

【添付資料－6】 討議議事録(M/D)

(2020年9月)

Minutes of Discussions
on the Preparatory Survey on the Project for
Upgrading of the Kukum Highway Phase 2
(Explanation on Draft Preparatory Survey Report)

In response to the request from the Government of Solomon Islands (hereinafter referred to as "SIG ") dated on July 27, 2020 and with reference to the Minutes of Discussions signed between Ministry of Infrastructure Development (hereinafter referred to as "MID") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") dated on October 28, 2019, JICA scheduled to dispatch the Preparatory Survey Team (hereinafter referred to as "the Team") for the explanation of Draft Preparatory Survey Report (hereinafter referred to as "the Draft Report") on the Project for Upgrading of the Kukum Highway Phase 2 (hereinafter referred to as "the Project"). But due to an avoidable reason, the Team couldn't be dispatched and then the discussions were held remotely.

As a result of the discussions, both sides agreed on the main items described in the attached sheets.

Honiara, September 21, 2020

土垣 孝之

Mr. UEGAKI Motoyuki
Resident Representative

JICA Solomon Islands Office
Japan International Cooperation Agency
Japan



Mr. Stephen W. Maesiola
Permanent Secretary

Ministry of Infrastructure Development
Solomon Islands

ATTACHEMENT

1. Contents of the Draft Report

After the explanation of the contents of the Draft Final Report by the Team, the SIG side agreed to its contents.

2. Cost estimate

Both sides confirmed that the cost estimate including the contingency by the Team 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.

3. 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.

4. Japanese Grant

Procedures and Basic Principles of Japanese Grant as described in Annex 1 shall be applied to the Project. In addition, the SIG side agreed to take necessary measures according to the procedures.

MID shall coordinate with all the relevant authorities to ensure a smooth implementation of the Project and ensure that the undertakings for the Project shall be taken care by relevant authorities properly and on time.

5. Timeline for the project implementation

The Team explained to the SIG side that the expected timeline for the Project implementation is as attached in Annex 2.

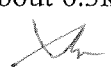
6. Expected outcomes and indicators

Both sides agreed that key indicators for expected outcomes are as follows which might be changed based on further consideration in the Final Report. The SIG side will be responsible for the achievement of agreed key indicators targeted in year 2026 and shall monitor the progress based on those indicators.

[Quantitative indicators]

Index	Base Figure (Actual figures of 2019)	Target Figure (2026) (3 years after completion)
Average Speed (km/h) *	33	50
Suspension Hours (hour/year)	24	0
Annual Number of Passengers Passing through the Bridge (thousand person)	21,500	30,910
Annual Volume of Cargo Passing through the Bridge (t)	658,760	900,000

* Section between Ministry of Fishery and Domestic Terminal of the Airport (about 6.3km) in fair weather

[Qualitative indicators]

- (1) Improvement of disaster prevention functions by increasing drainage capacity.
- (2) Economy enhancement brought from traffic congestion mitigation and reducing transportation costs by improvement of road condition.
- (3) Improvement of traffic safety and accessibility for road users by providing streetlights and pedestrian crossings.

7. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 3. with regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in 1. (2) No.5 of Annex 3. And also the both sides confirmed that such customs duties, internal taxes and other fiscal levies shall be clarified in the bid documents by MID during the implementation stage of the Project.

The SIG 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 as the Detailed Design stage.

Both sides also confirmed that the Major Undertakings (Annex 3) will be as an attachment of G/A.

- (1) With regard to exemption of customs duties, MID will submit the master list of imported materials and equipment prepared by the contractor to Ministry of Finance and Treasury, and receives the approval for tax exemption.
- (2) With regard to VAT (Value Added Tax), MID supports to ensure that SIG Revenue and Custom Service provides tax exemption (advanced exemption system).

8. 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 4. The timing of submission of the PMR is described in 1.(2) No.7 of Annex 3.

9. Project completion

Both sides confirmed that the project completes when all the facilities constructed 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.

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

11. Items and measures to be considered for the smooth implementation of the Project

For proceeding with the Project on the expected schedule, close mutual communication and cooperation and efforts are strongly required between the Japanese side and MID. Both side confirmed to facilitate the Project towards the succesful completion under this recognition.

The following items and measures are paticularly identified for the smooth implementation of the Project.

- (1) Some coordination works by MID might be needed during construction period of the Project because any projects like Stadium Construction and related facilities for South Pacific Games 2023 will be proceeded along the Project site.
- (2) MID will relocate ground obstacles and underground obstacles like overhead power lines, water pipe lines, telecommunication lines and etc., on due timing using past experience, because these kind of relocation works caused the construction works non-negligible delay in phase1.
- (3) MID will take necessary procedures to ensure borrow pit and quarry site from each land owners.
- (4) Resettlement should be proceed in good understanding with persons concerned.
- (5) Land acquisition necessary for the Project should be implemented in due process by planned date.

12. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the SIG side around December 2020.

13. Environmental and Social Considerations

13-1 General Issues

13-1-1 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 because the Project is not considered as a large-scale road and bridge project, is not located in a sensitive area, and has none of the sensitive characteristics under the Guidelines, it is not likely to have significant adverse impact on the environment.

13-1-2 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 5. Both sides confirmed that in case of major modification of the content of the Environmental Checklist, the SIG side shall submit the modified version to JICA in a timely manner.

13-2 Environmental Issues

13-2-1 Public Environmental Report(PER)

Both sides confirmed the PER report will be approved by the Department of Environment by December 2020.

13-2-2 Environmental Management Plan and Environmental Monitoring Plan

Both sides confirmed Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP) of the Project is as Annex 6. Both side agreed that environmental mitigation measures and monitoring shall be conducted based on the EMP and the EMoP, which may be updated during the detailed design stage.

13-3 Social Issues

13-3-1 Land Acquisition and Resettlement

Both sides confirmed the 2,490 m² of land is required to acquire, and the 36,400 m² of land is necessary to be leased and 63 households needs to be relocated due to the implementation of the Project. The process for land acquisition and resettlement should forward following Resettlement Action Plan of Annex 7 which is prepared in line with the Guidelines and to

be authorized by the SIG side by signing of the Grant Agreement.

13-4 Environmental and Social Monitoring

13-4-1 Environmental Monitoring

Both sides agreed that the SIG side will submit results of environmental monitoring to JICA by using the monitoring form attached as Annex 8. The timing of submission of the monitoring form is described in 1.(2) No.13 and (3) No.2 of Annex 3.

13-4-2 Information Disclosure of Monitoring Results

Both sides confirmed that the SIG side will disclose results of environmental and social monitoring to local stakeholders through their website.

The SIG side agreed JICA will disclose results of environmental and social monitoring submitted by the SIG side as the monitoring forms attached as Annex 8 on its website.

14. Other Relevant Issues

14-1. Streetlights in the overlay section

SIG side requested to repair or reinstall existing 7(seven) streetlights in the overlay section. JICA replied to take into consideration this request.

14-2. Disclosure of Information

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

14-3. Measure against Over-loaded Vehicle

The Team repeated that overloaded trucks which exceed designed axle loads would cause early failure and shorter life and requested that the SIG side will take proper measure for this issue.

14-4. Safety Measure

To avoid accidents on site during the implementation of the Project, the SIG side agreed to cause the consultant and the contractor to enforce safety measures such as setting safety assurance to the site, providing information for security control to public, and deploying adequate security personnel, based on "The Guidance for the Management of Safety for Construction Works in Japanese ODA Projects" which has been published on JICA's URL below.

https://www.jica.go.jp/english/our_work/types_of_assistance/c8h0vm00008zx0m8-att/guidance_en.pdf

Annex 1 Japanese Grant	p. 5
Annex 2 Project Implementation Schedule	p.11
Annex 3 Major Undertakings to be taken by the Government of SIG	p.12
Annex 4 Project Monitoring Report	p.15
Annex 5 Environmental Check List	p.25
Annex 6 Environmental Management Plan / Environmental Monitoring Plan	p.29
Annex 7 Resettlement Action Plan (RAP)	p.34
Main body of RAP is attached.	
Annex 8 Environmental and Social Monitoring Form	p.100

JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as “the Recipient”) to purchase the products and/or services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as “Project Grants”).

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See “PROCEDURES OF JAPANESE GRANT” for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA

(2) Appraisal

- Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

- The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as “the G/A”)

- Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as “the B/A”)

- Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as “the Bank”) to receive the grant

Construction works/procurement

- Implementation of the project (hereinafter referred to as “the Project”) on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

- Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of

relevant agencies of the Recipient necessary for the implementation of the Project.

- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes (hereinafter referred to as “the E/N”) will be signed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the “General Terms and Conditions for Japanese Grant (January 2016).”

2) Banking Arrangements (B/A) (See “Financial Flow of Japanese Grant (A/P Type)” for details)

- a) The Recipient shall open an account or shall cause its designated authority to open an account under the name



of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.

b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA's procurement guidelines as stipulated in the G/A.

4) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the Recipient to continue to work on the Project's implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the "Meeting") will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will



be composed by the Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

(2) Ex-post Monitoring and Evaluation Stage

- 1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.
- 2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.



PROCEDURES OF JAPANESE GRANT

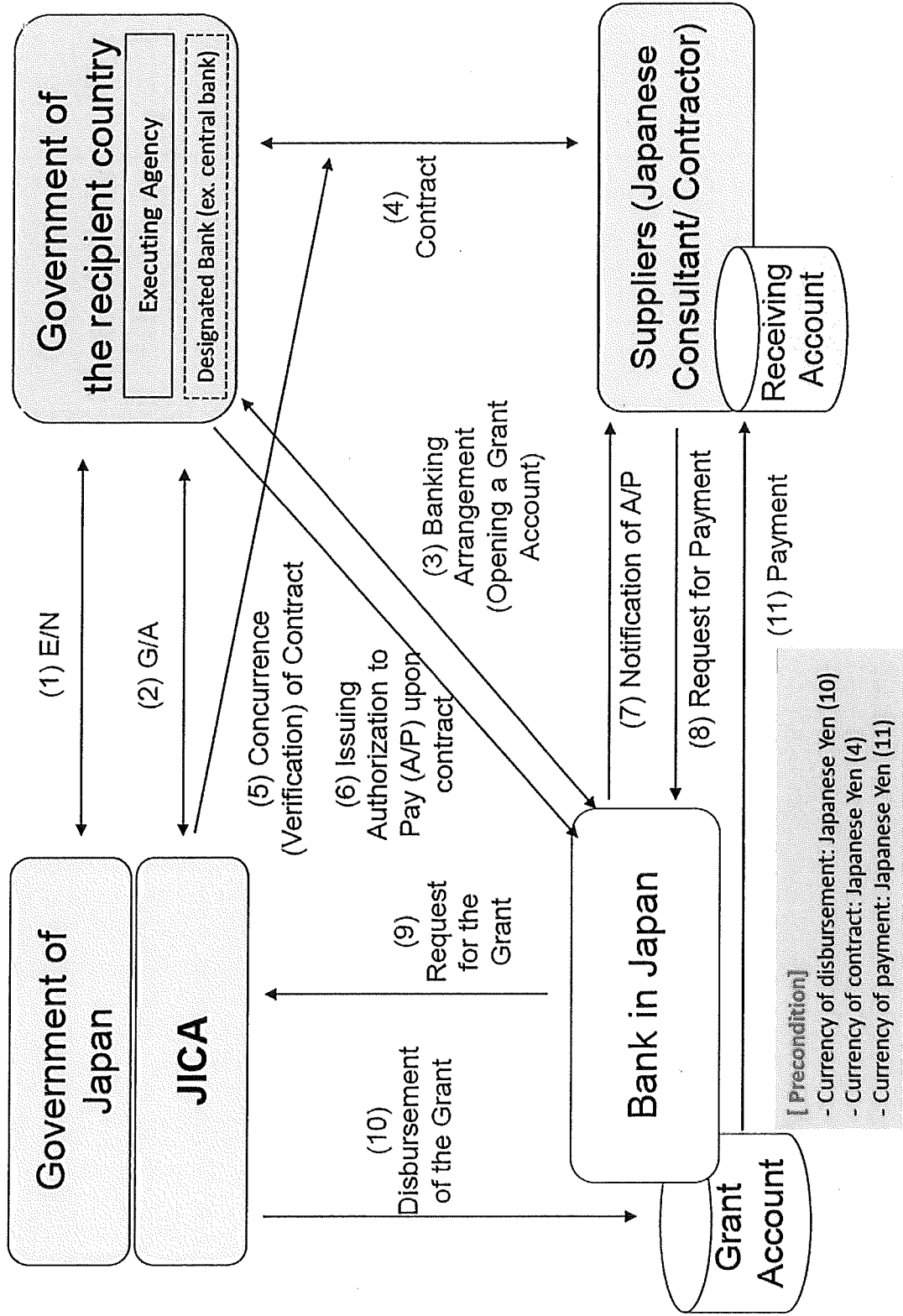
Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
2. Appraisal	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
	(5) Exchange of Notes (E/N)		x	x				
3. Implementation	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x				x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
	4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x		
(16) Ex-post evaluation		To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.




Financial Flow of Japanese Grant (A/P Type)



Expected Project Implementation Schedule

Year	2021												2022										
Month	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7					
No. of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18					
Detailed Design/ Tender Assistant	■ (Site Survey)																						
	□ (Domestic Work/Detailed Design)																						
	■ (Tender Assistant)																						
	(Total 5.0 months)																						

Year	2021						2022												2023					
Month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
No. of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Construction Activities	(General Work)																							
	■						(Preparation Work)												■					
	(Overlay Section)																							
	(Zone 1:Sta.0+0~2+300)																							
	(4-lane Section)																							
	■						(Zone 2:Sta.2+300~2+780)												■					
	■												(Zone 3:Sta.2+780~2+860)											
	■												(Zone 4:Sta.2+860~3+900)											
	■												(Zone 5:Sta.3+900~3+960)											
	■												(Zone 6:Sta.3+960~4+307)											
	(Lungga Bridge Repair)																							
	■						(Sta.4+307~4+430)												■					
	(2-lane Section)																							
	■												(Zone 7:Sta.4+430~5+080)											
	■												(Zone 8:Sta.5+080~5+160)											
■												(Zone 9:Sta.5+160~6+475)												
(Total 24.0 months)																								

Major Undertakings to be taken by the Solomon Islands Government

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

(1) Before the Bidding

No.	Items	Deadline	In charge	Cost (US\$)	Ref.
1	To approve PER (Conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation of countermeasures obligated in the PER.	before signing of the G/A	ECD		
2	To open Bank Account (Banking Arrangement (B/A))	within 1 month after signing of the G/A	MID/CBSI		
3	To issue the Authorization to Pay (A/P) to a bank in Japan (the Agent Bank) for the payment to the Consultant	within 1 month after signing of the contract with the consultant	MID/CBSI	3,000	
4	To approve Abbreviated Resettlement Action Plan	before signing of the G/A	MID		
5	To secure the necessary budget and implement land acquisition and resettlement (including preparation of resettlement sites), and compensation with full replacement cost in accordance with ARAP	before notice of the bidding document(s)	MID/MOF/ MOLHS/COL		
6	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	till land acquisition and resettlement complete	MID		
7	To secure and clear the following lands 1) right of way for the Project 2) temporary construction yard and stock yard near the Project area 3) diversion route for the existing road 4) borrow pit and disposal site near the Project area	before notice of the bidding document(s)	MID and related agencies	62,000	
8	To obtain the planning, zoning, building permit	before notice of the bidding document(s)	MID and related agencies		
9	To clear, level and reclaim the sites, which will be confirmed in the draft final report (All costs for relocation of utilities and demolition of obstacles etc. are included)	before notice of the bidding document(s)	MID and related agencies	1,754,000	
10	To submit Project Monitoring Report (with the result of Detailed Design (DD))	before preparation of bidding document(s)	MID		

Note : PER: Public Environmental Report
 ARAP: Abbreviated Resettlement Action Plan
 MOFT: Ministry of Finance and Treasury
 MOFA: Ministry of Foreign Affairs and External Trade
 MOLHS: Ministry of Lands Housing & Survey
 MID-Ministry of Transport
 CBSI: Central Bank of Solomon Islands
 IRD: Inland Revenue Division
 CAC: Community Advisory Committee
 COL: Commissioner of Lands
 ECD: Environment & Conservation Division

(2) During the Project Implementation

No.	Items	Deadline	In charge	Cost (US\$)	Ref.
1	To issue A/P(s) to the Agent Bank in Japan for the payment(s) to the Supplier(s)	within 1 month after signing of the contract(s)	MID/CBSI		
2	To bear the following commissions to the Agent Bank in Japan for the banking services based upon the B/A	during the Project	CBSI		
	1) Advising commission of A/P	within 1 month after signing of the contract(s)	CBSI	24,000	
	2) Payment commission for A/P	every payment	CBSI	33,000	
3	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in the country of the Recipient	during the Project	MID and related agencies		
4	To accord Japanese physical persons 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	MID/ MOFA		
5	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 be exempted	during the Project	MID / MOFT/ IRD		
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MID		
7	1) To submit Project Monitoring Report	every month	MID		
	2) To submit Project Monitoring Report (Final)	within one month after signing of Certificate of Completion of the Work under the contract(s)	MID		
8	To submit a report concerning completion of the Project	within six months after completion of the Project	MID		
9	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)				
	1) Electricity The distributing line to the temporary site	before start of the construction	MID and related agencies		
	2) Water Supply The city water distribution main to the temporary site	before start of the construction	MID and related agencies		
	3) Primary Electric Power Source Primary electrical power source up to the distribution boards. (Approx. 8 sources are required)		MID	160,000	
10	To take necessary measure for safety construction - traffic control - public notifications - Securing safety for personnel involved in the Project	during the construction	MID and related agencies		
11	To implement Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP)	during the construction	MID/ ECD		
12	To carry out UXO investigation	before / during the construction	MID	99,000	
13	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	MID/ ECD		

No.	Items	Deadline	In charge	Cost (US\$)	Ref.
14	To implement ARAP (livelihood restoration program, if needed)	for a period based on livelihood restoration program	MID/ MOFT/ MOLHS	812,000	
15	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report - Period of the monitoring may be extended if affected persons' livelihoods are not sufficiently restored. Extension of the monitoring will be decided based on agreement between MID and JICA.	until the end of livelihood restoration program (In case that livelihood restoration program is provided)	MID		

(3)After the Project

No.	Items	Deadline	In charge	Cost (US\$)	Ref.
1	To implement EMP and EMoP	for a period based on EMP and EMoP	MID/ ECD		
2	To submit results of environmental monitoring to JICA, by using the monitoring form, semi-annually - 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 MID and JICA.	for two-years after the Project	MID		
4	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 of structure 3) Routine check/Periodic inspection	After completion of the construction	MID/ MOF	15,000 (Annual)	

2. Other obligations of the Solomon Islands Government funded with the Grant

No.	Items	Deadline	Amount (Million Japanese Yen)*
1	To construct roads - Overlay from the beginning point to 2.3 km point, L=2.3 km) - Upgrading (from 2.3 km point to the end point, L=4.0 km)	During the construction	3,175
2	To implement detailed design, bidding support and construction supervision (Consulting Service)		
3	Contingencies		
	Total		3,175

*The Amount is provisional. This is subject to the approval of the Government of Japan.

2

Project Monitoring Report
on
Project Name
 Grant Agreement No. XXXXXXXX
 20XX, Month

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	
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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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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 <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.			

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.

<p>Original <i>(at the time of outline design)</i></p> <p>name:</p> <p>role:</p> <p>financial situation:</p> <p>institutional and organizational arrangement (organogram):</p> <p>human resources (number and ability of staff):</p>
<p>Actual (PMR)</p>

✓

[Signature]

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 (*at the time of outline design*)

Actual (PMR)

3-2 Budgetary Arrangement

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

Original (*at the time of outline design*)

Actual (PMR)

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

4

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:
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:
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:
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

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)

Remark : No. 6, 7 are attached in this document for reference.



Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment Price (Decreased) E=C-D	Price (Increased) F=C+D
Item 1	●	●	●	●	●	●
Item 2	●	●	●	●	●	●
Item 3	+	+	+	+	+	+
Item 4	+	+	+	+	+	+
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
Item 1	+	+	●	+	+	+
Item 2	+	+	+	+	+	+
Item 3	+	+	+	+	+	+
Item 4	+	+	+	+	+	+
Item 5	+	+	+	+	+	+
+	+	+	+	+	+	+

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

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 Checklist

Category	Items	Check items	Yes : Y No : N	Environmental Social Consideration (The reason for Yes/No, Evidence, Mitigation measures etc.)
1. Permission/ Explanation	(1) EIA and Environmental permission	(a) Environmental assessment report (EIA report) are prepared, or not (b) EIA report is approved by government of Solomon, or not (c) Approval for EIA reports is required with incidental conditions? If there are incidental conditions, will those conditions satisfy? (d) Other permission is required or not?	(a):N (b):N (c):N/A (d):N	(a) EIA report is necessary as Public Environment Report. The PER is under preparation at the August 2020, and it will be submitted in September 2020. (b) It will be approval after submission. (c) It is before submission. (d) MID is required to take approval regarding quarry, construction and waste dumping.
	(2) Explanation to stakeholders	(a) The project contents and the impact including information disclosures is taken consensus among stakeholders or not? (b) The recommendation from residences are including in this project design or not?	(a):Y (b):Y	(a) The stakeholder meeting including related organization and major shop owner was held as for explain the summary of the project in December 2019. Also, public consultation meeting was held to residence along Kukum highway. On August 2020, project team will plan to hold stakeholder meeting and public consultation after finalizing the project contents and construction area. Furthermore, Publish of PER is obligation under the process of EIA, the PER will notify in local Newspaper. (b) The road design considering safety and drainage.
	(3) Consideration of alternative plan	(a) Alternative plan including of Environmental and Social impact of the project are considered or not?	(a):Y	(a) The project team considered view point of technical issues and environmental social impact, against the five alternative plans including non-implementation of the project.
2. Pollution measure	(1) Air quality	(a) Are there any impact of air pollutants emitted from vehicles? Is it consistent with the environmental standards of the country? (b) In the case of exceeding of air quality standard around target area already, the project will be deteriorated more the air quality or not. And is there any countermeasure for air quality will be taken?	(a):N (b):Y	(a) No environmental standard in Solomon Islands. The impact to air quality will not be exceeded the environmental values compare with Japanese environmental standard or WHO guideline value. (b) Project will take mitigation measure to PM (Particular Matter) such as spray an asphalt emulsion though the impact is estimated to not exceed environmental standard.
	(2) Water quality	(a) The water quality in the downstream area will be deteriorated due to soil runoff from exposed topsoil such as embankments and cuts or not? (b) Will the drainage from the road surface pollute groundwater and other water sources? (c) Is the drainage from the parking/service area, etc. consistent with effluent standards in Solomon Islands? In addition, will the discharge produce water bodies that do not apply to the environmental standards in Solomon Island?	(a):N (b):N (c):N	(a) Soil runoff are not expected. (b) The drainage from road surface is not expected to groundwater because to the drainage will discharge to water channel and rivers immediately. (c) No plans to construct parking etc.
	(3) Waste	(a) Will the waste from the parking/service area properly treated	(a):N	(a) No plans to construct parking etc.

