monthly | Acceptable Unacceptable | |

Accidents

| Monitoring Item | Reference Standard | Frequency | Monitoring Results during Report Period | Remarks |
|--|--------------------|---------------|---|---------|
| Before Construction | | | | |
| Mitigation measures stated in Environmental Management Plan (EMP) are included in the construction plan. | - | At least once | Yes No | |
| During Construction | | | | |
| Situation of workers' usage of protection equipment. | - | Monthly | Acceptable Unacceptable | |
| Situation of partition of work area. | - | Monthly | Acceptable Unacceptable | |
| Operation situation of the airport. | - | Monthly | Acceptable Unacceptable | |

Appendix -13. Environmental Check List

| Category | Environmental Item | Main Check Items | Yes: Y No: N | Confirmation of Environmental Considerations (Reasons, Mitigation Measures) |
|---------------------------|---|---|-----------------|--|
| 1 Permits and Explanation | (1) EIA and Environmental Permits | (a) Have EIA reports been already prepared in official process? | (a)N | (a),(b),(c)Proposal Application has submitted from MCA to ECD. ECD will evaluate the Proposal Application and decide whether EIA is required for this projector not. (d)Not Required. |
| | | (b) Have EIA reports been approved by authorities of the host country's government? | (b)N | |
| | | (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? | (c)N | |
| | (2) Explanation to the Local Stakeholders | (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government? | (d)N/A | (a)Contents of the project and potential impacts will be disclosed in EIA procedures. If ECD requires the stakeholder meeting, MCA will hold the stakeholder meeting. (b)Comments from stakeholders will be reflected to the project design. |
| | | (a) Have contents of the project and the potential impacts been adequately explained to the local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the local stakeholders? | (a)N | |
| | | (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design? | (b)N | |
| | (3) Examination of Alternatives | (a) Have alternative plans of the project been examined with social and environmental considerations? | (a)Y | (a)Alternative plans have been examined regarding construction site, construction method and flood protection facility. (a)Impacts caused by air pollutants that are emitted from airplane are insignificant and movements of airplane will not increase suddenly after completion of the project. (b)There is no standard regarding air pollution in Solomon Islands. |
| | | (a) Are there any potential impacts caused by air pollutants that are emitted from airplane? Do pollutants comply with the country's standards? Are adequate measures taken? | (a)Y | |
| | | (b) In the case of the condition of air pollution already exceed the country's standards, will the project worsen the air quality? Are adequate measures taken? | (b)N/A | |
| | (1) Air Quality | (a) Do pollutants, such as Suspended Solids (SS), and oils contained in effluents comply with the country's effluent standards (BOD, COD etc.)? Is there a possibility that the effluents from the project will cause areas not to comply with the country's ambient water quality standards? | (a)N/A | (a)There is no standard regarding water quality in Solomon Islands. Currently, the sewage from Honiara airport is not disposed adequately because septic tank is not working. Installation of new septic tank is planned in this project and it will contribute to improvement of water quality. |
| | | (2) Water Quality | (a)N/A | |
| | | (3) Wastes | (a)Y | |
| 2 Pollution Control | (4) Noise and Vibration | (a) Are wastes generated from the airports and other project facilities properly treated and disposed of in accordance with the country's regulations? | (a)Y | (a)There is no standard regarding noise and vibration. (b)Impacts of noise and vibration are insignificant because residential areas, stores and public facilities are located more than 100m away from Honiara airport. |
| | | (b) Is there a possibility that noise and vibrations from various sources, such as airport users vehicles and vehicles for airport operations will adversely affect ambient noise levels? If impacts are anticipated, are adequate noise mitigation measures considered? | (a)N/A | |
| | | (a) Has the soil in the project site been contaminated in the past? Are adequate measures taken to prevent soil contamination by leakage of fuels? | (b)Y | |
| | (5) Soil Contamination | (a) Are there any odor sources? Are adequate odor control measures taken? | (a)N | (a)The soil in the project site has not been contaminated. Leakage of fuels will be prevented by fueling adequately. (a)The extraction of groundwater is not planned in this project. (a)There will be no odor source in the project site. |
| | | (6) Subsidence | (a)N/A | |
| | | (7) Odor | (a)N/A | |

| | | | | |
|-----------------------|----------------------------|---|--|--|
| 3 Natural Environment | (1) Protected Areas | (a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas? (a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms? | (a)N (a)N (b)N (C)N/A (d)N | (a)There is no protected area around the project site. (a)There is not such place around the project site. (b)There is no protected habitat of endangered species around the project site. (c)Significant ecological impact is not anticipated. (d)Significant impact to aquatic environments is not anticipated. |
| | (2) Ecosystem | | | |
| | (3) Hydrology | (a) Is there any possibility that alteration of drainage system due to the constructions of airports and related facilities will adversely affect surface water and groundwater flows? (b) Do the facilities affect adversely flow regimes, waves, tides, currents of rivers and etc. if the project facilities are constructed on/by the seas? (a) Does the project require the large scale change of topographic/geographic features? (b) Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? (c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff? (d) In the case of offshore projects, is there any possibility that the project will erode natural beaches? | (a)N (b)N/A | (a)Adverse impacts to surface water and groundwater flows are not anticipated. (b)Adverse impacts to flow regimes, waves, tides, currents of rivers are not anticipated. |
| | (4) Topography and Geology | | | |
| 4 Social Environment | (1) Resettlement | (a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Are the compensations going to be paid prior to the resettlement? (e) Are the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established? | (a)N (b)N/A (c)N/A (d)N/A (e)N/A (f)N/A (g)N/A (h)N/A (i)N/A (j)N/A | (a)The project does not require the resettlement. (a)The project does not require the large scale change of topographic/geographic features (b)Adequate measures prevent slope failures or landslides will be considered. (c)The soil runoff will be prevented by taking adequate measures (d)The project is not offshore project. |
| | | | | |