Category	Items	Check items	Yes : Y No : N	Environmental Social Consideration (The reason for Yes/No, Evidence, Mitigation measures etc.)
		and disposed in accordance with the regulations of the Solomon Islands?		
	(4) Noise and Vibration	(a) Will noise and vibration from vehicles match the standards in Solomon Islands?	(a):Y	(a) No environmental standard regarding Noise and vibration in Solomon Islands, and significant impact is not expected.
3. Natural Environment	(1) protected area	(a) Is the project area located in a protected area specified by the law in Solomon Islands or international treaty? Will the project affect the protected area?	(a):N	(a) In the project area is not including protected area.
	(2) Ecosystem	(a) Project area is including primeval forests, tropical natural forests, ecologically important habitats (coral reefs, mangrove swamps, tidal flats, etc.) or not? (b) Project area is including habitats of valuable species that need protection under the laws in Solomon Islands and international treaties or not? (c) If significant impacts on the ecosystem are concerned, will measures be taken any mitigation measure to reduce the impact on the ecosystem? (d) Any measures will be taken for block the movement routes of wildlife and livestock, divide habitats, and traffic accidents of animals or not? (e) Development of roads will be cause deforestation, poaching, desertification, and wetland drying due to development? Furthermore, is there a possibility that alien species (which did not previously live in the area), pests, etc. may be introduced and the ecosystem may be disturbed? Are there any countermeasures against them? (f) In the case of constructing a road in an undeveloped area, will the natural environment be greatly damaged by new area development?	(a):N (b):N (c):N (d):N (e):N (f):N	(a) No nature and ecosystem to be protected, in target area because the project is improvement work on existing road. (b) No valuable species to be protected in target area because the project is improvement work on existing road. (c) No significant impact to ecosystem (d) No occur to block the movement routes of wildlife and livestock, divide habitats, in target area because the project is improvement work on existing road. (e) No deforestation in target area because the project is improvement work on existing road. (f) No plan to development of un-developed area because the project is improvement work on existing road.
	(3) Water environment	(a) Alteration of topography and new construction of structures such as tunnels adversely will affect surface water and groundwater flow or not?	(a):N	(a) It is not expected to significant impact to surface water and groundwater flow because the project is not planning to great alternation of topography or construction of tunnels.
	(4) Topography/ Geology	(a) There is a poor-geological location that could cause landslides or landslides on the route or not? If so, appropriate construction methods will be taken as countermeasures? (b) Will earth collapse and landslides occur due to civil engineering work such as embankment and cutting? If so, appropriate countermeasures	(a):N (b):Y (c):N	(a) No poor-geological location (b) Only small amount of embankment work is planning at the Lungga Bridge, then landslides are not expected. (c) Soil outflow is not expected

Category	Items	Check items	Yes :Y No : N	Environmental Social Consideration (The reason for Yes/No, Evidence, Mitigation measures etc.)
		<p>will be taken to prevent landslides and landslides?</p> <p>(c) Will soil runoff occur on the embankment place, cuts place, dumping site, and quarry sites? If so, any appropriate countermeasures will be taken to prevent soil outflow?</p>		
4. Social Environment	(1) Resettlement	<p>(a) Involuntary resettlement occurs with the implementation of the project or not? If so, the project will be taken efforts to minimize the impact of relocation?</p> <p>(b) Resettled residents can be given appropriate explanations regarding compensation and livelihood reconstruction measures before the resettlement or not?</p> <p>(c) Resettlement plan will be prepared based on social survey on resettlement, compensation for the re-acquisition price, and livelihood re-construction measure after the resettlement?</p> <p>(d) The compensation be paid before relocation?</p> <p>(e) Compensation policy is formulated in a document?</p> <p>(f) The resettlement plan care to vulnerable groups, such as women, children, the elderly, the poor, ethnic minorities, and indigenous peoples?</p> <p>(g) Is it possible to obtain the agreement before resettlement from the target resettled residents?</p> <p>(h) Is there system in place to properly implement resettlement? Are sufficient implementation capabilities and budgetary measures taken for resettlement?</p> <p>(i) Monitoring activities is planned for impact by relocation?</p> <p>(j) Has a grievance redress mechanism been established?</p>	<p>(a):Y (b):N (c):Y (d):Y (e):Y (f):Y (g):Y (h):Y (i):Y (j):Y</p>	<p>(a) The project was designed to minimize impact of involuntary resettlement.</p> <p>(b) The project will plan to explain the compensation based on draft-ARAP in August 2020</p> <p>(c) Affected peoples were extracted and a detailed survey was conducted to determine the extent of the impact.</p> <p>(d) Payment is made within 3 months after application in accordance with Solomon Islands regulations</p> <p>(e) Summarized on Safeguard Manual by MID</p> <p>(f) The measure will include in ARAP</p> <p>(g) The public consultation in August 2020 is planned to make an agreement regarding resettlement and compensation</p> <p>(h) MID has appropriate system and enough budget measures are taken.</p> <p>(i) MID will conduct monitoring</p> <p>(j) Grievance redress mechanism has been regulated in Safeguard manual</p>
	(2) Livelihood	<p>(a) In case of road is constructed by new development, will there be any impact on the existing transportation and the lives of the residents around existing road? Also, will there be occur major changes in land use, livelihoods and unemployment? The design/plan is considering the mitigation of these effects or not?</p> <p>(b) The project will adversely affect the lives of other residents? Will impact reduction consideration be made as necessary?</p>	<p>(a):N (b):N (c):N (d):N (e):N (f):N</p>	<p>(a) The project is improvement work of existing road, it is not new development.</p> <p>(b) Although the project is improvement work of existing road, compensation is required based on ARAP to APs such as street vendors</p> <p>(c) The risk of HIV is low in Solomon Islands</p> <p>(d) Significant impact to traffic is not expected</p> <p>(e) Significant impact to movement on residents is not expected</p> <p>(f) Impact is not expected on sunlight obstruction or radio interference</p>

Category	Items	Check items	Yes : Y No : N	Environmental Social Consideration (The reason for Yes/No, Evidence, Mitigation measures etc.)
		(c) Is there a risk of illness (including infectious diseases such as HIV) due to population influx from other areas? Will appropriate public health considerations be made as necessary? (d) Will the project adversely affect road traffic in the surrounding area (increase of congestion and traffic accidents etc.)? (e) The target roads will prevent the movement of residents? (f) Does the road structure (overpass, etc.) cause sunlight obstruction or radio interference?		
	(3) Cultural heritage	(a) There are a possibility that the project will damage archeologically, historically, culturally, and religiously valuable heritage sites and historical sites or not? Also, are measures taken under the law on Solomon Islands taken into consideration?	(a):N/A	(a) The impact to cultural/ historical valuable etc. are not expected
	(4) Landscape	(a) In the case of there is a landscape to be requires special consideration, it will be adversely affected or not? If there is impact, it will necessary measures be taken to the impact?	(a):N/A	(a) No landscape to be protected especially
	(5) Ethnic minority, indigenous people	(a) Considering to reducing the impact on the ethnic minorities , indigenous people's culture and lifestyle? (b) The rights on land and resources for minority and indigenous people are respected?	(a):N/A (b):Y	(a) No ethnic minorities in the target area (b) Regulated the Customary land
	(6) Working environment	(a) In the project, law/ regulation regarding work environment will compliant? (b) Are the safety considerations for the personnel involved in the project, such as the installation of safety equipment related to the prevention of occupational accidents, and the management of hazardous substances are considered? (c) Are software measures planned and implemented for people involved in the project, such as the formulation of a safety and health plan and safety training for workers (including traffic safety and public health)? (d) Will appropriate measures be taken to prevent security personnel involved in the project from violating the safety of project personnel and local residents?	(a):Y (b):Y (c):Y (d):Y	(a) Legal compliance will be included in the contract with contractor (b) Safety consideration is carried out under the responsibility of the contractor. Use of harmful substances is not expected (c) Contractors will regularly provide workers with safety education including traffic safety, public health, and work in hot environments. (d) Education and training for security staff is also included in (c) and supervised by the contractor.
5. Other	(1) Impact on construction	(a) There are mitigation measures prepared for pollution (noise,	(a):Y (b):N/A	(a) Asphalt emulsion will be sprayed as a mitigation measure against dust.

Category	Items	Check items	Yes : Y No : N	Environmental Social Consideration (The reason for Yes/No, Evidence, Mitigation measures etc.)
		vibration, muddy water, dust, exhaust gas, waste, etc.) during construction? (b) Construction will negatively affect the natural environment (ecosystem)? Are mitigation measures prepared for the impacts? (c) Construction will negatively affect the social environment? Are mitigation measures prepared for the impacts?	(c):N	(b) The impact to natural environment (ecosystem) is not expected. (c) The impact to social environment is not expected.
	(2) Monitoring	(a) Monitoring activities will plan/implement by contractor for items may have an impact within the above environmental items? (b) How decide the items, methods, frequencies, etc. of monitoring plan? (c) Contractor's monitoring system (organization, personnel, equipment, budget, etc. and their continuity) will established? (d) The method and frequency of reporting from the developer, contractor to the competent authorities is regulated?	(a):Y (b):Y (c):Y (d):N	(a) Monitoring activities proposed in this report will be implement (b) Selection of parameters and measurement frequency are set according to the degree of environmental impact (c) It will be described in contract (d) It will be described in PER
6. Note	Referring of other environmental check list	(a) If necessary, also add the relevant check items from the forestry checklist and evaluate (for cases involving large-scale logging) (b) If necessary, add the relevant check items from the checklist for transmission lines/distribution (for cases involving the construction of transmission/transformation/distribution facilities).	(a):N (b):Y	(a) The project is not including large-scale logging (b) The project is not expected to transformation facilities, but it is necessary relocation of communication line in advance
	Note on environmental check list	(a) If necessary, check the impact on transboundary or global environmental issues. (When factors related to cross-border treatment of waste, acid rain, ozone depletion, global warming, etc. are considered)	(a):N	(a) No cross boundary environmental impact is expected

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Environmental Management Plan

Category	No.	Impact item	Mitigation Measures	Cost (US\$)
Pollution	1	Air pollution	<p>Construction Phase:</p> <ul style="list-style-type: none"> ▪ Contractor shall conduct countermeasure for dust such as splaying asphalt emulsion and watering. ▪ Contractor shall put in effort to reduce exhaust gases from construction machinery with appropriate maintenance and using to electric machinery. ▪ Contractor shall put in effort to reduce dust by maintaining clean road and controlling velocity of construction machinery. ▪ Contractor shall be explaining the construction plan to residence living around the site and supervising consultant in advance. ▪ Supervising consultant shall be reviewing the construction method with contractor referring to residence's opinions, if need. 	<p>Construction Phase:</p> <p>The cost shall be including to construction contract</p>
	2	Water pollution	<p>Construction Phase:</p> <ul style="list-style-type: none"> • Construction work near river shall be conducted in the dry season as possible. • Contractor shall cover ground by sheet etc. at the heavy raining. • Contractor shall maintain proper construction machinery to avoid oil and fuel leakage. • Contractor shall manage the oil and fuel properly. • Cleaning machinery in river is prohibited. • Supervising consultant shall consider proper drainage plan in advance. • Contractor shall be plant grasses and flowers on road slopes and pit in order to prevent soil runoff. • Contractor and supervising consultant shall be monitoring the occurring condition of dirty water and review the construction method, if needed. 	<p>Construction Phase:</p> <p>The cost shall be included in the construction contract</p>
	3	Waste	<p>Construction Phase:</p> <ul style="list-style-type: none"> • Contractor shall conduct proper waste management • Contractor shall prepare toilet and waste management space in construction site • Contractor shall collect separately solid waste materials • Contractor shall consider reuse and recycle of construction waste • Contractor and supervising consultant shall be monitoring the waste treatment method and improve the treatment method, if needed. 	<p>Construction Phase:</p> <p>The cost shall be included in the construction contract</p>
	4	Noise and Vibration	<p>Construction Phase:</p> <ul style="list-style-type: none"> • Contractor shall make construction plan to avoid concentrating many construction machineries for long near residential area • Contractor shall maintain proper condition of the construction machineries to avoid abnormal noise • Construction work in night is prohibited near residential area • Contractor shall select the low noise machinery as possible • Contractor and supervising consultant shall explain construction plan to residence around the site in advance • Contractor and supervising consultant shall be monitoring the noise, vibration with residence's opinion and reviewing the construction method, if needed. 	<p>Construction Phase:</p> <p>The cost shall be included in the construction contract</p>

Category	No.	Impact item	Mitigation Measures	Cost (US\$)
Natural environment	1	Ecosystem	Pre-Construction Phase, Construction Phase: <ul style="list-style-type: none"> • Developer (MID) are completed felling before construction • Developer (MID) are completed planting of same number of trees. 	Pre-Construction Phase: Estimated cost of cut of tree Around 70,000 SBD
Social Environment	1	Resettlement/ Land Acquisition	Pre-Construction Phase <ul style="list-style-type: none"> • Abbreviated resettlement action plan shall be prepared and implanted properly Construction Phase <ul style="list-style-type: none"> • The detailed design consultant will provide a temporary land lease plan with the construction schedule to the owner and related parties, and the MID will take out the borrowing according to the construction schedule. 	Pre-Construction Phase Land acquisition for construction office yard Around 500,000 SBD Resettlement cost 6,497,933 SBD
	2	Impoverished/Poor people	Construction Phase: <ul style="list-style-type: none"> • Disclose information on construction plans and off-limits areas, etc. to ensure safety for street vendors that belong to the poverty zone • Actively employ the poor who need relocation 	The cost shall be included in the construction contract
	3	Local economies, such as employment, livelihood, etc.	Pre-Construction Phase <ul style="list-style-type: none"> • Abbreviated resettlement action plan shall be prepared and implanted properly Construction Phase: <ul style="list-style-type: none"> • Contractor shall conduct fair employment when hiring local residents as a simple worker for construction work. • Contractor and supervising consultant shall explain construction plan to residence around the site in advance 	The cost shall be included in the ARAP and construction cost
	4	Land use and utilization of local resources	Pre-Construction Phase <ul style="list-style-type: none"> • Abbreviated resettlement action plan shall be prepared and implanted properly 	The cost shall be included in the ARAP and construction cost
	5	Existing social infrastructures and services	Pre-Construction Phase <ul style="list-style-type: none"> • Consult with the owners of existing infrastructure facilities such as telephone poles, water pipes, and optical cables to implement with develop relocation and protection plans. Construction Phase: <ul style="list-style-type: none"> • Contractor shall conduct traffic control to avoid traffic jam • Consultants for detail design shall consider temporary land use in construction phase by sharing the construction plan among Stakeholders and related organizations in early stage 	Pre-Construction Phase Relocation cost for infrastructures by MID Around 13,720,000 SBD Construction Phase: The cost is included in the construction contract or miscellaneous expenses
	6	Misdistribution of benefits and damages	Pre-Construction Phase <ul style="list-style-type: none"> • Abbreviated resettlement action plan shall be prepared and implanted properly Operation Phase <ul style="list-style-type: none"> • MID and ECD shall be monitoring living condition of affected people and shall take countermeasure, if needed 	The cost is included in the resettlement budget
	7	Local conflicts of interest	Pre-Construction Phase <ul style="list-style-type: none"> • Abbreviated resettlement action plan shall be prepared and implanted properly Operation Phase <ul style="list-style-type: none"> • MID and ECD shall be monitoring living condition of affected people and shall take countermeasure, if needed 	The cost is included in the resettlement budget

Category	No.	Impact item	Mitigation Measures	Cost (US\$)
	8	Landscape	Construction Phase: <ul style="list-style-type: none"> Supervising consultant and contractor shall consider minimizing cutting of trees under the construction plan. Contractor shall plant green grasses along the roadside and slope on road. 	The cost is included in the construction contract
	9	Working conditions (including occupational safety)	Construction Phase: <ul style="list-style-type: none"> Supervising consultant and contractor shall conduct preventive countermeasures on accident before construction. Contractor shall sprinkle water as a countermeasure for dust Contractor shall prepare toilet and dumping site in construction site. The contractor shall take measures against heat stroke of workers, such as taking appropriate breaks. Contractors take measures against malaria, such as preparation of mosquito spray. 	The cost is included in the construction contract
Others	1	Accidents	Construction Phase: <ul style="list-style-type: none"> Supervising consultant and contractor shall conduct preventive countermeasures on accident before construction. Contractor shall prepare traffic control and setting of traffic signboard for prevention accident 	The cost is included in the construction contract
	2	UXO	Pre-Construction Phase: <ul style="list-style-type: none"> Conduct UXO survey on un-developed area 	Pre-Construction Phase: UXO survey (MID) Around 800,000 SBD




Environmental Monitoring Plan

Category	Environmental Item	Monitoring Item/ Parameter	Responsible Person and Organization	Location	Method	Frequency
Pollution	Air pollution	Construction Phase: • PM10、 PM2.5	Contractor	Construction site	Visual observation and interview of pedestrians Instrumental analysis	Visual observation: Daily Interview: Monthly or as needed Instrumental analysis: Pre-Construction Phase 1 time Construction Phase: Daily 2 times per day during construction
	Water pollution	Construction Phase: • Turbid water and drainage conditions	Contractor	Construction site	Visual observation	During rainfall
	Waste	Construction Phase: • Disposal methods of construction and general waste	Contractor	Construction site and disposal site	Visual observation and meeting with contractor	Visual observation: Daily Meeting: Monthly or as needed
	Noise and vibration	Construction Phase: • Noise level	Contractor	Construction site	Interview to local residents and pedestrians Instrumental measurement	Interview: Monthly or as needed Instrumental measurement: Pre-Construction Phase 1 time Construction Phase: Daily 2 times per day during construction
Natural environment	Ecosystem	Pre-Construction Phase: • Confirmation of planting	Supervising Consultant	Construction area	Hearing to MID and survey	1 time
Social Environment	Resettlement/ Land Acquisition	Pre-Construction Phase: • Progress of resettlement action plan	MID	Construction area	Site survey and meeting with PAPs	Monthly or as needed
		Operation Phase: Hearing from owner that received compensation	MID	Construction site	Hearing and Meeting	Each half year, 2 years
	Poor people	Construction Phase: • Activity conditions of street vendors	Supervising Consultant	Construction site, especially KG market	Visual observation	Daily
	Local economies, such as employment, livelihood, etc.	Pre-Construction Phase: • Progress of resettlement action plan	MID	Construction site	Site survey and meeting with PAPs	Monthly or as needed

Category	Environmental Item	Monitoring Item/ Parameter	Responsible Person and Organization	Location	Method	Frequency
		Construction Phase: · Business activity around construction site · Employment situation of unskilled labor	Supervising Consultant/ Contractor	Construction site	Site survey and interview of local people and unskilled labors	Monthly or as needed
	Land use and utilization of local resources	Pre-Construction Phase: · Progress of resettlement action plan	MID	Construction site	Site survey and meeting with PAP	Monthly or as needed
		Operation Phase: · Condition of land use · Condition of business activity	MID	Construction site	Site survey and interview of local people	Monthly or as needed for 2 years after completion
	Existing social infrastructures and services	Pre-Construction Phase: · Relocation status of existing infrastructure facilities	MID	Construction site	Site survey and meeting with facility organization	Monthly or as needed
		Construction Phase: · Condition of traffic congestion around construction site	Supervising Consultant/ Contractor	Construction site	Visual observation	Daily
		Operation Phase: · Crossing conditions of pedestrians	MID	Construction site, especially King George VI National High School	Site survey and interview of local people	Monthly or as needed for 2 years after completion
	Misdistribution of benefits and damages	Pre-Construction Phase: · Progress of resettlement action plan	MID	Construction site	Site survey and meeting with PAPs	Monthly or as needed
		Operation Phase: · Living situations of Project Affected Persons (PAPs)	MID	Construction site, especially King George VI National High School	Site survey and meeting with PAPs	Monthly or as needed for 2 years after relocation
	Landscape	Construction Phase: · Status of tree felling · Status of Planting works	Contractor	Construction site	Visual observation and meeting with contractor	Daily

Category	Environmental Item	Monitoring Item/ Parameter	Responsible Person and Organization	Location	Method	Frequency
	Working conditions (including occupational safety)	Construction Phase: <ul style="list-style-type: none"> • Workplace situations • Implementation status of accident prevention measures 	Contractor	Construction site	Visual observation and meeting with contractor	Daily
Other	Accidents	Construction Phase: <ul style="list-style-type: none"> • Implementation status of accident prevention measures 	Contractor	Construction site	Visual observation and meeting with contractor	Daily

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SOLOMON ISLANDS GOVERNMENT
MINISTRY OF INFRASTRUCTURE DEVELOPMENT (MID)
CENTRAL PROJECT IMPLEMENTATION UNIT

PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY
(PHASE 2)

ABBREVIATED RESETTLEMENT ACTION PLAN (ARAP) REPORT

Prepared by CTI International Cooperation Ltd for JICA & MID

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ABBREVIATION

Abbreviation	Original
AGO	Attorney General's Office
AH	Affected Household
APs	Affected Persons
CAC	Community Advisory Committee
ARAP	Abbreviated Resettlement Action Plan
CSS	Census and Socioeconomic Survey
CLAC	Customary Land Appeal Court
COL	Commissioner of Lands
CPIU	Central Project Implementation Unit
EA	Executing Agency
FTE	Fixed Term Estate
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IA	Implementing Agency
IOL	Inventory of Losses
JICA	Japan International Cooperation Agency
LAO	Land Acquisition Officer
LAR	Land Acquisition and Resettlement
LARP	Land Acquisition and Resettlement Plan
LTA	Land and Titles Act
MID	Ministry of Infrastructure Development
MLHS	Ministry of Lands, Housing and Survey
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
PAFs	Project Affected Families
PAPs	Project Affected Persons
RAP	Resettlement Action Plan
RP	Resettlement Plan
RoW	Right of Way
SIG	Solomon Islands Government
SPM	Safeguards Procedures Manual
SU	Safeguards Unit

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1. INTRODUCTION

1.1 Project Background

The Government of Solomon Islands with assistance from the Japanese International Cooperation Agency (JICA), has undertaken the Project for Upgrading of the Kukum Highway, Phase 2. The project is aimed at Upgrading the road from the Ministry of Fisheries and Marine Resources (MFMR) to Lunga Bridge and from Lunga Bridge to Henderson Airport. The Ministry of Infrastructure Development (MID) as the executing agency (EA) is responsible to implement the Project through its existing Central Project Implementation Unit (CPIU) the implementing agency (IA), supported by CTI Engineering International Engineering Co. Ltd (CTII), of Japan as Consultant for the Preparatory Survey.

The MID will pay for compensations to affected households and families for lost non – land assets and through the Ministry of Lands, Housing and Survey (MLHS) will conduct land acquisition of the ROW for the road upgrade. An Official Development Assistance (ODA) loan agreement was signed by the Solomon Islands Government (SIG) and JICA.

As part of the JICA requirements when implementing an ODA project, appropriate environmental and social considerations to assess the negative and positive impact and mitigate the negative impacts for the site, based on the “JICA Guidelines for Environmental and Social Considerations (April 2010) and the Environmental Act 1998 and The Environmental regulation 2008 in Solomon Islands shall be undertaken.

The Project’s preparatory survey was conducted from November to December 2019. Under the Preparatory Survey, a Resettlement Action Plan (RAP) for the project was prepared in accordance with the JICA Guidelines for the Environmental and Social Considerations.

As of June 2020, 36 No. of land parcels will be affected, 84 No of houses or structures and 102 number of fruit trees. From this, it was noted that the total No. of affected families is 103 including 156 other road side vendors.

1.2 Project Description

The Scope of Works under the Project comprises of the upgrade to the existing carriage way or road, pedestrian crossings, culverts, drainage, bus bays and other road necessities. The road traverse from the Honiara city and to outside of the main city to Guadalcanal Provincial jurisdiction and it is part of the main and only Highway on the island. It is approximately 8km from where the first phase ends. Which is at the MFMR head office to Lunga Bridge and from Lunga Bridge to the Henderson area.

The summary of the scope of works include:

- 4-lane road overlay of 2.3 km from the Ministry of Fisheries
- 4-lane road improvement of 2.0 km from the 2.3 km point to the Lunnga Bridge
- 2-lane road improvement of 2.0 km from the Lunnga Bridge to Honiara Airport
- Ancillaries (road furniture)
 - Drainage, Bus station, Street Lights, Traffic signboards and Pavement markings
- Proposal
 - Assessment of the Lunga Bridge and the repair plan.



Figure 1: Sub-project Road

1.3 Need for Land Acquisition and Resettlement

This ARAP defines the practical procedures by which the Implementing Agency (IA) will address the potential resettlement impacts under the Project, in line with the applicable policy and legal framework of the Government, and ensuring that the principles of the JICA Guidelines safeguard requirements on involuntary resettlement under the JICA Environmental and Social Safeguards Guidelines are complied with.

Land acquisition and resettlement is needed in order to achieve the requirements of the project technical design standard and this will trigger some resettlement impact to land and non - land assets within the project scope or area.

1.4 Identification of RAP Impacts

The requirements of achieving the technical design standard of the Project, will trigger some resettlement impact under the road upgrade. In order to identify the magnitude of the resettlement impact and to generate a socioeconomic baseline of the households likely to be affected by the project interventions, followed by preparation of a Resettlement Action Plan (RAP) for the Project, a combined census and socioeconomic survey was carried out between 18th November and 30th November 2019. A census survey will be conducted to determine the number of affected persons (PAs) when the design will be available to show the extent of the project. This will detail the number of persons that will be affected during the upgrade of the road. However, the effects on the affected households will be small since there will be no affected household (AH) to lose any part of its dwelling land, and no house to be demolished and no household to be physically displaced from his/her existing dwelling, and also no household (HH) is likely to be severely affected as mandated by the JICA guidelines (i.e. losing more than 10% of its income). The Project, therefore, can be classified as Category B or Tier 3 as per MID SPM.

1.5 Objective of the ARAP

The primary objectives of the RAP are to: (i) identify the project impact on the Project Affected Families (PAFs) in terms of loss of assets, and impact on livelihood and income; (ii) outline measures to mitigate the adverse impact; (iii) provide an estimate for budgetary allocation for compensation of loss of assets and resettlement benefits; and (iv) provide procedure for monitoring of resettlement implementation.

The impacts are documented in the ARAP corresponding to the preliminary designs of the road as of 2020. If situation demands, prior to commencement of actual implementation of physical works, this RAP will be updated based on any significant changes to the project scope or design. Or, if any additional or new impacts are exposed during the course of implementing the physical works, required Addendum(s) to the RAP will be prepared.

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2. SCOPE OF LAND ACQUISITION AND RESETTLEMENT

2.1 Strategy of Resettlement

The Project has adopted the strategy to implement the upgrading works under two initiatives. Therefore, the scope of works for the Preparatory Survey has prompted the requirement of preparing a RAP. That is the first section of works will be from the MFMR Office to Lunga Bridge (Western approach), and from Lunga Bridge (Eastern Approach) to Henderson. This is subdivided according to the geological boundaries of the main Honiara City which ends at the Lunga Area and Guadalcanal Province from the same location further east.

This Resettlement Action Plan was prepared through extensive discussions with the assistance of the JICA study team. The RAP comprises of the following sections:

- I. The entitlement package reflecting the resettlement site plan;
- II. Implementation Schedule;
- III. Institutional Arrangement;
- IV. Records of Public Consultation;
- V. Socio-economic Analysis of the Project Affected Families and Households.

In response to the project priority, preparation of the RP has started after the Preparatory Survey to address the adverse resettlement impacts along the project road and as a measure to safeguard the interest of the PAFs and the communities. MID supported by the Social Safeguards Specialist of the Consultant has prepared the RAP in compliance with the regulations under the Land and Titles Act of Solomon Islands Government that governs

the compulsory acquisition of land and the JICA Environmental and Social Guidelines adhering to the principles and procedures outlined in the guideline adopted by the Government for the Project.

As mentioned earlier, the Project for Upgrading of the Kukum Highway have been planned to be carried out within the available land owned by the government and utilizing the footprint of the existing structures. However, in the course of the Census and Socioeconomic Survey (CSS), it was found that the project will inevitably have some impact on private as well as communal assets, including land, structure and tree, etc. The project will acquire this land and other assets by compensating the owners for loss of their land and other properties as well as non-titled owners of the affected property, including their loss of income and employment. However, careful attention will be paid during implementation to make sure that the improvement works does not cause any major impact involving complete demolishing of any house, physical displacement of any household from his/her existing dwelling, or disruption of income and livelihoods.

2.2 Census Survey of Affected Families

This is to reiterate that physical implementation of the Project will have unavoidable impact of loss of assets such as land, trees and structure. To ascertain the magnitude of the impacts, a census combined with socioeconomic survey was carried out between November and December 2019 to make an inventory of losses (IOL), and to develop a baseline of socioeconomic status of the households likely to suffer from project intervention. A structured questionnaire (Annex 1) was used to collect details of the APs. Immediate next to the completion of field survey, the MID with assistance from the consultants submitted a request letter to the Permanent Secretary of MID, Solomon Islands to establish 3rd December 2019 as the Cut-off Date after which eligibility for LAR compensation will not be considered for the project areas.

2.3 Summary of Impacts

The initial survey revealed that physical implementation of the project will have impact on individual and households or families, private land title holders, organizations, business houses, schools and even on government lands. The survey revealed three major types of impact from

the project – on land, on structure and on trees. A detailed survey was done to record the total number of PAPs that will be affected. The detailed survey had recorded the number of PAPs that own lands and structures that will be affected due to the project. In addition to these, there was also recording of the number of trees and plants of different nature that will also be affected.

2.4 Impacts of Land

As mentioned before, there will be impact on 3890.34m² of land owned by 4 different types of entities. Among these, 16 entities are individuals, 5 land parcels are owned by the SIG, 7 are business or organizations and 2 are owned by religious organizations. Around 32.1% of the lands to be affected are owned by private titleholders, while 21.7% are owned by the government, 5.9% by religious organizations and 40% by social organizations or businesses. Table 1 and Table 2 show the scale of impact on land and percentage of impact. Also the location of the affected lands are shown in Appendix 8 of this report.

Table 1: Percentage (%) of impact by each entity

Affected Entities	Affected Area (m2)	Ratio (%) of Impacted Entities
SIG	845.4	21.7
Religious	229.3	5.9
Business/ Organizations	1558.0	40.0
Individual/ Private	1249.7	32.1
Total	3890.34	100

Table 2: Percentage (%) of Impact on land areas

Affected Entities	Total Land Affected Area (m2)	Total Land Area (m2)	Percentage (%) of Impact
COL/SIG	845.4	2,847,981.00	0.03
Religious	229.3	2,001,527.00	0.01
Business/ Organizations	1558.0	132,219.00	1.18
Individual/ Private	1249.7	69,157.00	1.81
Total	3890.34	5,050,884.00	3.03

Among the lands to be affected, there are no cultivated lands or lands used for purposes like agricultural activities or tree bearing lands. 100% of the lands are residential, developed for business activities and are fellow lands. As the lands have different usage, including residential, industrial or commercial use there are some other stakeholders associated with the lands to be affected.

2.5 Impacts on Structures

From the detailed measurement survey conducted it was found that there will be impacts on 88 structures or buildings used for marketing and as canteens or small shops. These are owned by 82 individuals or families with a total of 1371.05m². The buildings are all used for marketing or selling goods and not as a permanent residence by the owners. All the structures are single story except for one at the Lunga Market area. In terms of the magnitude of impact, it was estimated that the impact will be full, i.e. the entire structure (100%) will be affected. Most of the market huts are permanent, while the others are semi-permanent structures.

It was also recorded that 2393.1m² of fences and 382.04m² of car parks belonging to a businesses or organization, individual households and the government will also be affected. The summary of affected structures is as shown in Table 3 and Table 4. The detail of affected structures and facilities are as shown in Appendix 6 and the map showing the location of these structures are shown in Appendix 9 and 10.

Table 3: Affected buildings

	Canteen	Market	Residential

	No.	Area (m2)	No.	Area (m2)	No.	Area (m2)
SIG						
Private/Individual	22	570.5	65	764.6	1	36
Business/ Organizations						
Church						
Total	20	570.5	65	764.6	1	36

Table 4: Affected Fence and Carpark

	Fence		Carpark	
	No. of Entities	Area (m2)	No.	Area (m2)
SIG	1	263.8	0	0
Private/Individual	13	948.4	5	310.8
Business/ Organizations	10	812.6	2	34.5
Church	2	368.4	1	36.7
Total	26	2393.1	8	382.04

2.6 Impacts on Trees and Plants

Substantial number of trees will also be affected for improvement of the road, estimated at about 102 No. of trees. It was recorded that the impact will only be on banana trees, a mango tree, a bread fruit tree and a coconut tree, and no other trees with commercial importance.

However, as identified during the survey there are 198 trees identified for removal which also includes other trees not commercially important and are within the legal road corridor. The location of impacts on trees can be seen in Appendix 11.

Table 5: Affected Trees of Commercial Value

Affected Entities	No. of Entities	No. Of Banana Trees	No. Of Mango Trees	No. Of Bread Fruit Trees	No. Of Coconut Trees
COL/SIG					
Private/Individual	3	72	1	1	1
Business/ Organizations	1	27			
Church					
Total	4	99	1	1	1

Table 6: Other Affected trees in road side and Median strip

Diameter of Tree	No,
15~30cm	13
30~50cm	54
50cm~1m	17
More than 1m	12
Total	96

2.7 Other Identified Impacts

Other identified impacts include impacts on other road side vendors along this specific road section. It was noted that other vendors has mobile or non - permanent structures for marketing such as tables and umbrellas which can be carried to areas each individual has identified or preferred for marketing. From the survey it was recorded that there are more than 156 individuals using tables or temporary mobile structures for marketing, this is as shown in Appendix 7.

3. SOCIO – ECONOMIC PROFILE OF THE AFFECTED HOUSEHOLDS

3.1 Socio – Economic Survey

A socio-economic baseline survey was conducted in November 2019 using a structured questionnaire. The survey covers information of all households along the project road.

3.2 Methodology

The method of survey is individual household survey by questionnaire interview by the enumerators and household representatives. Specifically, this should be done with the household heads but due to availability of households heads this was done with available persons in the houses during the time of the survey.

3.3 Characteristics of the Household Heads

3.3.1 Household Heads

From the survey undertaken it was shown that 83.2% of the households are headed by males while only 16.8% are headed by females.

Percentage (%) of Household Head by Gender

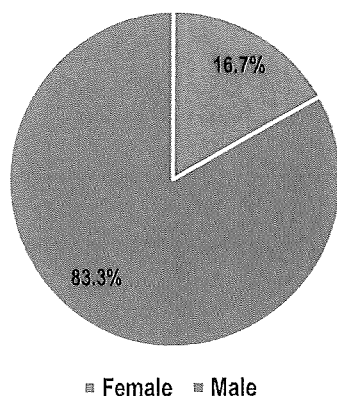


Figure 2: Gender of Household Heads

3.3.2 Age of Household Heads

The table below shows that the average age of household heads is 41 years old while the oldest household head is 87 years old and the youngest household head is 20 years old.

Table 7: Average, Maximum and Minimum Age of household heads

Items	Analysis of ages on Household heads
Average Age	41
Maximum Age	87
Minimum Age	20

3.3.3 Education attainment of household heads

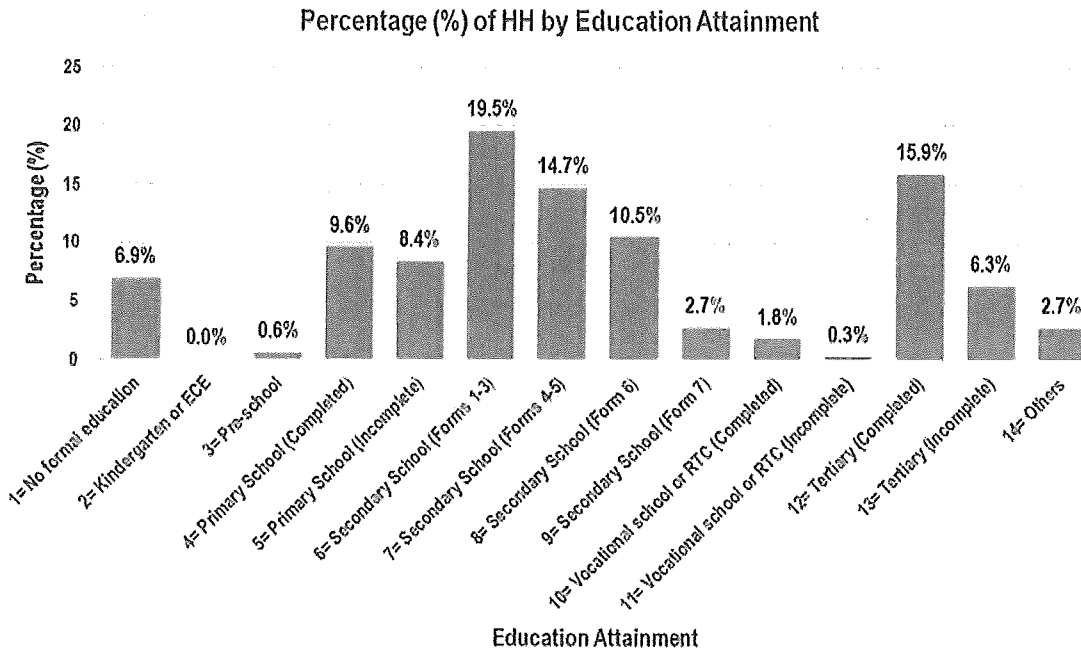


Figure 3: Percentage (%) of Household heads by Education Attainment

The graph above shows majority of the household heads, 19.5% have completed secondary school (Forms 1-3), 15.9% completed Tertiary education, and 1.8% completed vocational training.

3.3.4 Primary Occupation of Household Heads

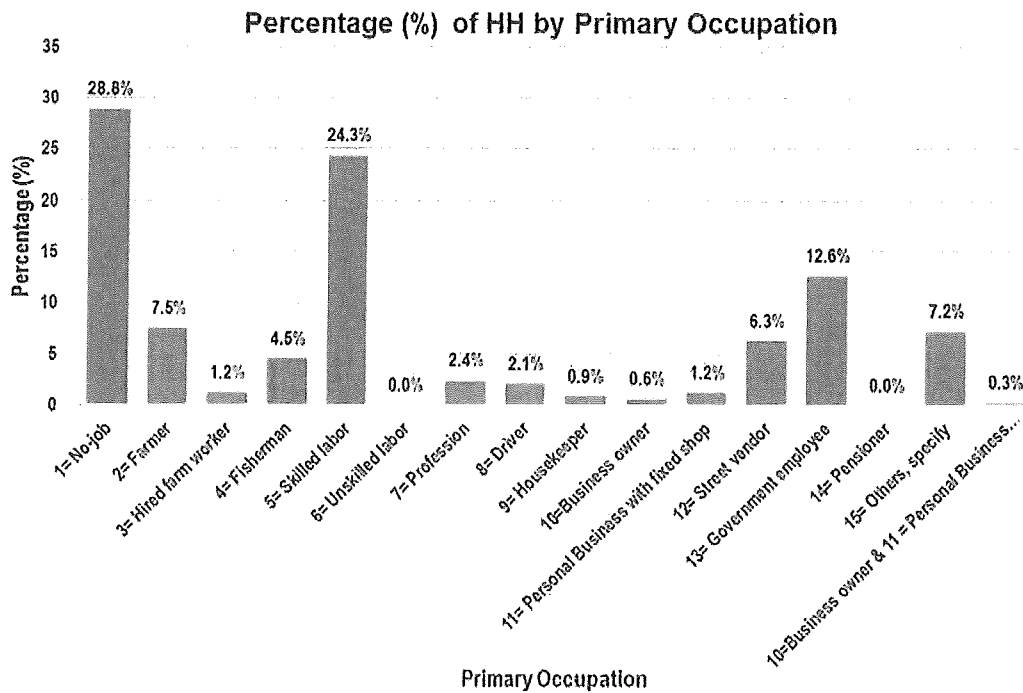


Figure 4: Percentage (%) of Household heads by Primary occupation

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The graph above shows that most of the household heads, 28.8% of the household heads, have no job or primary occupation, 24.3% are skilled labors, 12.6% are government employees and the least of 0.3% have personal business with fixed shops.

3.4 Characteristics of Household Members

3.4.1 Age and Gender of Household Members

This table shows that the highest number of household members is between the ages of 25 to 59 years old of 39.7%. While the least members of households are over the age of 60 of 3.3%.

Table 8: Age of Household Members

Age Group	No.	Percentage (%)
0-14	521	28.5
15-24	522	28.51
25-59	727	39.7
60+	61	3.3
Total	1831	100

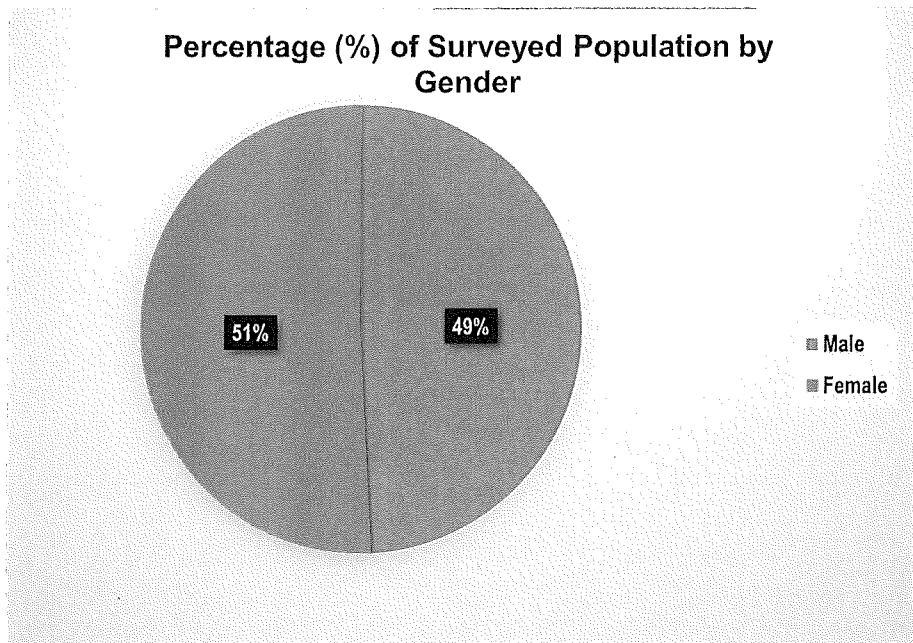


Figure 5: Percentage of males and females

The chart above shows that majority of the affected population are females of 51% while only 49% males.

3.4.2 Household Size

Table 9: Average household size

Average Household Size	Average No. of Males	Average No. of Females
5.6	2.8	2.9

The above table shows that the average size of households for residences is 5.6 persons per household and the average number of males per household is 2.8 while female is 2.9 persons per household. Please add analysis results, what important information can obtain for assess and RAP. May be, this chapter 3.4 are same condition, after these analyze, what we should care or how manage RAP, you should mention some policy.