| | | | | |
|------------------------|--|--|--|---|
| | | <p>(a) Is there any possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>(b) Is there any possibility that the project causes the change of land uses in the neighboring areas to affect adversely livelihood of local people?</p> <p>(c) Is there any possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?</p> <p>(d) Is sufficient infrastructure (e.g., roads) available for the project implementation? If the existing infrastructure is insufficient, is a plan developed to construct new infrastructure or improve the existing infrastructure?</p> <p>(e) Is there any possibility that the airports and other project structures will cause a sun shading and radio interference?</p> | <p>(a)N (b)N (c)Y (d)Y (e)N</p> | <p>(a) Although impacts to the living conditions of inhabitants is insignificant, mitigation measures will be taken to reduce the impacts.</p> <p>(b) Transportation vehicles used for the project are very few compared to traffic volume around the project site. Impacts to the change of land use are not anticipated.</p> <p>(c) There is little risk of infection of diseases due to immigration of workers associated with the project. Adequate measures will be taken to minimize the risk.</p> <p>(d) Sufficient infrastructure is available in the vicinity of the project site.</p> <p>(e) Sun shading and radio interference are not anticipated</p> |
| | (2) Living and Livelihood | <p>(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?</p> | (a)N | <p>(a) There is not local archeological, historical, cultural, and religious heritage. The memorial park of WWII is located at the north side of the project site. Adequate mitigation measures will be taken to minimize the risk to affect to the memorial park.</p> |
| 4 Social Environment | (3) Heritage | <p>(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?</p> | (a)N | <p>(a) There is no local landscape that should be considered and no adverse impacts are anticipated.</p> |
| | (4) Landscape | <p>(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples?</p> <p>(b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?</p> | (a)N/A (b)N/A | <p>(a) Impacts on the culture and lifestyle of ethnic minorities and indigenous peoples are not anticipated.</p> <p>(b) Impacts on the culture and lifestyle of ethnic minorities and indigenous peoples are not anticipated.</p> |
| | (5) Ethnic Minorities and Indigenous Peoples | <p>(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project?</p> <p>(b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials?</p> <p>(c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.?</p> <p>(d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?</p> | (a)Y (b)Y (c)Y (d)Y | <p>(a) The contractor will comply with laws and ordinances associated with the working conditions.</p> <p>(b) Tangible safety considerations will be included in construction plan.</p> <p>(c) Intangible measures will be included in construction plan.</p> <p>(d) Appropriate measures will be taken to ensure that security guards not to violate safety of other individuals involved, or local residents.</p> |
| (6) Working Conditions | <p>(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?</p> <p>(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?</p> <p>(c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?</p> | (a)Y (b)N/A (c)N/A | <p>(a) Adequate measures will be taken to reduce impacts during construction.</p> <p>(b) Adverse impacts to the natural environment are not anticipated.</p> <p>(c) Adverse impacts to the social environment are not anticipated.</p> | |
| 5 Others | (1) Impacts during Construction | | | |

| | | | | |
|----------|---|--|---|--|
| 5 Others | (2) Monitoring | <p>(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>(b) What are the items, methods and frequencies of the monitoring program?</p> <p>(c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>(d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?</p> | <p>(a) Y</p> <p>(b) N/A</p> <p>(c) N/A</p> <p>(d) N/A</p> | <p>(a) Monitoring program will be included in PER/EIS and implemented in accordance with the regulation of Solomon Islands.</p> <p>(b) Decided in PER/EIS.</p> <p>(c) Suggested in PER/EIS.</p> <p>(d) Decided in PER/EIS.</p> |
| 6 Note | Reference to Checklist of Other Sectors | <p>(a) Where necessary, pertinent items described in the Roads, Railways, and Bridges checklist should also be checked (e.g., projects including large areas of deforestation).</p> <p>(b) If the airport is constructed on the sea, pertinent items described in the Ports and Harbors checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).</p> <p>(c) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).</p> | <p>(a) N/A</p> <p>(b) N/A</p> <p>(c) N/A</p> | <p>(a) The project is not include any constructions other than the airport.</p> <p>(b) Honiara airport is not the airport on the sea.</p> <p>(c) The project does not include large areas of deforestation.</p> |
| | Note on Using Environmental Checklist | <p>(a) If necessary, the impacts to trans boundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as trans boundary waste treatment, acid rain, destruction of the ozone layer, or global warming).</p> | <p>(a) N/A</p> | <p>(a) Impacts to trans boundary or global issues is not anticipated.</p> |

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.

In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.