3.4.3 Education Attainment

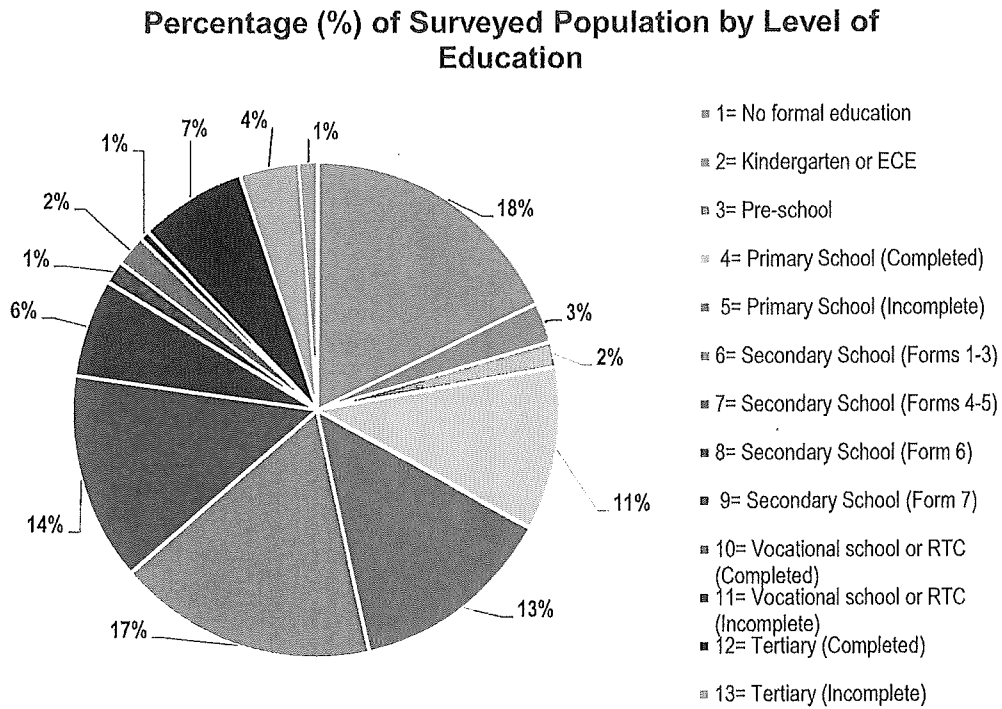


Figure 6: Education attainment of project affected families

The chart above shows that majority of the family members, 18%, do not have formal education, 17% completed Secondary School (Form 1-3), 14% completed Secondary School (Form 4-5) and only 7% completed tertiary level education.

3.4.4 Marital or Civil Status of Household Members

The graph below shows the marital status of household members over 18 years of age. This shows that 43.2% are single, 39.7% are married, 2.6% are separated, 1.3% are widowed while 13.1% have other marital status such as being divorced or engaged to be married.

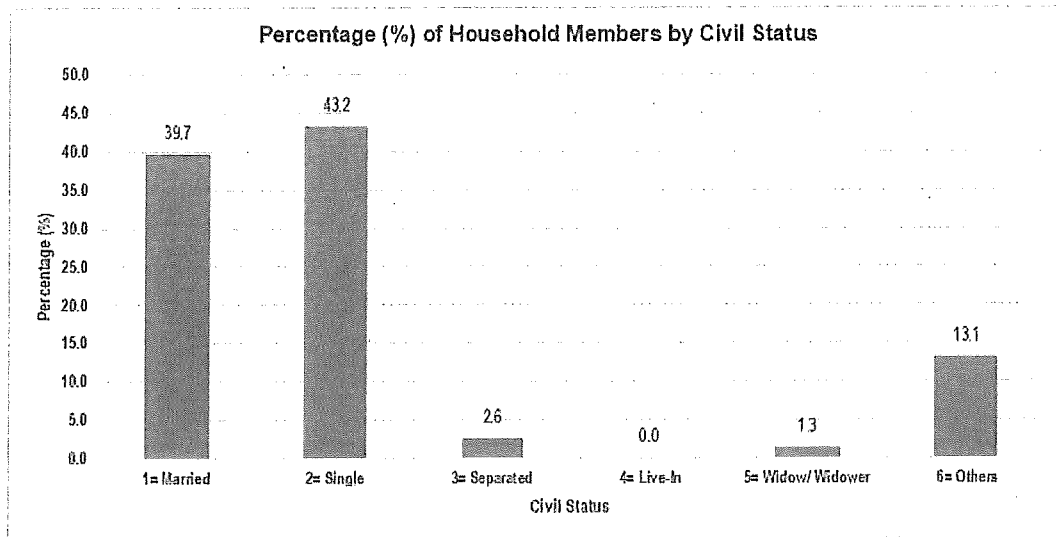


Figure 7: Marital or civil status of Household Members

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3.4.5 Primary and Secondary Occupation of Household Members

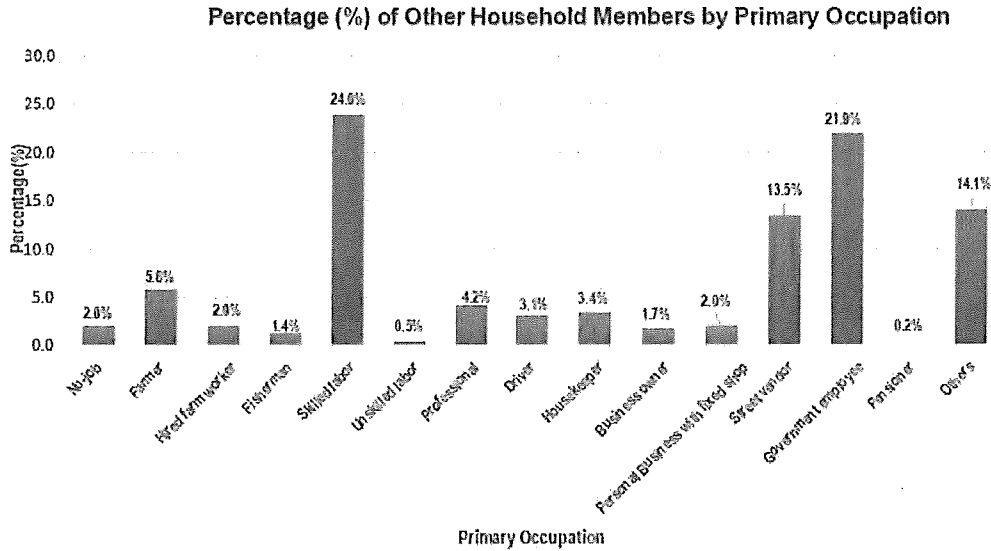


Figure 8: Percentage (%) of Household Members by Primary Occupation

The above graph depicts the primary occupation of household members, which shows that 24% of the household members are skilled workers, 21.9% are government workers, 14.1% are engaged in other jobs, 13.5% are street vendors and the least of 0.2% are pensioners.

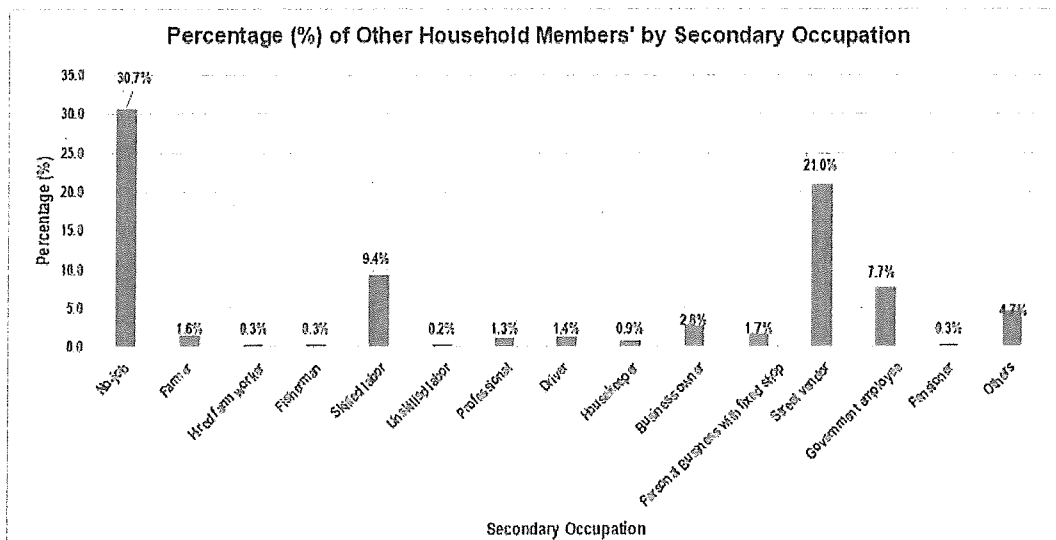


Figure 9: Percentage (%) of Household Members by Secondary Occupation

For secondary occupation, the graph shows that a high percentage of household members of 30.7% have no secondary occupation, 21% are street vendors, 9.4% are skilled workers, 7.7% are government employees and 4.7% have other jobs.

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3.5 Economic Characteristics of the PAF's

3.5.1 Source of Income

As shown in Figure 4, some of the household members have paid jobs. From this respective households are able to earn income to make ends meet. Therefore, it was found that the total income earned by all members of the household in a month is \$1,969,899.90¢ and the average earned income earned by each household member is SBD\$2786.28¢. While the total income earned by each surveyed household in a month is SBD\$2,138,594.90¢ and the average income earned by each household is SBD\$6,422.21¢. This is due to the fact that some households are also engaged in marketing and members of households being engaged in other occupation or have other jobs other than their primary occupation.

Table 10: Income Earned

Total Income Earned/ Month/Household	Average Income Earned/ Month/ Household	Total Income Earned/Month	Average Income Earned/ Person/Month
\$2,138,594.90	\$6,422.21	\$1,969,899.90	\$2,786.28

3.5.2 Expenditure of PAFs

Table 11: Monthly expenses in a month

	Food total	Non-food	Others
Estimated Total Amount (SBD\$/Month)	\$437,286.00	\$665,797.00	\$917,342.00
Average Estimated Total Amount (SBD\$/Month)	\$1,313.17	\$1,999.39	\$2,754.78

The table above shows that the estimated expenses on food by all households in a month is \$437,286.00. while the average is \$1,313.17. For non - food items and other items the estimated total expenses in a month are \$665,797.00 and \$917,342.00 and the average per household in a month are \$1,999.39 and \$2,754.78 respectively.

4. LEGAL AND POLICY FRAMEWORK

4.1 Legal Framework and Land Acquisition in Solomon Islands

In Solomon Islands, 87% of land is under customary tenure. Inheritance of customary land ownership or user rights differs with custom from island to island. Guadalcanal, Isabel, Central, Makira & Ulawa, and Western provinces typically practice matrilineal inheritance of land and the remaining provinces practice patrilineal inheritance. The remaining land is considered "alienated" and is subject to registration under the Land and Titles Act (the Act or LTA). Within Honiara City Council and provincial capital boundaries, land is owned by the state and is held in the perpetual estate title on behalf of the government by the Commissioner of Lands (COL). The COL enters into 50 year fixed term estate (FTE) agreements with individuals or shorter term temporary occupancy licenses (TOL). A TOL is valid for a period of one to two years, and permanent structures or improvements are not permitted on this land.

The LTA governs the government's compulsory acquisition of land as well as purchase or lease of land through agreement.

4.2 Compulsory Land Acquisition

In the LTA Sections 71 to 85 deals with compulsory acquisition of land for public purposes. Under section 71, the Minister makes a declaration that land is required for a public purpose. The declaration (including a plan or description of boundaries) is published and notice is required to be given to the landowner in case of registered land (section 72), and to all people or groups with

an interest in the land for unregistered or customary land (section 73). Within three months of the date of the declaration (provided the declaration is not appealed), the person(s)/group with an interest in the land must make a claim for compensation to the COL. Under section 79 (2) the COL can either offer to pay the claim, or reject it. If the offer is accepted by the claimant, the COL has three months from the date of acceptance of the offer, to pay the claim. If the claim for compensation is rejected, or the claimant is dissatisfied with the offer by the COL, the claimant has three months with which to lodge an appeal with the High Court.

Section 83 of the Act sets out the criteria for assessing compensation for land acquired compulsorily, and includes such things as (i) condition of land concerned; and (ii) any other matters and circumstances considered relevant, including assessment of any diminution in value to owner/occupier of contiguous. Section 84 of the Act deals with compensation for customary land, and provides for transfer or grant of other land or estate (along with terms and conditions), to person(s) or group¹, in lieu of payment of compensation. Sub-section 4 says that such compensation is for the benefit of all people in the group, in the tradition of customary usage.

In case of improved alienated land, the Act provides for (i) compensation for permanently acquired land; or (ii) rent for temporary use or occupation of land. Compensation can be provided in two ways; (i) if requested by a lease-holder, an FTE can be granted for an alternative parcel of land; or (ii) cash compensation based on valuation of land plus improvements. The valuation is based on the current value of parcels of land for similar uses in the area and the current rent for similar FTE arrangements. For unimproved alienated land, compensation negotiation is based on the original lease price plus reimbursement of all rent payments made up to the time of the resumption.

Temporary occupation of land for public purposes – for a period of a maximum of three years - may also be acquired by the COL (under section 82). This follows a similar process to acquisition of land, with a declaration and notice being given. Agreement as to the rental follows a similar process to the claim, offer, acceptance, and assessment as compensation for land to be acquired (under section 79). Under sub-section 3, at the end of the temporary use, the land is to revert to the owner or person or group with an interest in the land. If land has been damaged or the value diminished, compensation is to be awarded.

Acquisition of alienated land (freehold) is essentially a transaction between the COL, through an acquisition officer and valuation officer (from the office of the Valuer-General plus an independent valuation from a privately registered valuer) and the landowners. Acquisition of alienated land that is not freehold, in effect will constitute a resumption of an FTE lease (in whole or in part) by the COL. All FTE agreements are based on a contract which contains a specific clause stipulating that the COL may resume, for public purposes, part, or all, of the parcel of land covered by the lease. This would require a letter from the concerned government agency (the MID in this case) to the COL setting out details of the land required, purposes for which it is required, and a request for the COL to resume the land back to the perpetual estate title for the purposes set out in the letter. The COL will review the application, and through its Planning and Survey Divisions will survey and demarcate the area required. Following consultations and negotiations with the FTE holder, the COL will issue a letter of resumption, to which the title-holder responds, and the process for agreeing on compensation is commenced.²

Sections 60 through 70 of the Act deal with purchase or lease of customary land (through agreement) by the COL or any Provincial Assembly. The process starts with an appointment of an Acquisition Officer for land purchase or lease. The Acquisition Officer demarcates the boundary and agrees with landowners for the purchase or lease of the land required. The Acquisition Officer publishes a notice, holds a public hearing and prepares necessary reports. The agreement is reached with respective landowners, and it is implemented by the COL,

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- 1 Any disputes as to whether person(s) are a member of the group, or among members of a group about the compensation, shall be determined by the local court or Customary Land Appeals Court.
 - 2 This is based on the valuation by the Valuer-General and an independent valuation from a private sector and registered valuer.

including payment of the compensation, taking possession of the land, and registration of the land in the name of acquiring entity.

MID will negotiate with the leaseholders and no civil works commences without agreement from the leaseholder. MID normally engages in discussion with the title holder or its representative and, if there is a disagreement, MID reviews the design and then re-starts the discussion with the leaseholder until an agreement is reached. This same consultative approach on the design will be followed by MID under this project.

Furthermore, MID through the Implementing Agency had adopted and practiced the use of a Memorandum of Understanding (MOU) and/ or Memorandum of Agreement (MOA) for use of land. That is negotiating with the land and properties owners for temporary or permanent clearance and use of land for infrastructure development and only paying compensation for non – land assets. Compulsory acquiring land is not normally practiced as it takes time and often triggers issues among customary land owning groups as most of the lands within the country for development are customarily owned.

4.3 Policy and Principles of MID

The MID's Safeguards Procedures Manual is designed to avoid, minimize and balance environmental and social impacts caused by infrastructure development based on the three Tiers (Tier 1, Tier 2 and Tier 3) which divides proposed infrastructure repair, maintenance and rehabilitation works. The three tiers activates the environmental and LAR policies of the MID and Development Partners including the CSS.

In the case of Land Acquisition the MID/CPIU has the decision of going into a Memorandum of Agreement (MOA) with the Land Owners. The MOA allows Tier 3 projects voluntary access, i.e., with no cash compensation to land outside the road reserve or the ROW for expansion, staging area, and the conduct of works. This has similar terms and conditions as the MOU which the MID / CPIU enters into with customary landowners for non – NTP MBMC projects. However, the MOA requires payment for any non-land assets affected by the works. More importantly, it is legally binding, as it goes through review and approval of the Attorney General's Office (AGO) before taking effect.

If an MOA is rejected by the landowners, the MID / CPIU will have to organize with the Commissioner of Lands for Land Acquisition under Part V of the land and Titles Act. A LARP is prepared, approved by the MID and disclosed for Tier 3 activities.

For Tier 3 projects LAR will definitely occur for transport infrastructure projects if it involves new works or construction of a transport facility where presently there is none. The LAR policy principles also apply to expansion of an existing facility beyond its present foot print or boundaries. Triggering all LAR principles means that Tier 3 activities involving new works or expansion will have to undergo full LAR planning.

Furthermore, major infrastructure rehabilitation will have to go through most of the phases in the project cycle. That is:

- Identification of projects by:
 - a. Scoping to make preliminary assessment of the area's suitability and features
 - b. Identification of landowners, land boundaries and issues concerning the area through social scoping by identifying the boundaries and use of the land, recording fixed assets, ownership of land and issues that might hinder LAR;
 - c. Information disclosure through community consultations, individual consultations, stakeholder meetings;
 - d. Establishment of CAC and GRC by appointment of community representatives by the communities. The committee members will be informed and trained on the roles and functions of the committee;



- e. The Social impacts and measures to mitigate them are identified through the ARAP by undertaking surveys at the communities and each households;
- f. Planning of the LAR find measures to avoid, minimize offset and compensate for the impacts and to improve or at least restore the standard of living and livelihood of PAPs/PAFs to pre – LAR levels;
- g. The CAC or GRM will disclose the LARP at the project site to all PAPs/PAFs in a timely manner at an accessible place and language understood by PAPs/PAFs and other stakeholders;
- h. Execute LAR by providing compensation and other entitlements to the PAPs/PAFs before works and economic displacement; and,
- i. Monitor the implementation of the LAR and its impacts on the PAPs/PAFs.

4.4 JICA policy on involuntary resettlement

The key principle of JICA policies on involuntary resettlement is as summarized below:

- a. Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.
- b. When, population displacement is unavoidable, effective measures to minimize the impact and to compensate for losses should be taken.
- c. People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre - project levels.
- d. Compensation must be based on the full replacement cost³ as much as possible.
- e. Compensation and other kinds of assistance must be provided prior to displacement.
- f. For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. It is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy, OP 4.12, Annex A.
- g. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people.
- h. Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans.
- i. Appropriate and accessible grievance mechanisms must be established for the affected people and their communities.

³ Description of "replacement cost" is as follows.

Land	Agricultural Land	The pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes.
	Land in Urban Areas	The pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes.
Structure	Houses and Other Structures	The market cost of the materials to build a replacement structure with an area and quality similar or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes.

a

[Signature]

Above principles are complemented by World Bank OP 4.12, since it is stated in JICA Guideline that "JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies". Additional key principle based on World Bank OP 4.12 is as follows.

- a. Affected people are to be identified and recorded as early as possible in order to establish their eligibility through MID initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits.
- b. Eligibility of Benefits include, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying.
- c. Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.
- d. Provide support for the transition period (between displacement and livelihood restoration).
- e. Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc.
- f. For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.

In addition to the above core principles on the JICA policy, it also laid emphasis on a detailed resettlement policy inclusive of all the above points; project specific resettlement plan; institutional framework for implementation; monitoring and evaluation mechanism; time schedule for implementation; and, detailed Financial Plan etc.

5. THE PROJECT LAND ACQUISITION AND RESETTLEMENT POLICY

The Government of Solomon Islands will use the Project Resettlement Policy (the Project Policy) for the specifically because existing national laws and regulations have not been designed to address involuntary resettlement according to international practice, including JICA's policy. The Project Policy is aimed at filling-in any gaps in what local laws and regulations cannot provide in order to help ensure that PAPs are able to rehabilitate themselves to at least their pre-project condition. This section discusses the principles of the Project Policy and the entitlements of the PAPs based on the type and degree of their losses. Where there are gaps between the legal framework for resettlement and JICA's Policy on Involuntary Resettlement, practicable mutually agreeable approaches will be designed consistent with Government practices and JICA's Policy.

The project policy on land acquisition and resettlement is as follows:

- i. Land acquisition and involuntary resettlement will be avoided where feasible, or minimized, by identifying possible alternative project designs that have the least adverse impact on the communities in the project area;
- ii. Where displacement of households is unavoidable, all PAPs (including communities) losing assets, livelihoods or resources will be fully compensated and assisted so that they can improve, or at least restore, their former economic and social conditions;
- iii. Compensation and rehabilitation support will be provided to any PAPs, that is, any person or household or business which on account of project implementation would have his, her or their;
- iv. Standard of living adversely affected;
- v. Right, title or interest in any house, interest in, or right to use, any land (including premises, agricultural and grazing land, commercial properties, tenancy, or right in



- annual or perennial crops and trees or any other fixed or moveable assets, acquired or possessed, temporarily or permanently;
- vi. Income earning opportunities, business, occupation, work or place of residence or habitat adversely affected temporarily or permanently; or
 - vii. ¥Social and cultural activities and relationships affected or any other losses that may be identified during the process of resettlement planning;
 - viii. All affected people will be eligible for compensation and rehabilitation assistance, irrespective of tenure status, social or economic standing and any such factors that may discriminate against achievement of the objectives outlined above. Lack of legal rights to the assets lost or adversely affected tenure status and social or economic status will not bar the PAPs from entitlements to such compensation and rehabilitation measures or resettlement objectives;
 - ix. All PAPs residing, working, doing business and/or cultivating land within the project impacted areas as of the date of the latest census and inventory of lost assets(IOL), are entitled to compensation for their lost assets (land and/or non-land assets), at replacement cost, if available and restoration of incomes and businesses, and will be provided with rehabilitation measures sufficient to assist them to improve or at least maintain their pre-project living standards, income-earning capacity and production levels;
 - x. PAPs that lose only part of their physical assets will not be left with a portion that will be inadequate to sustain their current standard of living. The minimum size of remaining land and structures will be agreed during the resettlement planning process;
 - xi. People temporarily affected are to be considered PAPs and resettlement plans address the issue of temporary acquisition;
 - xii. Where a host community is affected by the development of a resettlement site in that community, the host community shall be involved in any resettlement planning and decision-making. All attempts shall be made to minimize the adverse impacts of resettlement upon host communities;
 - xiii. The resettlement plans will be designed in accordance with Solomon Islands National Involuntary Resettlement Policy and JICA's Policy on Involuntary Resettlement;
 - xiv. The Resettlement Plan will be translated into local languages and disclosed for the reference of PAPs as well as other interested groups;
 - xv. Payment for land and/or non-land assets will be based on the principle of replacement cost;
 - xvi. Compensation for PAPs dependent on agricultural activities will be land-based wherever possible. Land-based strategies may include provision of replacement land, ensuring greater security of tenure, and upgrading livelihoods of people without legal land titles. If replacement land is not available, other strategies may be built around opportunities for re-training, skill development, wage employment, or self-employment, including access to credit. Solely cash compensation will be avoided as an option if possible, as this may not address losses that are not easily quantified, such as access to services and traditional rights, and may eventually lead to those populations being worse off than without the project;
 - xvii. Replacement lands, if the preferred option of PAPs, should be within the immediate vicinity of the affected lands wherever possible and be of comparable productive capacity and potential⁴. As a second option, sites should be identified that minimize

⁴ Agricultural land for land of equal productive capacity means that the land provided as compensation should be able to produce the same or better yield the AP was producing on his/her land prior to the project. The production should be in the planting season immediately following the land acquisition. It can be for a future period if transitional allowance equal to the household's previous yield is provided to the AP household while waiting for the land to get back to the same productivity as the previous land.

- the social disruption of those affected; such lands should also have access to services and facilities similar to those available in the lands affected;
- xviii. Resettlement assistance will be provided not only for immediate loss, but also for a transition period needed to restore livelihood and standards of living of PAPs. Such support could take the form of short-term jobs, subsistence support, salary maintenance, or similar arrangements;
 - xix. The resettlement plan must consider the needs of those most vulnerable to the adverse impacts of resettlement (including the poor, those without legal title to land, ethnic minorities, women, children, elderly and disabled) and ensure they are considered in resettlement planning and mitigation measures identified. Assistance should be provided to help them improve their socio-economic status;
 - xx. PAPs will be involved in the process of developing and implementing resettlement plans;
 - xxi. PAPs and their communities will be consulted about the project, the rights and options available to them, and proposed mitigation measures for adverse effects, and to the extent possible be involved in the decisions that are made concerning their resettlement;
 - xxii. Adequate budgetary support will be fully committed and made available to cover the costs of land acquisition (including compensation and income restoration measures) within the agreed implementation period. The funds for all resettlement activities will come from the Government;
 - xxiii. Displacement does not occur before provision of compensation and of other assistance required for relocation. Sufficient civic infrastructure must be provided in resettlement site prior to relocation. Acquisition of assets, payment of compensation, and the resettlement and start of the livelihood rehabilitation activities of PAPs, will be completed prior to any construction activities, except when a court of law orders so in expropriation cases. (Livelihood restoration measures must also be in place but not necessarily completed prior to construction activities, as these may be ongoing activities);
 - xxiv. Organization and administrative arrangements for the effective preparation and implementation of the resettlement plan will be identified and in place prior to the commencement of the process; this will include the provision of adequate human resources for supervision, consultation, and monitoring of land acquisition and rehabilitation activities; and,
 - xxv. Appropriate reporting (including auditing and redress functions), monitoring and evaluation mechanisms, will be identified and set in place as part of the resettlement management system. An external monitoring group will be hired by the project and will evaluate the resettlement process and final outcome. Such groups may include qualified NGOs, research institutions or universities. Monitoring reports shall be forwarded directly to the JICA.

5.1 Cut-off-date of Eligibility

The cut-off-date of eligibility refers to the date prior to which the occupation or use of the project area makes residents/users of the same eligible to be categorized as PAPs and be eligible to Project entitlements. In the Project, Cut-off dates for titleholders will be the date of notification under the Land Acquisition Act and for non-titled holders will be the beginning date of the population census; November 2020). This date has been disclosed to each affected area by the relevant local governments during the first consultation meetings held in December 2019. The establishment of the eligibility cut-off date is intended to prevent the influx of ineligible non-residents who might take advantage of Project entitlements.



5.2 Principle of Replacement Cost

All compensation for land and non-land assets owned by households/shop owners who meet the cut-off-date will be based on the principle of replacement cost. Replacement cost is the amount calculated before displacement which is needed to replace an affected asset without depreciation and without deduction for taxes and/or costs of transaction as follows:

- i. Productive Land (agricultural, aquaculture, garden and forest) based on actual current market prices that reflect recent land sales in the area, and in the absence of such recent sales, based on recent sales in comparable locations with comparable attributes, fees and taxes or in the absence of such sales, based on productive value;
- ii. Residential land based on actual current market prices that reflect recent land sales, and in the absence of such recent land sales, based on prices of recent sales in comparable locations with comparable attributes; fees and taxes.
- iii. Existing local government regulations* for compensation calculations for building, crops and trees will be used where ever available.
- iv. Houses and other related structures based on actual current market prices of affected materials;
- v. Annual crops equivalent to current market value of crops at the time of compensation;
- vi. For perennial crops, cash compensation at replacement cost that should be in line with local government regulations, if available, is equivalent to current market value given the type and age at the time of compensation.
- vii. For timber trees, cash compensation at replacement cost that should be in line with local government regulations, if available, will be equivalent to current market value for each type, age and relevant productive value at the time of compensation based on the diameter at breast height of each tree.

5.3 Memorandum of Agreement (MOA)/ Memorandum of Understanding (MOU)

In consistent with the MID Safeguards Procedures Manual, this RP will apply to all three categories of APs as follows:

- i. Persons with formal or legal rights to land lost in its entirety or in part;
- ii. Persons who lost the land they occupy in its entirety or in part who have no formal legal rights to such land, but who have claims to such land that are recognized or recognizable under national laws; and,
- iii. Persons who lost the land they occupy in its entirety or in part (as of the cut-off date) who have neither formal legal rights nor recognized or recognizable claims to such land.

The project will follow both the national laws and the JICA safeguards policy. In case of any gap, the JICA policy will apply. The project's key resettlement principles are:

- i. Land acquisition and involuntary resettlement will be avoided where feasible, or minimized, by identifying possible alternative project designs that have the least adverse impact on the communities in the project area;
- ii. Where displacement of households is unavoidable, all PAPs (including communities) losing assets, livelihoods or resources will be fully compensated and assisted so that they can improve, or at least restore, their former economic and social conditions;
- iii. PAPs and their communities will be consulted about the project, the rights and options available to them, and proposed mitigation measures for adverse effects, and to the extent possible be involved in the decisions that are made concerning their resettlement.
- iv. absence of formal title will not be a bar to compensation for house, structures and trees/crops, and particular attention will be paid to vulnerable groups;
- v. land compensation and resettlement assistance will be completed before start of civil works; and,

- vi. land acquisition and resettlement will be conceived as part of the project and costs related to resettlement will be included in and financed out of the project cost.

For infrastructures that directly benefit local communities, the MID often consults

with the communities and landowner groups to get their agreement in constructing such infrastructures on the community/customary land. If the landowners and any other persons who claim an interest in the land agree on use of the land for the project purpose, the agreement is documented in the form of a Memorandum of Agreement (MOA) which is signed by the land owner(s) (whoever is required) and the government. The MOA sets out the agreed terms and conditions, including details of compensation to the landowners to be provided by the MID in return for use of the community land for the project. While the MID wishes to continue this tradition of consultation and MOA, the project will follow adequate safeguards and legal process in obtaining community/customary land, including:

- i. local communities will be consulted on selection of project location/alignment and on options to minimize resettlement impacts;
- ii. landowners will not be forced to give their land and giving-up the land will not result to poverty among affected landowners;
- iii. The project affected persons or households will be provided compensation (at replacement cost) for their loss of individual structures and other improvements such as crops, trees, etc., in addition to in-kind compensation to community/groups for affected customary land,
- iv. Procedures on purchase or lease of customary land in compliance with the Land Act will be followed, as relevant;
- v. A written MOA will be signed with all members of the landowner group(s); and,
- vi. The MOA will be validated by a third party such as a civil society organization or a magistrate.

The project will follow eligibility and provisions in the ARAP for compensating all types of losses resulting from land acquisition or restriction on land use or access. PAPs will receive compensation at full replacement cost, and other resettlement assistance such as shifting allowance. Titled PAPs will receive compensation for land acquired by the project.

Non-titled PAPs are not eligible for compensation of land, but will receive compensation for non-land assets on the land and other assistance as required. Households headed by women and other vulnerable households will receive further assistance.

5.4 Entitlements

Entitlement provisions for the PAPs include compensation for permanent and temporary loss of land, structure, trees, crops, and a onetime allowances/grant for shifting and reconstruction of structure. These entitlements are summarized below.

Table 12: Entitlement Matrix

Impact	Application	Entitled PAPs	Entitlement
Loss of use of land through temporary occupation by the project including any damages within land used temporarily.	Alienated land (FTE, etc.) required during works.	Landowners/users of the land	<ul style="list-style-type: none"> ● Rent as negotiated with landowner. All temporary use of land will be through a written agreement with the land title holder and land will be returned to the landowner after the rehabilitation of the land to its original state or better condition. ● Compensation will be made at full replacement cost for any damages within land used for or by the project.
		Land title holder.	

Permanent loss of various types of land (other than residential)	Alienated land required for the project works.	Lease-holders, tenants and users of land.	<ul style="list-style-type: none"> • Cash compensation, at replacement cost, to landowner(s) as agreed between MID and landowner(s).
Loss of gardens, trees, crops, perennials, and/or productive trees/plants.	Standing crops, trees in the ROW or road corridor.	Owner(s) of crops or trees.	<ul style="list-style-type: none"> • Compensation at replacement cost as determined by the Forest Division for timber trees and the Department of Agriculture for crops or productive plants/trees.
Partial or total removal of temporary structures (market huts or commercial structure).	Structure in ROW or road corridor.	Owner(s) of structure	<ul style="list-style-type: none"> • Compensation for structures affected or removed at replacement cost without deductions for salvaged materials, and assistance in locating suitable alternative housing or commercial building.
Temporary impact during construction.	Temporary use of land outside the construction limit (RoW) or road corridor during construction.	Owner(s) of land	<ul style="list-style-type: none"> • All temporary use of lands outside the RoW to be through written agreement between the landowner and the contractor. The Land will be returned to owner after rehabilitation to original preferably better standard.
Affected Vulnerable Households		Vulnerable households losing assets to the Project.	<ul style="list-style-type: none"> • In addition to the standard package, vulnerable PAPs households will receive a one-time additional special assistance agreed with MID.
Unforeseen or unintended impacts.	Any impact identified during implementation.	Concerned PAPs.	<ul style="list-style-type: none"> • Determined as per the principle of this ARAP.

- **Acquisition of land:** Landowners/landowner groups will be compensated in cash at replacement cost as agreed between MID and landowners.
- **Loss of Structures (temporary):** will be compensated in cash at replacement cost free from depreciation and transaction costs. A one-time transfer grant of SBD\$500 and a replacement cost as valued by MID will be paid for each affected households.
- **Loss of crop:** Compensation for loss of crops will be paid in cash as per the rate determined by the Department of Agriculture.
- **Loss of trees:** Compensation for loss of trees will be paid in cash at replacement cost as determined by the Forest Division.
- **Vulnerable Households:** Vulnerable AP households (if any) will receive a one-time additional special assistance of SBD\$1500. This special assistance will be in addition to the standard package.

6. INSTITUTIONAL FRAMEWORK

6.1 Institutional Setup

The CPIU of the MID will have overall responsibility to implement the ARAP by managing the land acquisition and resettlement aspects under the Project. The existing SU of CPIU will train and provide guidance to strengthen the capacity of national staff in the process of planning, implementation and monitoring the social safeguard activities. The Safeguards Unit Social Safeguards Team will make sure that the compensations and entitlements under the ARAP are fully provided to the PAPs/ PAFs prior to the commencement of construction activities. The Project

Manager, assisted by the Social Safeguards Team, will play the major role to ensure that all relevant safeguard plans are implemented in line with the ARAP. Following the award of the civil works contract, the social safeguard teams will arrange a briefing to the contractors to raise their awareness on safeguard requirements.

The ARAP Implementation organization chart and the responsibilities of responsible authorities to implement the ARAP is as shown below.

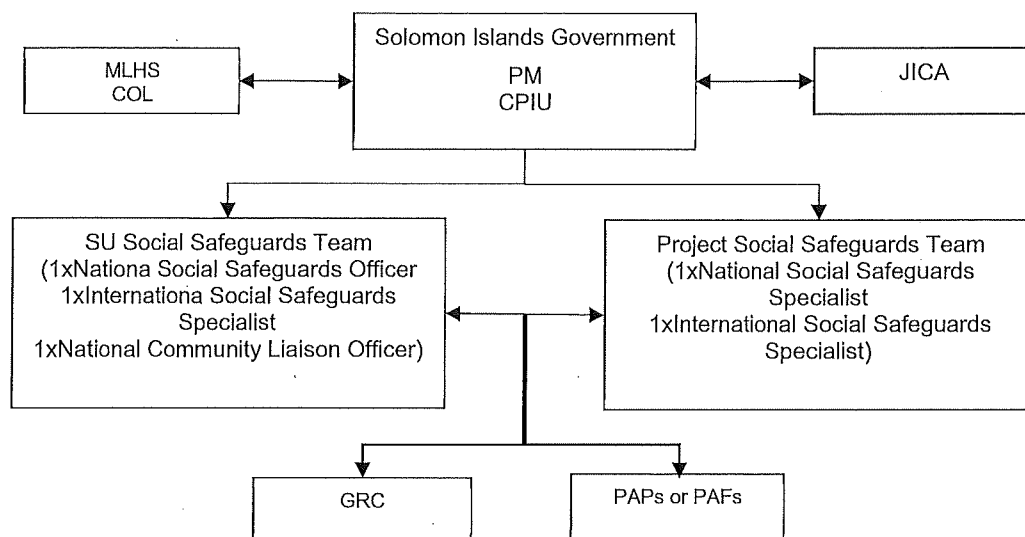


Figure 10: Organizational Chart for RP Implementation

Table 13: Responsible Authorities and the respective Roles and Responsibilities for RP Implementation

Authorities	Roles and Responsibilities
Executing Agency (EA) MID	<ul style="list-style-type: none"> ● Overall execution of the Project ● Directs the CPIU ● Endorse the ARAP and forward to JICA for approval. MID at appropriate time will disclose the ARAP on its respective websites ● Provides funds for land acquisition and resettlement ● Liaises with JICA
CPIU/MID	<ul style="list-style-type: none"> ● Manages the social and resettlement aspects of the projects ● Works with project team on all matters dealing with resettlement and consultations ● Organizes effective public consultation and disclosure of resettlement planning documents in appropriate languages ● Ensures that effective monitoring of resettlement is conducted and reported to funding agencies ● Ensures that the grievance redress system is effective in addressing PAPs/PAFs concerns ● Liaises with JICA on all matters relating to resettlement and submits regular reports.
MLHS/COL	<ul style="list-style-type: none"> ● Support to the MID in carrying out land acquisition activities ● Support the MID to identify landowners or lease-holders, prepare declarations and notices as required, and undertake land acquisition survey

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Authorities	Roles and Responsibilities
JICA	<ul style="list-style-type: none"> ● Review and approve all resettlement documentation as required under their respective policies ● Disclose ARAP on respective websites ● Provide guidance as required based on progress reports and supervision missions

7. RESETTLEMENT BUDGET AND FINANCIAL PLAN

7.1 Institutional Arrangements for Financing Resettlement

All funds required for compensating the affected land, structure and trees, including providing various allowances will be allocated by the government. The MID will ensure that adequate funds are available for carrying out resettlement according to the budgets provided in the ARAP. The CPIU will coordinate allocation of funds, approval of payments, and delivery of funds, monitoring of progress and reporting.

7.2 Budget Description

The entire resettlement for the impacts due to the Kukum Highway Road Upgrade will require a total of SBD\$ 6,871,770.52. Contingency expenses is 10% of the total expenses and administration fee is 5% of the total cost. Administrative work required to compensate a small number of affected households under the project is a very negligible task which can easily be handled by the SU social safeguard team. Engaging a large administrative force therefore will not be required; rather a contingency fund provided in the budget can meet the administrative cost for compensating this small number of PAPs.

A summary of the total cost of implementing the ARAP presenting allowances for losses under this project are shown in the table below.

Table 14: Summary Resettlement Budget

Affected Assets & Allowances	Quantity	Unit	Average Rate (SBD)	Amount (SBD)
Assets				
Compensation for Affected Land	3890.33	m2	\$96.10 /m2	\$3,746,785.00
Compensation for Affected Structures	1371.05	m2	\$949.83 /m2	\$1,302,259.60
Compensation for Car parks & Fences	2775.12	m2	\$333.21 /m2	\$924,703.03
Compensation for Affected Trees	102	No.	\$16.71	\$1705.00
Sub-total (SBD\$)				\$5,975,452.63
10% associated cost on sub-total to meet the contingency expenses	-	-	-	\$597,545.26
5% Administration Fees	-	-	-	\$298,772.63
Total Resettlement Budget (SBD\$)				\$6,871,770.52

8. CONSULTATION AND INFORMATION DISSEMINATION

8.1 Consultation and Participation

This ARAP has been prepared in consultation with the key local and national stakeholders, to ensure their full awareness and participation. Public consultations were also done for local residences or settlers along the project area. Specifically, discussions with the directly affected families and the project to understand their attitude towards the project design and benefits and their expectations.

Also to identify the potential negative impacts and explain the mitigation policies of the Project in line with the Government's law on land acquisition and the JICA Guidelines on Involuntary Resettlement, and to create awareness among the affected population regarding their

entitlements and compensation payment procedures and grievances redress mechanism; discuss market values of land and other assets in ascertaining the replacement price of the affected properties to compensate the APs; and to establish cut-off date for the Project towards minimizing the impact of possible influx to the project area. A total of 2 public consultations and 1 stakeholders meeting were conducted on December 3rd and 4th 2019.

Local residences from different areas expressed their views, but the main issues were concerning the project's likely impacts and PAF's expectations and suggestions on applicable mitigating measures. From the household survey conducted, a total of 333 households participated in the survey and 110 persons attended the consultation sessions. As shown in the chart below, Figure 2, portrays that 67% of the respondents stated that the project is very good; 28% responded that it is good, 3% stated that it is fair and only 1% stated that it is not good. This shows that 99% of the local residences representatives supported the idea of project being implemented in the target areas.

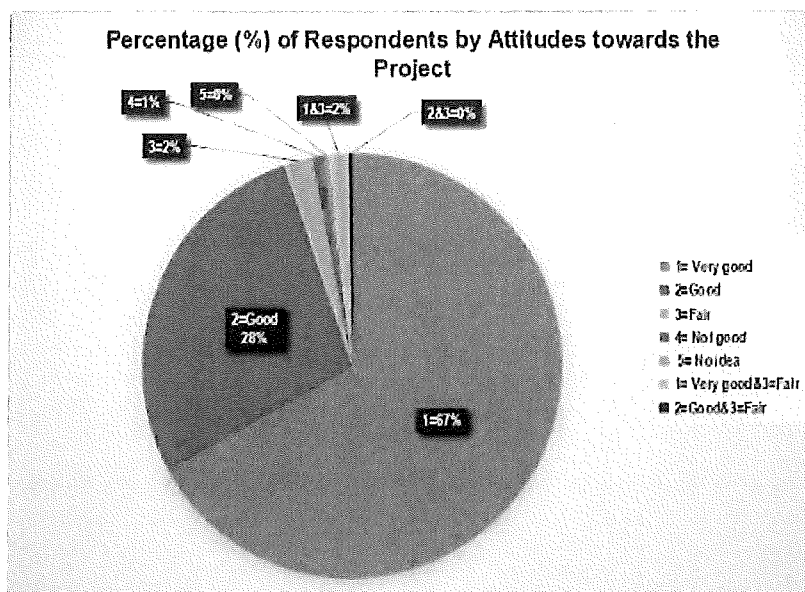


Figure 11: Respondents attitude towards the project

Due to the current condition of the highway, majority of the participating households have the perception that the project will be beneficial for all Honiara and East Guadalcanal. People have expressed their willingness to participate in the project implementation process, and even showed their interest to participate in the implementation process. They had also shared their views on how to improve the project both in engineering and socially from the mistakes done during the Phase 1 of the project.

Majority of the participants expect that the project will reduce travel time for local residences to travel to government facilities and other social services such as the Honiara Central Market, Hospital and Clinics, Schools and even work. Participants also express their views and thoughts on the engineering design of the road, specifically to increase the sizes of the drainage systems to cater for the amount of flood waters during rainy seasons and consider climate change in the design. Included that proper bus bays, taxi stands, pedestrian crossings, foot paths and cyclists paths are considered for the safety of all road users. The participants during the meetings also also perceived some negative impacts during the project implementation due to unavoidable impacts to some non-land assets and income earning activities existing along the road. Some also express that there might be loss of land due to the project implementation. Significant number of participants also expressed that there will be increased accidents and hazards with the project being implemented due to increased traffic and vehicle speed. Others expressed their concerns regarding noise, disturbance and nuisance during project implementation, especially during different civil works. Some of the participants were found to be worried about the privacy of their

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lives, especially for women and girls that might be affected during implementation. Participants also showed concerns about potential negative impacts from the influence of outsiders. mistake

Hence, during the meetings, local residences were informed that such issues have been considered by the project. The project will prepare an Environmental Management Plans in accordance with the JICA Guidelines and MID safeguards procedures on social, environmental and physical impacts and mitigation measures.

The project along with CPIU and the civil works contractor will set up a committee

comprising of the stakeholders and local residences representatives to deal with issues concerning land and property loss or damage, and other project implementation issues. These issues will be recorded by the Contractor's Community Liaison Officer (CLO) in a grievance register and taken up with the committee to be addressed through the grievance redress process.

However, if the issues are not addressed it will be dealt with by the complainant with MID, CPIU, Project Team and the Contractor separately. This is mainly on sensitive land and property damage issues.

During the consultations, the participants and likely PAFs and enquire on the loss or damage to properties or land including compensation for loss of land, structures, trees and other assets.

In the meeting and consultations it was highlighted that the project will be upgrading the Kukum highway and other works such as drainage systems and allocating land for future road upgrade to four lanes for the road from the Lunga Bridge to Henderson. From this some land and properties owned by the local people including the government, businesses and others will be affected and compensated for by the SIG through MID. The Provincial Government expressed support in identifying certain land owners and property owners.

All respective stakeholders are updated and informed of the project proposed plans for works and the impacts both positive and negative during and after the project. Certain areas of land ownership and entitlements to any compensation that will be made were also discussed and assistance from the stakeholders are rendered towards the project as it is perceived to be a major development for the province and the country as a whole.

8.2 Information Dissemination

The MID will publicly disclose this ARAP to the stakeholders, especially to the PAFs by consultation and distributing the summary of the ARAP. A summary of this ARAP along with the entitlement matrix will be translated into local language if needed, and will be presented in the form of a Public Information Booklet to enable the PAFs and local residences to read it by themselves and be aware of the Project's benefit / compensation available for the PAFs. The safeguards unit of CPIU, supported will distribute the information through meetings. The information will be made publicly available in the MID head office, Project Manager at CPIU and Provincial Government offices.

From this disclosing of the information in the ARAP to the PAFs, information or feedback will be received and the ARAP will be reviewed. All feedbacks on the summary will be incorporated into the ARAP before the final disclosing of the ARAP by the MID and JICA. The final version of the ARAP will be disclosed in the MID and JICA websites.

8.3 Key Stakeholders Consultation

Key stakeholders meetings will be scheduled with the respective Government Authorities such as the SIG MLHS and the Guadalcanal Provincial Government as the project progresses onto the design stage. At this stage there are no individual consultation undertaken.

A summary of the combine initial stakeholders meeting and 2 public consultations held on 3rd December and 4th December 2019 is as follows:



8.4 Summary of consultation

From the initial consultations or meetings it was found that most of the participants experienced difficulties due to existing road conditions. Also accessing major services in Honiara was also a problem as it is very time consuming to get from one location to another.

Furthermore, most of the participants reported that major road flooding and degradation of the existing pavement is a major issue. Since the drainage are no longer working properly and needs upgrade from the existing sizes. Meaning most structures was not designed to cater for the amount of water and debris during severe flood events and there is a need for improvement.

The participants and attendees also express support for the project and gratitude towards the initiative taken by MID to inform them during the initial stage of the project, and stated that lack of information disclosure or awareness to the public is always an issue to any development.

8.4.1 Initial Stakeholders Meeting and Public Consultation

There are 3 consultation meetings held in December 2019. That is a stakeholder meeting and two public consultation meeting. The issues raised by attendees and participants during each consultation meetings are summarized below.

1) Stakeholder meeting

Table 15: Summary of 1st Stakeholder meeting

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	3rd December 2019	Venue	Bethel Conference Room
Purpose	To inform the participants about the project and its social and environmental impacts.		
Participants	Participated organization; MID, Solomon waters, LBS(local consultant), JICA Team		
	Total participants: 27, (Male: 20, Female: 7)		
Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Discussion 5. Statement of Cutoff Date 6. Closing remarks 		
Issues and Discussion	<ul style="list-style-type: none"> • Solomon Water representative inform the project team that SW is planning to improve the existing sewer lines by replacing them with new ones. • Asked if the Cost of design for relocation of sewer line and required land under the project can be met by MID. • The Project to consider design and construction management of utilities during construction. • Propose for a meeting with the Kukum Highway Project Team in 2020, with the Utilities Providers. • Cost of Utilities relocation will be met by SIG through MID. • Concern with buildings on the road reserve. • Propose for a bus bay at KGVI and Henderson Area. • Consider bus stops or bays to not obstruct feeder roads. • Asked if HCC and MID could regulate public buses operation along the highway and in Honiara. • Parking space to be allowed at market areas. • Asked for Relocation of KGVI Market. • Propose for new markets east of Honiara. • Improve current drainages along the whole project road. • Need for proper signages, pedestrian crossings, foot paths and traffic lights at certain locations including provision for bicycles. • Consider underpass or overhead crossing at school locations such as KGVI and Perch School areas. • Disposal site owned by Golf Club is still available for dumping of waste materials from the project. • MID to implement Road and Traffic Act and Regulations. 		
Activity	JICA Team conduct exercise to finding traffic dangerous points along the project road.		
Note	Provide proper road signages for road users particularly to educate public transport drivers.		

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	Support road upgrade to reduce traffic jam (time consuming and lateness to work and school for children).
Statement of Cut - off Date	The declaration of Cut - off was done and declared as the 3rd of December 2019. From this date no further developments are to be made along the Kukum Highway up to Henderson.

2) Public Consultation/ Meeting

Table 16: Summary of 1st Public Consultation at Henderson Field

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	3rd December 2019	Venue	Henderson Field
Purpose	To inform the participants about the project and its social and environmental impacts.		
Participants	Participated organization; MID, LBS(local consultant), JICA Team		
	Total participants: 43, (Male: 23, Female: 20)		
Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Discussion 5. Statement of Cutoff Date 6. Closing remarks 		
Issues and Discussion	<ul style="list-style-type: none"> • Asked about the maintenance of the road and drainages after the completion of the project? ⇒ MID and Project representatives responded that the Road and drainages will be maintained by MID. • MID to consider relocation of market stalls or vendors along the road section. • Asked about the project time frame and scope. ⇒ Project Rep explained that the project time frame is to deliver the project before the 2023 SP Games. • Inform the participants that there will be impacts on some land and non - land assets along the road section. Particularly those that are in the road corridor or within the 32m right-of -way (ROW). • Who will be responsible to compensate for lost assets or land: ⇒ MID will be responsible and not the project. Project will only identify affected families or households and present it to MID. • Participants express support towards the projects to reduce traffic jam (time consuming and lateness to work and school for children). • Why only 2 lane from Lunga Bridge? ⇒ From MFMR office to Lunga Bridge it will be 4 lanes and 2 lanes from Lunga Bridge to Henderson. MID has considered 4 lanes and this will be catered for in the current road design to make room for future road upgrades. • Replace existing drainages to larger sizes. • Need for proper signages, pedestrian crossings, foot paths and traffic lights at certain locations including provision for bicycles. • Climate Change and weather patterns should be considered in the design. 		
Activity	JICA Team conduct exercise to finding traffic dangerous points along the project road especially from the Ranadi Round-about to Henderson.		
Note	Provide road signages for road users particularly to educate public transport drivers. Support road upgrade to reduce traffic jam (time consuming and lateness to work and school for children).		
Statement of Cut - off Date	The declaration of Cut - off was done and declared as the 3rd of December 2019. From this date no further developments are to be made along the Kukum Highway up to Henderson.		

Table 17: Summary of 2nd Public Consultation at KGVI Market Area

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	4th December 2019	Venue	KGVI Market
Purpose	To inform the participants about the project and its social and environmental impacts.		
Participants	Participated organization; MID, LBS(local consultant), JICA Team		
	Total participants: 40, (Male: 21, Female: 19)		
Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 		

	3. Project Scope and Time frame 4. Discussion 5. Statement of Cutoff Date 6. Closing remarks
Issues and Discussion	<ul style="list-style-type: none"> • Proposed a need for pedestrian crossings at KGVI School, Burns Creek School, Perch School and proper signages at specific locations along the road, foot paths and traffic lights at certain locations including provision of paths for bicycles or cyclists. • Notify the team that some of the lands within the road corridor had been sold by MLHS to some people and they already had the registered land titles. • The resumption of lands by the MLHS or SIG to make way for the project is not fair to the people. • Asked if the project would relocate the market huts at KGVI? ⇒ Project team will take note and inform MID. • Is the Project Scope and time frame realistic? ⇒ The project scope and time frame may change but it depends on MID, but the current plan is to complete the construction before 2023. • Who will pay for impacts on land and properties? ⇒ MID will be responsible and not the project. Project will only identify affected families or households and present it to MID. • Participants express support towards the project to reduce traffic jam (time consuming and lateness to work and school for children). • Asked the project to consider designing larger drainages compared to the ones constructed for the Phase 1 of the project. • Replace existing drainages to larger sizes. • Climate Change and weather patterns should be considered in the design.
Activity	JICA Team conduct exercise to finding traffic dangerous points along the project road especially from the Ranadi Round-about to Henderson.
Note	<ul style="list-style-type: none"> • Provide road signages for road users particularly to educate public transport drivers. • MID to implement the Road and Traffic Act.
Statement of Cut - off Date	The declaration of Cut - off was done and declared as the 3rd of December 2019. From this date no further developments are to be made along the Kukum Highway up to Henderson.

8.4.2 Follow-up Stakeholders Meeting and Public Consultation

There are a total of 6 follow-up consultation meetings held in August 2020. That is 4 stakeholder meetings and two public consultation meeting. The issues raised by attendees and participants during each consultation meetings are summarized below.

Table 18: Summary of first Stakeholders Meeting

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	12 th August 2020	Time:	10am
Venue	Holiday Resort Conference Room		
Purpose	To update and inform the Project Affected Persons about the project and its social and environmental impacts. Including impacts on their land and non - land assets.		
Participants	Participated organization; 3 MID, 3 LBS(local consultant), 2 JICA Team & 1 CTII Rep Total participants: 21 PAPs, 2 females, 19 males		
Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Potential Project Impacts 5. Impacts on Land / Non - Land Assets 6. Discussion/ AOB 7. Closing remarks 		
Issues and Discussion	<ol style="list-style-type: none"> 1. PAPs request for private valuation of their properties. (Florence) <ul style="list-style-type: none"> ❖ For SIG/ MID, MLHS will do the valuation of assets or properties, and PAPs are urged to co-operate for valuation of assets. 2. MID team to arrange for a time to meet with the Guadalcanal Province Planning Board and to formally request a copy of the GP Planning Scheme. (Benedict Tova, GP) <ul style="list-style-type: none"> ❖ Will discuss with MID for a meeting with GP. 		

	<p>3. Concern Burns Creek area heavy flooding during heavy raining times (Design of drainage and proper culverts). (Chief. Satu)</p> <ul style="list-style-type: none"> ❖ Noted MID and CTI will discuss on this. <p>4. MID to discuss with the COL - MLHS, concerning the existing road from Lunga Bridge to Henderson. MID must ensure that this road be declared a Public Road and Gazetted, as from records there are no proper acquisition of this land and declaration for it to be a public road. (Benedict Tova, GP)</p> <ul style="list-style-type: none"> ❖ Will be recommended to the MID for upper level discussions. <p>5. Asked for proper footpaths as some people are using the footpaths for parking, and pedestrian crossings must be considered for schools along this highway. (Male rep)</p> <ul style="list-style-type: none"> ❖ Noted, MID to consider this with the engineer for design. <p>6. MID to consider upgrading the old Lunga road to assist in the sufficient utilization of the proposed round - about at Lunga Cross Road. That is buses or taxis can drop off their passengers along this road and travel directly to the round about to head back to town. If not there will still be traffic jam for Lungga Bus bay because of the attitudes and behaviours of these drivers. G /Province will declare Lunga to Henderson Land as Town Land since it was recorded as Agricultural Land. (Benedict Tova, GP)</p> <ul style="list-style-type: none"> ❖ Noted, and will propose that to MID for discussion with the donor and designer. <p>7. U-turns should be considered for fuel stations and access roads particularly the one for Betikama School. (L Kakai, KGV1 Rep).</p> <ul style="list-style-type: none"> ❖ Noted and will be forwarded to MID. <p>8. All participants are asking MID to arrange for awareness programs to be carried out for all public transport drivers and the public to inform them of the following:</p> <ol style="list-style-type: none"> a) Road and Traffic safety, b) Meanings of road signages as some drivers and pedestrians are not educated; c) Road care - people to take ownership of this public property. <ul style="list-style-type: none"> ❖ Noted and will be taken up with MID.
Note	<ul style="list-style-type: none"> ■ Most PAPs are requesting to see the final valuation of their assets particularly land. However it was made clear to them that final valuation of assets will be done by MLHS Valuation Unit when the design is final. ■ All are supportive and cooperative with the project and would like to see it eventuate in the following year. ■ PAPs also request for another meeting when the design will be finalized.
Statement of Cut - off Date	It was emphasized during the meeting that a cut-off date notice was issued by MID in July 2020. Stating that no new developments should be made along this road after December 3 rd 2019, such developments will not be considered and recorded by MID for compensations.

Table 19: Summary of second Stakeholders Meeting

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	12 th August 2020	Time	1:30pm
Venue	Holiday Resort Conference Room		
Purpose	To update and inform the Project Affected Persons about the project and its social and environmental impacts. Including impacts on their land and non - land assets.		
Participants	Participated organization; 2 MID, 3 LBS(local consultant), & 1 CTII Rep		
	Total participants: 21 PAPs, 12 females, 9 males		
Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Potential Project Impacts 5. Impacts on Land / Non - Land Assets 6. Discussion/ AOB 7. Closing remarks 		
Issues and Discussion	<ol style="list-style-type: none"> 1. Asked if MID will also compensate for loss of business during construction period as some people depended very much on these markets for income. (Josephine Shanel & P Savusi). <ul style="list-style-type: none"> ❖ MID will only do replacement cost of structures. But will take note of your concern and forward it to MID for upper level discussions. 2. Asked if compensations will only be on the structures? <ul style="list-style-type: none"> ❖ Yes, MID will only compensate for the structures, and if there will be additional compensations that is up to MID but the team cannot answer to that at present. 3. MID must ensure that there will not be further encroachments by road side vendors after compensations are done for this project, as this will cost the government. Asked if MID can consider not planting trees in the median strips as this may be the cause of damage to the existing sealed roads? Asked MID to pay fair compensations to all APs? Inform the team 		

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	<p>that the fence adjacent to the road (his property) is on the legal land boundary and enquire if MID is going to compensate for removing the fence and re-installing it, and what about land encroachments? (Dr. D Sikua)</p> <ul style="list-style-type: none"> ❖ Thank the Dr. Sikua for his contribution it is noted and will be forwarded to MID. Inform the all attendees, that after the compensations all APs must remove their structures or market huts. MID do not encourage any person to reconsider building within the road corridor after this project. If you do so you will not be compensated for your loss in the future. ❖ MID will arrange for surveyors to survey each affected properties that had been identified and legal boundaries are not clear for confirmation of boundaries. Your property is noted and will also be considered. ❖ Compensations as did under the phase 1 project are done to remove and re-install structures particularly fences by PAPs. That is removal and re-installment are done by the owners and not the contractor or MID. <p>4. If MID is considering to get the MLHS surveyors to confirm boundaries that will be very good. As this will also help with the identification of some access roads to properties when these lands are subdivided as some people are encroaching into other's land to access their properties.</p> <p>5. What will happen to access roads to properties during construction? (Josephine Shanel)</p> <ul style="list-style-type: none"> ❖ All access roads will be used, however if there will be a need to close an access road during works the contractor will discuss with the PAP and will for alternatives. <p>6. According to the design there will be improvements to the drainage system. But does MID consider improving the drainage outlets along this road section. That is maintaining this drainages all the way to the coast? As this had been non operative and when it rains it floods the whole area? MID to check further down along the drainages as some people had planted trees in the drainages which resulted in the blockages. MID should divert the drainages to drainages along the access roads constructed by Levers SI Ltd. (Dr. Sikua, P Savusi, Kylie Afuga & J Shanel)</p> <ul style="list-style-type: none"> ❖ Thank all participants for their concern, will forward it to MID. ❖ Urge attendees to let inform family members and public know that throwing rubbish in the drainages are also causing issues to the existing drainages and that this is not encouraged if people wanted to see the drainages being efficient during heavy rains. <p>7. Proposed if MID could assist, with negotiation with the PMO for Marketing Venue at his Henderson property. This was already discussed with the SPM but no response since then. See this as will be very helpful to the road side vendors? (Dr. D Sikua)</p> <ul style="list-style-type: none"> ❖ Noted and will be taken up with MID. <p>8. What about those vendors who are renting from market hut owners? (Joachim)</p> <ul style="list-style-type: none"> ❖ Market hut owners must discuss this with their tenants. MID will only pay for the structures and it is each owner's responsibility to discuss this with their tenants. That is when compensations are paid and when structures are expected to be removed. <p>Appreciate MID for the approach taken in informing all road side vendors, particularly women. Stated that it is very important for them to know and be informed to prepare for removal of their market huts. (Joan Tangi)</p>
Note	<ul style="list-style-type: none"> ■ PAPs are happy with the project and are supportive since MID will be compensating for their structures. ■ MID to continue update them on the project. ■ Another consultation is proposed after the design will be finalized. ■ All PAPs agreed to remove their market huts and canteens from the road reserve when MID will give instructions to confirm date.
Statement of Cut - off Date	It was emphasized during the meeting that a cut-off date notice was issued by MID in July 2020. Stating that no new developments should be made along this road after December 3 rd 2019, such developments will not be considered and recorded by MID for compensations.

Table 20: Summary of third Stakeholders Meeting

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	19 th August 2020	Time	10am
Venue	Holiday Resort Conference Room		
Purpose	To update and inform the Project Affected Persons about the project and its social and environmental impacts. Including impacts on their land and non - land assets.		
Participants	Participated organization; 2 MID, 2 LBS(local consultant), 1 CTII Rep		
	Total participants: 13 PAPs, 3 females, 10 males		

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Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Potential Project Impacts 5. Impacts on Land / Non - Land Assets 6. Discussion/ AOB 7. Closing remarks
Issues and Discussion	<ol style="list-style-type: none"> 1. Asked if MID will be compensating PAPs on a fair price? (Male attendee) <ul style="list-style-type: none"> ❖ Yes, MID will try and make the prices as fair as possible so as not to dissappoint the PAPs. However, if you are not happy with the valuation you can discuss this with MID. For land especially, MID encouruages PAPs that are not happy with the compensation price to get a private valuer at their own cost and discuss with MID on the prices or rates. ❖ It is important for people to take note that, you are encroaching on the road reserve. MID is trying its best to compensate all of you fairly to remove your structures from its land. Therefore, requests your support and cooperation. 2. Asked for compensation of all structures before removal? (Male attendee) <ul style="list-style-type: none"> ❖ Noted and will inform MID. 3. Asked if all market huts are recorded? <ul style="list-style-type: none"> ❖ Yes, all market huts are recorded. These are from KGVl Market to Henderson. 4. Asked if all road side vendors will be compensated, as this will also affect their livelihood? (Rose Kola) <ul style="list-style-type: none"> ❖ All road side vendors who owns market houses will be compensated. But not those with tables and umbrellas. However, the team had recorded all road side vendors and had taken photos of each tables and had their owners names recorded. MID has not yet given a definite answer on this so at this stage it is not confirmed if table owners will be compensated. MID through the CPIU safeguards unit will continue to update and inform you if anything changes. ❖ Also list of PAPs will be updated and given to MID. ❖ MID is taking this approach of compensation as it is the Policy of the Aid Donor to compensate those that the project will have impact on their livelihood or for their loss. It is important to take note that based on the law (Road Act) the Director of MID, CE have the right to remove your property without compensations. The safeguards team is working to ensure that you are satisfy with your compensation and MID is free from any grievances from your side to continue the project. 5. Asked how compensations are made? <ul style="list-style-type: none"> ❖ MID compensate structures in the road corridor which is 32m across, 16m from the road center line. ❖ Land titles registers are obtained from he MLHS, so if people are claiming to having owned the land without a registered title no compensations will be paid the only compensation will only be for the loss of what you build on the land. ❖ Land title holders will be compensated for the land. 6. Stated that PAPs are grateful that MID is informing them first hand on the issue to help them prepare for dismantling of their structures. Appreciate MID for taking such approach. 7. Inform all PAPs that after the compensation and the project is completed no one is encouraged to build market huts along the road as MID will not be responsible to compensate you for your loss in the future. Also that all their concerns will be forwarded and discussed with MID.
Note	<ul style="list-style-type: none"> ■ PAPs are supportive and cooperative. ■ PAPs would like to see compensation cost and discuss with MID before dismantling of structures. ■ All PAPs agreed to remove their market huts and canteens from the road reserve when MID will give instructions to confirm date.
Statement of Cut - off Date	It was emphasized during the meeting that a cut-off date notice was issued by MID in July 2020. Stating that no new developments should be made along this road after December 3 rd 2019, such developments will not be considered and recorded by MID for compensations.

Table 21: Summary of fourth Stakeholders Meeting

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	14 th August 2020	Time	1:30pm
Venue	Lunga Market		

Purpose	To update and inform the Project Affected Persons about the project and its social and environmental impacts. Including impacts on their land and non - land assets.
Participants	Participated organization; 2 MID, 3 LBS(local consultant) & 1 CTII Rep Total participants: 28 PAPs, 9 females, 19 males
Agenda (summary)	1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Potential Project Impacts 5. Impacts on Land / Non - Land Assets 6. Discussion/ AOB 7. Closing remarks
Issues and Discussion	<p>1. Asked if the Bonbon market at Henderson is in the road reserve or not? (Viviane)</p> <ul style="list-style-type: none"> ❖ From the map obtained from MLHS, the road side market is in the road corridor, reason for only compensating you for the loss of your structure and not the land. <p>2. MID should also compensate all canteens for the loss of business during construction period? (Male attendee)</p> <ul style="list-style-type: none"> ❖ Noted and will be discussed with MID. <p>3. KG market houses were removed due to COVID -19 by SIG through MHMS, will this project not be responsible for our market houses that had been removed first, after this project is recording all market house along the project location that are still remaining. (Road side vendors, KGVI)</p> <ul style="list-style-type: none"> ❖ Noted and will be discussed with MID, however since it was MID who removed the market huts it is important that you consult with the authorities responsible for removing your market huts due to covid-19. <p>4. Compensation must be done first before removal of structures, market stalls. (Female reps).</p> <ul style="list-style-type: none"> ❖ Noted and will be discussed with MID. <p>5. Will there be any consideration for compensation due to the above impact caused by Covid-19 as this had greatly affected our family needs and bills to be paid. Can MID have any solution to this or repatriate people to their respective villages if our only source of income will be affected for the purpose of the road? Important to consider loss of business or consider vulnerability. Is there any other venue that the SIG or MID can negotiate with the owners for road side vendors to use?</p> <ul style="list-style-type: none"> ❖ MID understands that this will greatly affect your income generating activities, and apologizes for that. ❖ MID is taking this approach of compensation as it is the Policy of the Aid Donor to compensate those that the project will have impact on their livelihood or for their loss. It is important to take note that based on the law (Road Act) the Director of MID, CE have the right to remove your property without compensations. The safeguards team is working to ensure that you are satisfy with your compensation and MID is free from any grievances from your side to continue the project. ❖ Your concerns will be discussed with MID, to see if there is any other government body that can be responsible for your concern, particularly finding a new market venue. As MID do not encourage people to build market huts along the road after the road upgrade. <p>6. Some names recorded are not of those who owned the market huts?</p> <ul style="list-style-type: none"> ❖ Noted and will check to confirm.
Note	<ul style="list-style-type: none"> ■ All PAPs agreed to remove their market huts and canteens from the road reserve when MID will give instructions to confirm date. ■ Supportive of the project and appreciate MID for the consultations.
Statement of Cut - off Date	It was emphasized during the meeting that a cut-off date notice was issued by MID in July 2020. Stating that no new developments should be made along this road after December 3 rd 2019, such developments will not be considered and recorded by MID for compensations.

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[Signature]

8.4.3 Follow - up Public Consultations/ Awareness:

Table 22: Summary of first Public Consultation

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	14 th August 2020	Time	Lunga Market
Venue	Lunga Market		
Purpose	To update and inform the Project Affected Persons about the project and its social and environmental impacts. Including impacts on their land and non - land assets.		
Participants	Participated organization; 1 MID, 2 LBS(local consultant) & 1 CTII Rep		
	Total participants: 52 PAPs, 37 females, 15 males		
Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Potential Project Impacts 5. Impacts on Land / Non - Land Assets 6. Discussion/ AOB 7. Closing remarks 		
Issues and Discussion	<ol style="list-style-type: none"> 1. Requested if each market hut owner can value their own properties? (male attendee) <ul style="list-style-type: none"> ❖ MID will do the valuation of properties, but if market hut owners wanted to value their own properties they would have to agree with MID on the price. 2. MID should also upgrade the old Lungga road to assist with easing traffic, the busbay is causing traffic. Median strip with no U-turn at this location will be good – (Male attendee). <ul style="list-style-type: none"> ❖ Concern is noted. 3. MID should also compensate all canteens for the loss of business during construction period. (Vendors) <ul style="list-style-type: none"> ❖ Noted and will be discussed with MID. 4. Can MID consider paying the Compensations first before we remove our structures or tables? (Female vendor) <ul style="list-style-type: none"> ❖ Noted and will be discussed with MID. ❖ Those owning tables are recorded, but it is not confirmed by MID if you will be compensated for your loss. MID will discuss this at the management level and get back to you. 5. It is good that drainages will be improved and roads will be upgraded, all PAPs agreed to remove their market huts or tables from the roads once compensation is paid directly to them on time and notice of confirmation to move will be issued by MID to confirm the date. After all the vendors do not own the road and the MID is very thoughtful to compensate people to move out of their own land. (Male attendee) 6. Continuous consultation and awareness by MID is important for all road users and road side vendors. Appreciate MID for taking the time to do this very informative discussion with the public. (All attendees) 		
Note	<ul style="list-style-type: none"> ■ PAPs are supportive and had agreed to remove their structures and move out of the road corridor. ■ Appreciate MID for the awareness and consideration for compensation. ■ All PAPs rendered support for the project to move forward. 		
Statement of Cut - off Date	It was emphasized during the meeting that a cut-off date notice was issued by MID in July 2020. Stating that no new developments should be made along this road after December 3 rd 2019, such developments will not be considered and recorded by MID for compensations.		

Table 23: Summary of Second Public Consultations

Title	Project for Upgrading of the Kukum Highway (Phase 2)		
Date	14 th August 2020	Time	1pm
Venue	Henderson Market		
Purpose	To update and inform the Project Affected Persons about the project and its social and environmental impacts.		
Participants	Participated organization; 1 MID, 2 LBS(local consultant) & 1 CTII Rep		
	Total participants: 45 PAPs, 32 females, 13 males		
Agenda (summary)	<ol style="list-style-type: none"> 1. Opening remarks 2. Introduction of Attendees 3. Project Scope and Time frame 4. Discussion 5. Statement of Cutoff Date 6. Closing remarks 		

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Issues and Discussion	<p>1. Who will be responsible for market venues after moving out from the road?(Female/Male attendees).</p> <ul style="list-style-type: none"> ❖ MID is not responsible for market outlets or venues, but will discuss this with MID to take this up with the responsible ministry. <p>2. MID should consider compensating all road side vendors for the loss of business during construction period. (Male / Female attendees)</p> <ul style="list-style-type: none"> ❖ MID will only compensate structures such as market huts or canteens and bonbon market haus but not tables stalls as these are mobile structures. Table vendors compensation is not yet confirmed by MID as there will be need to discuss this at a higher level and if there will be any confirmation of compensation or no compensation the team will inform you. <p>3. Compensation must be done first before removal of structures. (All attendees).</p> <ul style="list-style-type: none"> ❖ Concern is noted and will be discussed with MID <p>4. MID to consider improving culverts and drainages outlets, this will improve the drainage system in this road section, without the drainage outlets working the drainage system will fail. (Male attendee).</p> <ul style="list-style-type: none"> ❖ Noted and will be discussed by MID with the responsible engineer. <p>5. All road side vendors agreed to move out of the road corridor upon confirmation of date from MID and acknowledges MID for the awareness and having the time to discuss the project with the public. (All attendees rep)</p>
Note	<ul style="list-style-type: none"> ■ All PAPs are supportive of the project and rendered support to MID. ■ Fair compensation for all vendors is requested.
Statement of Cut - off Date	It was emphasized during the awareness that a cut-off date notice was issued by MID in July 2020. Stating that no new developments should be made along this road after December 3 rd 2019, such developments will not be considered and recorded by MID for compensations.

9. GRIEVANCE REDRESS MECHANISM (GRM)

9.1 Grievance Resolution Mechanism

For efficient dealing with the PAFs or affected properties' owners resettlement concerns, the MID has adopted a simple and acceptable, transparent and effective Grievance Redress Mechanism (GRM). The Grievance Redress Mechanism (GRM) was prepared to fulfill both SIG legislation and donor partner agencies requirements to resolve and address issues raised during the course of project implementation by the MID. This is in according to the MID Safeguards Procedures Manual (SPM).

For effective implementation of the GRM, a Community Advisory Committee (CAC), will be established by the MID Safeguards Unit to resolve issues at the local or community level.

9.2 Grievance Redress Committee

While a Grievance Redress Committee (GRC) comprising of the MID - PS, Director CPIU, safeguards personnel (and Project Engineer, Contractor during implementation) and a third party arbitrator appointed by the PS will be set up to resolve issues at the ministry level if the issues cannot be resolved at the local level.

The GRC would be the tool to ensure proper presentation of grievances, and impartial hearings and transparent decisions. As already mentioned, a GRC does not possess any legal mandate or authority to resolve LAR issues, rather acts as an advisory body or facilitate to try to resolve issues, for example, relating to value of compensation for affected properties. GRC will include at least one female member to participate in the hearings if the aggrieved person is a female.

The GRC shall comprise of 7 or more members which will include at least 1 or 2 female as contact persons for the community is proposed to be formed at the project area. In case of the absence of any of the members during the decision-making process, an appropriate candidate will be nominated by the original representative. However, at least five members should execute a session for grievance resolution with an MID representative being the chairperson. Composition of a GRC under the Project is proposed to include the following members:




Table 24: Grievance Redress Committee

#	Designation	Position
1.	Permanent Secretary, MID	Chairman
2.	Director, CPIU - MID	Member
3.	Commissioner of Lands, MLHS	Member
1.	Social Safeguards Officer, CPIU - MID	Member
3.	Community Development and Gender Specialist, CPIU - MID	Member
4.	Community Liaison Officer in the SU, CPIU/MID	Member
5.	Social Safeguards Specialist, Project Team	Member
6.	CAC Representative of PAFs	Member
7.	Complainant	Member

As expected during the implementation of any transport infrastructure improvement, upgrade or rehabilitation projects it is highly likely that people particularly land and property owners and residence of the area possibly will have concerns and grievances with the project. Most issues may arise during the actual construction. Such issues arising must and needs to be addressed transparently and urgently without retribution to the complainant (s).

In addition, during construction/implementation, a grievance register will be held at the project site office, maintained by the CLO or project manager or works supervisor and monitored by the Safeguards Manager. All complaints arriving at a site office are to be entered in a Register that is kept at site. A duplicate copy of the entry is given to the Displaced or affected Person or the PAFs for their record at the time of registering the complaint. The Register will show who has been directed to deal with the complaint and the date when this was made together with the date when the displaced or affected person was informed of the decision and how the decision was conveyed to the displaced or affected person.

The Register is then signed off and dated by the responsible person who is also responsible for the decision. The Register is to be kept at the front desk of the site office and is a public document. The duplicate copy given to the complainants will also show the procedure that will be followed in assessing the complaint, together with a statement affirming the rights of the complainant to make a complaint. For anybody making a complaint no costs will be charged to the complainant.

9.3 Government Policy for Grievance Redress over Land Disputes

Disputes arising over alienated lands in relation to compensation and ownership are referred to the Magistrates Court and follows the set of procedures in the LTA and Civil Codes. While disputes arising over the award of compensation for resumed land titles, or where an FTE holder seeks to get compensation for undeveloped lands are settled in the High Court.

For disputes over customary lands two steps were followed, as summarized below:

- i. the civil procedure through the Magistrates Court: The Magistrate Court's hearing will determine whether the case can be dealt with through civil proceedings or whether the case is better handled through the customary process.
- ii. the customary procedure. If it (the case) cannot be resolved after the Local Court hearing, it is presented as a case before the Customary Land Appeal Court (CLAC), which usually settles the case.

The complaints and grievance redress procedures outlined above will be adopted and will be outlined in ARAP prepared for project to ensure stakeholder participation in the implementation process and to ensure there is a publicly acceptable forum with which to deal with any issues or complaints arising through land acquisition. Through public consultations, PAFs or affected properties owners will be informed that they have a right to complaint/grievance resolution. The record of the grievance redress mechanism will be the subject of monitoring.

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In the event of grievances that cannot be resolved at the local level, the MID and COL will hold the compensation amounts in an escrow or trust account. Compensation will be paid in full upon final resolution of the case in the courts or other forum, in accordance with the entitlements of the PAFs or affected properties owners.

9.4 Complaints and Grievances

Efforts will always be in place to prevent grievances through undertaking consultation, communication and coordination with the APs, the community and the local level authorities. However, complaints and grievances from the project affected people sometimes may be unavoidable, involving:

- APs not enlisted;
- Losses not identified correctly;
- Compensation/assistance inadequate or not as per the entitlement matrix;
- Dispute about ownership;
- Difficulty in proving their title being the actual owners and users of land and other assets;
- Delay in disbursement of compensation/assistance; and
- Improper distribution of compensation/ assistance in case of multiple ownership of a plot of land.

All complaints raised by complainants whether it is serious or less serious will be recorded and registered in a Complaints Register by:

- Date;
- Complainants Name;
- Grievance Raised;
- Resolution Attempts; and,
- Outcome of Grievance Resolution.

9.5 Proposed Measures to Address Grievance

Grievances will be addressed through the following steps:

- i. Complainant(s) raises a concern or an issue with the contractor's Community Liaison Officer (CLO);
- ii. Contractor informs the CAC and will try and resolve it at the project level;
- iii. If not resolved this will be taken up with the project's safeguards officer;
- iv. Complainant(s) first discuss their complaint with their CAC representative. If the CAC representative supports the complaint both persons take the complaint to the project office. Straightforward complaints will be resolved by determination of issues locally on the spot. All such issues must recorded by the project staff;
- v. If not resolved the issue will be taken up with MID job manager or the CPIU Director;
- vi. If not resolved this will be reported by the CPIU Director to the PS – MID that is If the complainant is not satisfied with the outcome, the complaint is next discussed by the complainant and the CPIU/MID assisted by the Safeguards Manager, Community Advisory Committee members, and the head of the land owning group (in respect of customary land). The Safeguards Manager will record all complaints (date, complainant, grievance, attempts to resolve the complaint, and outcomes) and have a maximum of two days to resolve the complaint and convey a decision to the complainant. If the complaint is dismissed, the complainant will be informed of their rights in taking it to the next step. A copy of the decision is to be sent to the next level of authority;



- vii. If not resolved, MID PS will refer and request for a third party arbitrator as part of the GRC but should the complainant not be satisfied with the decision of the CPIU/MID, depending on the nature of the complaint, the complainant may take the complaint to the MLHS, who will appoint the COL to review the complaint. The MLHS will have 15 days to make a determination; and,
- viii. If not resolved it can be appealed in the national courts that is if a satisfactory conclusion cannot be obtained through this process, the complainant can take the matter to the courts (Magistrates Court, High Court or CLAC). This will be at the complainants own expenses or cost but if the court shows that the government ministries have been negligent in making their determination, the complainant will be able to seek cost compensation.

Mention should be made, in the event of grievances that cannot be resolved at the local level, the MID will hold the compensation amounts in escrow or trust account. Compensation will be paid in full upon final resolution of the case in the courts or other forum, in accordance with the entitlements of the PAFs or affected persons.

10. IMPLEMENTATION SCHEDULE OF ARAP

10.1 ARAP Implementation

Implementation schedule of the ARAP broadly consists of resettlement activities. Time frame for implementation of the ARAP will be done before the project implementation in a way that commencement and progress of civil works is not adversely affected. The ARAP will be updated and resubmitted to the client and JICA for approval if there will be any changes or amendments made after the demarcation of affected lands based on the detailed design and other associated tasks before the payment. The SU social safeguard team of CPIU with assistance from the Projects safeguards team will co-ordinate the land acquisition and resettlement aspects and policies before the actual start of the implementation of resettlement plan. MID/CPIU will begin the implementation process of ARAP immediately after its approval by the aid donor. Grievances or objections (if any) will be addressed as per the grievance redress procedure adopted in this ARAP.

The steps for the delivery of compensation for all eligible PAPs or PAFs will as follows:

- i. **Invoice Preparation:** Invoices for each of the eligible PAPs/ PAFs will be prepared by CPIU. This document will entail the entitlements of each PAPs/ PAFs to receive the amount indicated in the invoice.
- ii. **Money paid to Local Banks:** The money from MID will be remitted to a bank in Honiara City. A bank account will be opened by the CPIU to deposit the amount of compensation on behalf of the PAPs/ PAFs.
- iii. **Payment Procedure:** Each PAPs/ PAFs will receive a cash/cheque for the whole amount of compensation from the MID - CPIU. The PAPs/ PAFs shall sign a deed of settlement acknowledging the receipt of the whole compensation and a waiver attesting that he/she has no longer any pending claim over the affected property. To show proof of PAPs/ PAFs receiving compensation a photograph shall be taken during the handover of cash or cheque to PAPs/ PAFs for project documentation.
- iv. **Identity of Person:** PAPs/ PAFs must show or present their National Identity Card (NIC) or Passport or any other document to show proof of identity during the time of receiving the compensation cash or cheque.

10.2 Implementation Schedule

The Implementation Schedule of the ARAP is as shown below. The ARAP will be implemented after the approval of the ARAP report by the client and the aid donor, particularly delivery of compensation therefore may begin after the project design phase and designs are approved. However, sometimes sequence may change due to circumstances beyond the control of the




project. The ARAP will be monitored and reported to the client and JICA according to the monitoring schedule of the project.

Figure 12: RP Implementation Schedule

	Apr 2020	May 2020	June 2020	July 2020	August 2020	Sept 2020
Activities						
Preparation of draft ARAP	[Shaded bar]					
Submission of Draft ARAP to MID/JICA for review/approval				[Shaded bar]		
Submission of revised RP to MID/JICA for approval, addressing the comments of MID/JICA				[Shaded bar]		
Formation of GRC		MID will set up the CAC and GRC				
Allocation of resettlement fund	MID will make funds available when the ARAP is approved and finalized					
Disclosure of approved RP	MID and JICA will disclose the ARAP when finalized and approved by both parties.					
Distribution of Information Booklet	PAPs or PAFs will be provided when ARAP is finalized and approved.					
Updating of the ARAP	This will also be done when the design is final.				[Shaded bar]	
Delivery of Compensation to PAPs/ PAFs	Before the Project Implementation or construction.					
Dispute/objections (complaints & grievances)	Will continue throughout Project Implementation Phase or Construction.					
Monitoring and reporting to JICA	Will continue throughout Project Implementation or construction Phase					

11. MONITORING AND REPORTING

Monitoring of all resettlement and consultation tasks and reporting to JICA will be conducted by the Safeguard Unit established in the CPIU, assisted by the project social safeguards team. Internal monitoring will include reporting on progress of the activities as indicated in the implementation schedule with particular focus on public consultations, land purchase (if applicable), determination of compensation, record of grievances and status of complaints, financial disbursements, and level of satisfaction among PAPs/PAFs.

The CPIU/MID will submit progress reports on land acquisition and the ARAP to JICA on semi-annual basis, and the findings will be incorporated into the progress reporting of the CPIU. JICA will specifically check the progress of any resettlement and land acquisition undertaken for subsequent investments projects.

External monitoring is not essential under this project. Provision of external independent monitoring therefore is not included in the institutional setup of ARAP implementation. Resettlement monitoring reports will be sent to JICA along with regular progress reports on semi-annually. The monitoring reports will be posted on JICA website, and relevant information from these reports will be disclosed in the project areas.

The monitoring indicators that will be used to monitor the ARAP implementation by MID is shown in the table below.

Table 25: Indicators for Monitoring

Aspect	Indicators
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ARAP implementation	<ul style="list-style-type: none"> ● General and overall compliance of resettlement activities with the ARAP, including payment of compensation: (i) full payment to be made to all affected persons before commencement of works; (ii) adequacy of payment to replace affected assets; and ● The level of satisfaction of PAPs/PAFs with various aspects of the ARAP process.
Consultation, disclosure and grievance redress	<ul style="list-style-type: none"> ● Public information distribution and consultation procedures conform to the process established in the ARAP; ● The participatory process and various mechanisms as well as measures taken, both in terms of the quality and meaningfulness of this process, and the extent that primary stakeholders actively participate in the process; ● The disclosure of the ARAP, whether PAPs know their entitlements and whether they have received all of their entitlements; and ● Monitor the effectiveness of the grievance mechanism, types of grievances, if and how resolved, and satisfaction of PAPs with the process.
Gender issues	<ul style="list-style-type: none"> ● The institutional and staffing mechanisms; ● Aggregation and dis-aggregation of gender sensitive data; ● Women's representation and participation in the detailed planning and execution process; ● Gender inclusiveness such as technical training to both men and women; ● Delivery of replacement leases or land titles in the names of both husband and wife; ● Whether compensation has been delivered to both husband and wife, together; and ● The effectiveness of livelihoods programs for restoring and developing women's income and living standards.
Vulnerable groups issues	<ul style="list-style-type: none"> ● Categorization of the propriety and effectiveness of various entitlements, programs and activities and methods of delivery for various vulnerable households and groups, and the need for adjustment or additional measures.
Transparency	<ul style="list-style-type: none"> ● How information is distributed and to whom, in order to make sure that all PAPs have the proper information and access to knowledge; Functioning of decision-making bodies and how this information is properly recorded and made available to all PAPs/PAFs.

The CPIU/MID, with assistance from the SU and the project safeguards team will prepare a compliance report after delivery of compensation. Based on the compliance report, JICA will issue a NOL (no objection letter) to commence civil works.




Environmental and Social Monitoring Form

Monitoring form for Pre-construction Phase

Draft-environmental monitoring forms for Pre-construction phase are as follows.

1. Process of EIA

#	Items	Date	Contents/ Note
1	Submittal of PER		
2	1st PER Review		
3	Public Display		Name of Newspaper
4	2nd PER Review		
5	Appeal-1		
6	Appeal-2		
7	Approval on PER, EIA		

2. Approval for construction

#	Items	Approved organization	Approved date	Validity of approval	Contents/ Note
1	Project approval				
2	Project construction office site				
3	Quarry license				
4	Soil excavation license				
5	Discharge license of waste				
6	Discharge license of wastewater				
7	Discharge license of air pollution				
8	Usage of dumping site				

3. Pre-Works for construction

#	Items	Concerned organization	Start date of the work	End date of the works	Progress/ Note
1	Cutting/ relocation of tree				
2	Relocation of Water pipe	Solomon water			
3	Relocation of Electric line/poles	Solomon Power			
4	Relocation of Communication line	Telekom			

Monitoring form for Construction Phase

Draft-environmental monitoring forms for the construction phase are as follows.




1. Monitoring for Mitigation measures

#	Category	Parameters	Method	Monitoring frequency	Measuring results				Reference value	Note	Performer of measurement
					Duration/Day on measuring	Monitoring place	Average	maximum			
1	Air pollution	PM10	Sensor	2times/day						Contractor	
2		PM2.5	Sensor	2times/day						Contractor	
3		Dust	Hearing to residents	Monthly						Contractor	
4		Spray asphalt emulsion	Record of usage of asphalt emulsion	If necessary						Contractor	
5	water pollution	Turbidity	Visible observation	At raining						Contractor	
6	Waste	Situation	Visible observation	Daily						Contractor	
7		Amount	Record	Monthly						Contractor	
8	Noise/Vibration	Noise	Sensor	2times/day							

Monitoring form for the Operation Phase

Monitoring during the operation phase is planned to understand the actual situation (accident situation, etc.) including hearings on the livelihoods of affected persons and hearings for crossing. These monitoring will be recorded in the following social monitoring forms: 4)-1. Public consultation and 4)-3. Implementation of supporting of livelihood.

Social Environment Monitoring Form

The draft-social monitoring forms are as follows.

1. Public consultation

#	Date	Place	Participants (Men, Women)	Purpose of public consultation/ Major comment	Organization
1					MID
2					MID
3					MID
4					MID
5					

The public consultation is not limited to the explanation for ARAP. The purposes of the public consultation are including a hearing from residents, explanation of the construction schedule, a hearing regarding changes of traffic etc.

2. Progress of resettlement

#	Contents	Amount	unit	Progress (unit)	Progress (%)	Estimated finishing date	Organization
1	Implementation of Census		Families				Local consultants

#	Contents	Amount	unit	Progress (unit)	Progress (%)	Estimated finishing date	Organization
2	Approval on ARAP	1	doc				MID
3	Finalize of RAP list	1	set				Local consultants
4	Land acquisition -1	800	m2	400m2	50%	xxth Dec 2020	MID
	Land acquisition -2		m2				MID
	Land acquisition -3		m2				MID
	Land acquisition -4		m2				MID
	Land acquisition -5		m2				MID
	Land acquisition -6		m2				MID
5	Land lease-1	600	m2	0m	0%	Duration from Mar to Sep 2021	MID
	Land lease-2		m2				MID
	Land lease-3		m2				MID
	Land lease-4		m2				MID
	Land lease-5		m2				MID
	Land lease-6		m2				MID
6	Total involuntary resettlement	30	Persons	20	66%	Jan. 2021	MID
	Resettlement on Poor person	15	Persons	15	100%		MID
7	Compensation of assets -1		SBD				
	Compensation of assets -2						
	Compensation of assets -3						
	Compensation of assets -4						
	Compensation of assets -5						
8							
9							

3. Implementation of supporting of livelihood

#	Items	Contents	Date of implementation	Results	Note
1					
2					
3					
4					

4. Grievance / Complaints from Affected Persons (APs)

#	Contents	Date of complaint	Response	Date of response	Note
1					
2					
3					
4					
5					
6					
7					
8					
9					

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【添付資料－7】 概略設計図面

PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY - PHASE 2
DRAWING LIST

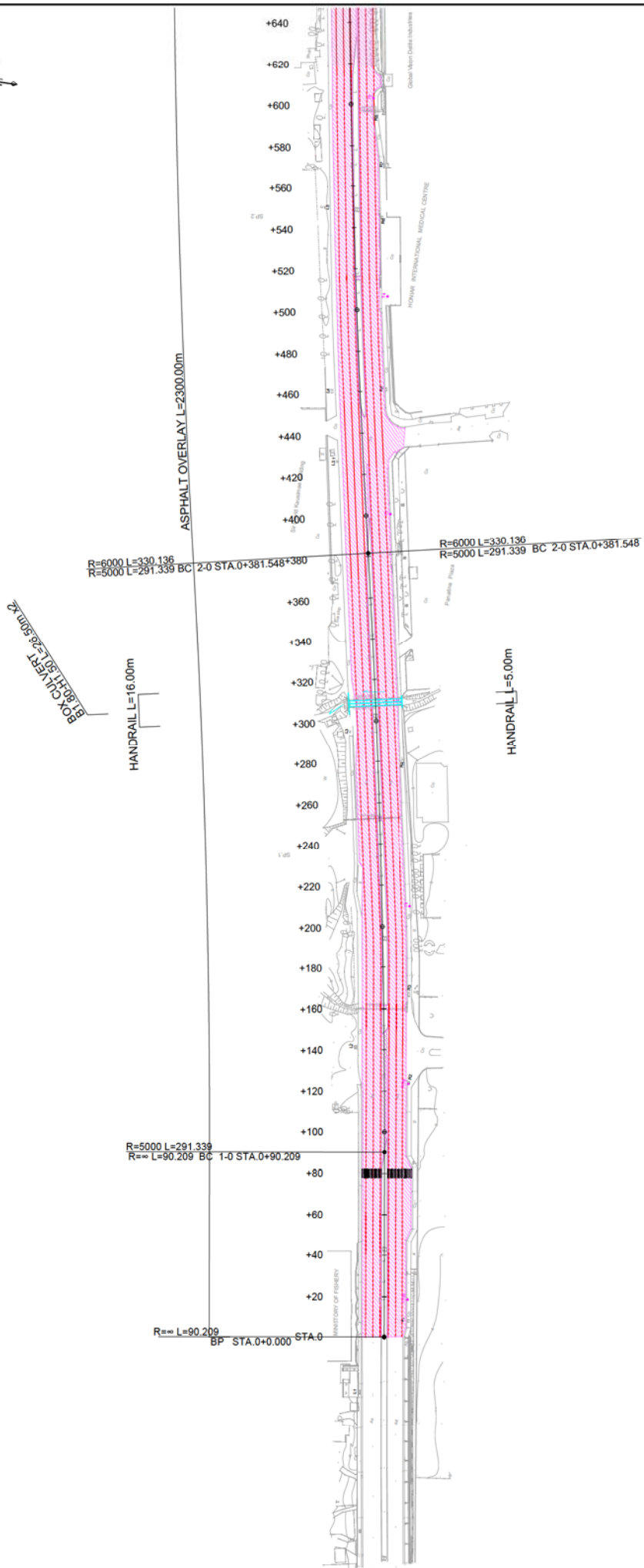
No.	DRAWING TITLE	SHEET No.	NO. OF SHEETS
1	PROJECT LOCATION MAP	001	1
2	PLAN (1) - (10)	002 - 011	10
3	PROFILE (1) - (10)	012 - 021	10
4	TYPICAL CROSS SECTION	022	1
5	INTERSECTION PLAN	023	1
6	PAVEMENT STRUCTURE	024	1
7	CROSS DRAINAGE (BOX CULVERT)	025 - 049	25
8	REVTMENT	050	1
9	RETAINING WALL (1) - (3)	051 - 053	3
10	ROAD ANCILLARIES		
10-1	DRAINAGE STRUCTURE GENERAL DRAWINGS (1) - (5)	054 - 058	5
10-2	U-TURN LANE GENERAL DRAWINGS	059	1
10-3	GENERAL DRAWINGS OF BUS BAY AND ACCESS ROAD	060	1
10-4	LAYOUT PLAN OF TYPICAL TRAFFIC SIGNS (1) - (8)	061 - 068	8
10-5	TYPICAL TRAFFIC SIGNS GENERAL DRAWINGS	069	1
10-6	LAYOUT PLAN OF ROAD MARKINGS (1) - (10)	070 - 079	10
10-7	ROAD MARKINGS GENERAL DRAWINGS	080	1
10-8	HANDRAILS GENERAL DRAWINGS	081	1
11	STREET LIGHT		
11-1	LAYOUT PLAN OF STREET LIGHTS (1) - (7)	082 - 088	7
11-2	STREET LIGHT GENERAL DRAWINGS	089	1
12	LUNGGGA BRIDGE REPAIR GENERAL DRAWING	090	1
TOTAL NO. OF SHEETS			90

PROJECT LOCATION MAP



 SOLOMON ISLANDS GOVERNMENT MINISTRY OF INFRASTRUCTURE DEVELOPMENT Approved by: _____ Date: _____	 CTI ENGINEERING INTERNATIONAL CO., LTD. Designed by: _____ Date: _____ Checked by: _____ Date: _____	TITLE: PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY PHASE 2		Drawing No. 001
		PROJECT LOCATION MAP		SCALE - DATE -

PLAN (1) S=1:1,000



Drawing No.	002
SCALE	1:1,000
DATE	

TITLE: PLAN (1)

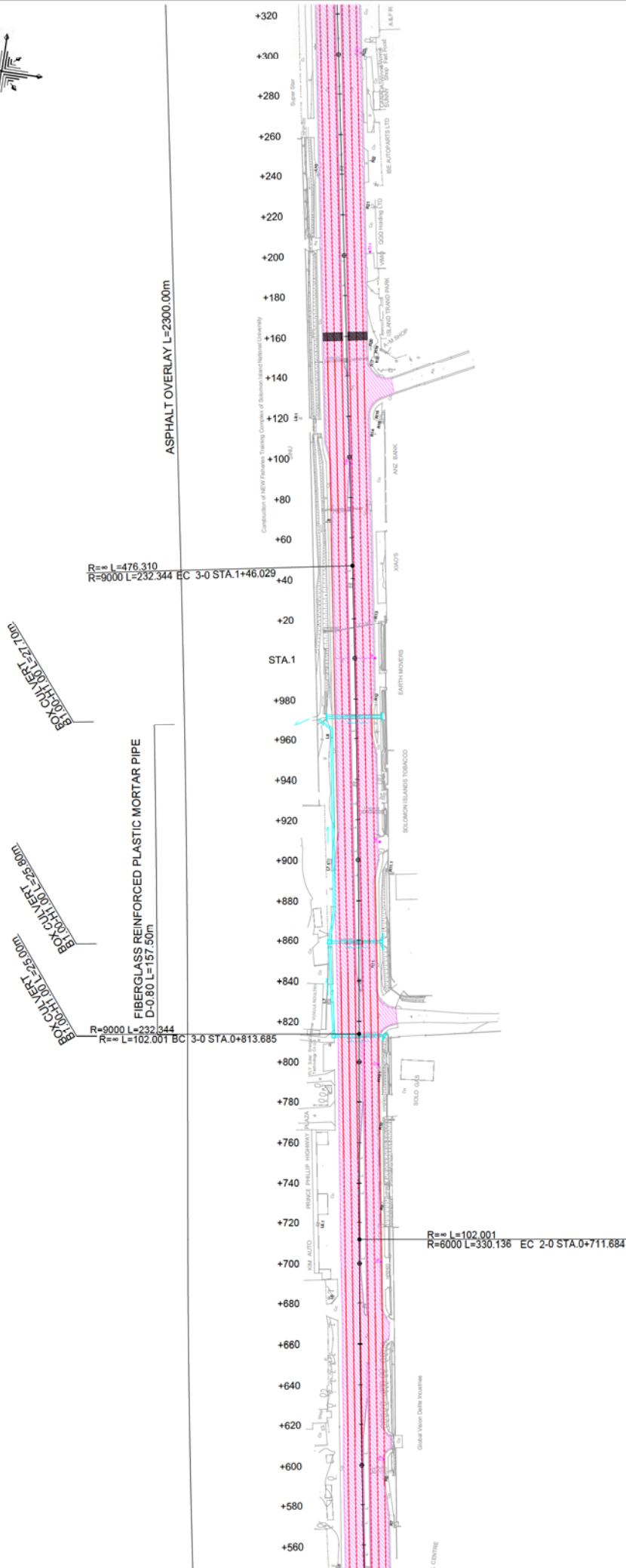
PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY PHASE 2


CTI ENGINEERING INTERNATIONAL CO., LTD.
 Designed by: _____ Date: _____
 Checked by: _____ Date: _____

SOLOMON ISLANDS GOVERNMENT
 MINISTRY OF INFRASTRUCTURE DEVELOPMENT
 Approved by: _____ Date: _____



PLAN (2) S=1:1,000

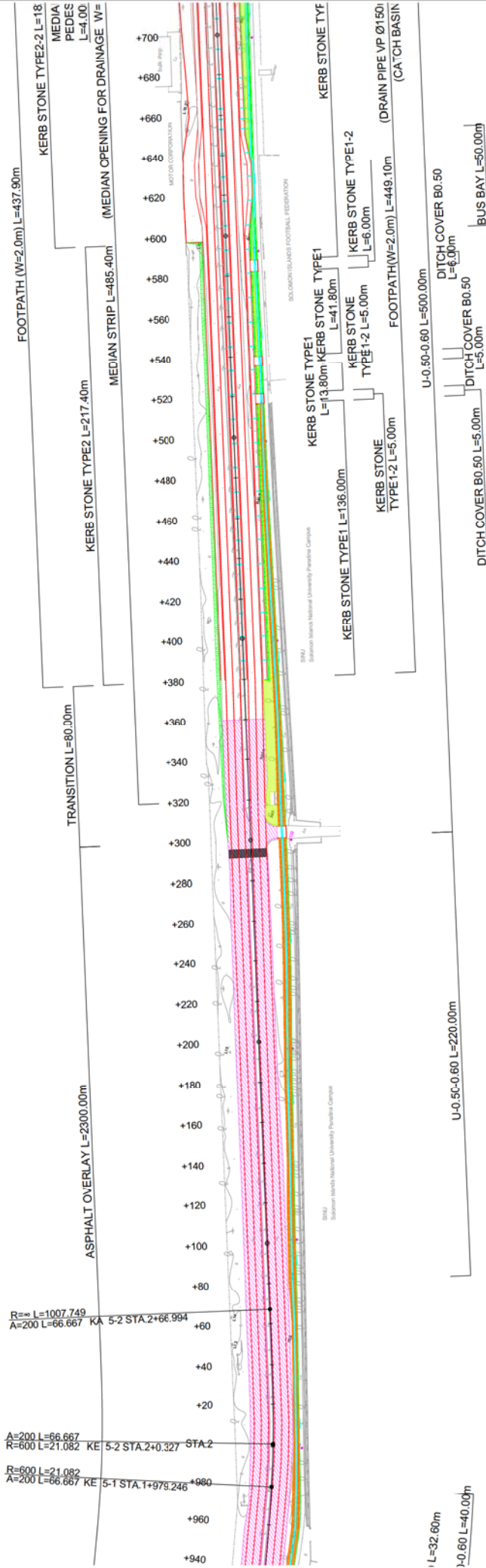


SOLOMON ISLANDS GOVERNMENT MINISTRY OF INFRASTRUCTURE DEVELOPMENT Approved by: _____ Date: _____	 CTI ENGINEERING INTERNATIONAL CO., LTD. Designed by: _____ Date: _____ Checked by: _____ Date: _____	TITLE: PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY PHASE 2	Drawing No.	003
			SCALE	1:1,000
			DATE	

PLAN (4) S=1:1,000

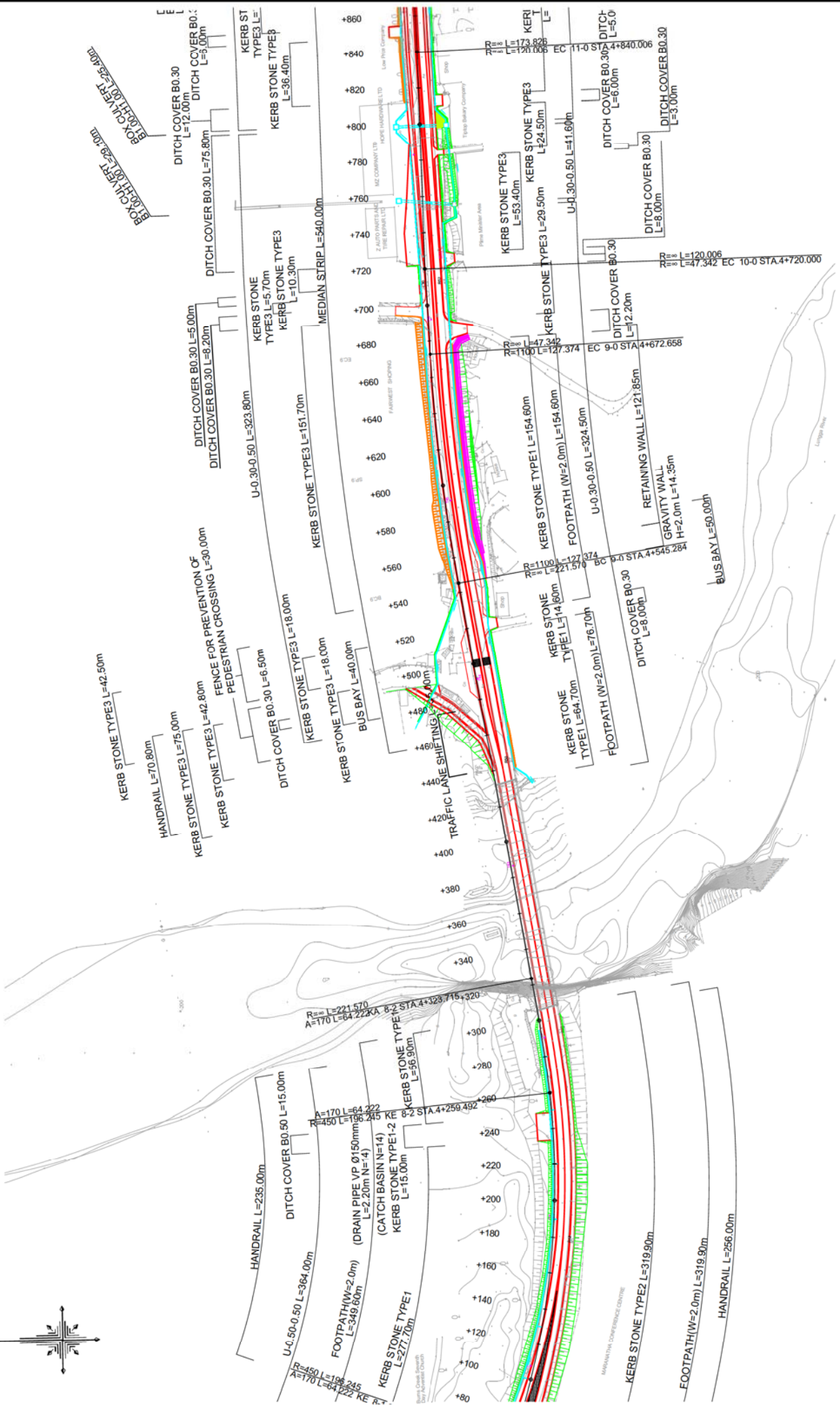
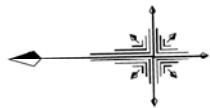


BUS BAY L=50.00m



Drawing No.	005
	SCALE
DATE	1:1,000
	DATE
TITLE:	
PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY PHASE 2	
CTI ENGINEERING INTERNATIONAL CO., LTD. Designed by: _____ Date: _____ Checked by: _____ Date: _____	
SOLOMON ISLANDS GOVERNMENT MINISTRY OF INFRASTRUCTURE DEVELOPMENT Approved by: _____ Date: _____	

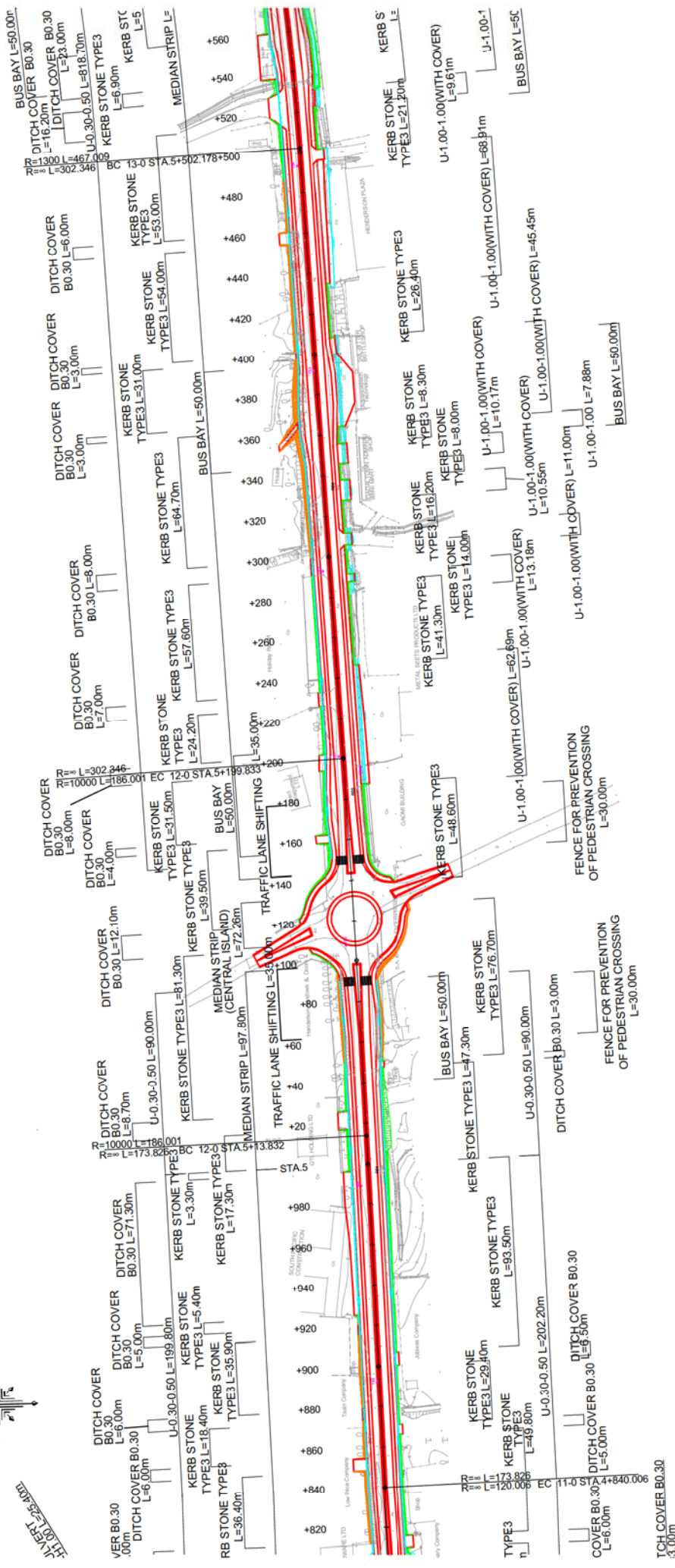
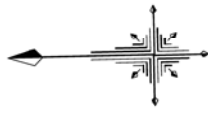
PLAN (7) S=1:1,000



SOLOMON ISLANDS GOVERNMENT MINISTRY OF INFRASTRUCTURE DEVELOPMENT Approved by: _____ Date: _____	CTI ENGINEERING INTERNATIONAL CO., LTD. Designed by: _____ Date: _____ Checked by: _____ Date: _____	TITLE: PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY PHASE 2	Drawing No. 008
			SCALE 1:1,000
PLAN (7)		DATE	



PLAN (8) S=1:1,000



Drawing No.	009
SCALE	1:1,000
DATE	

TITLE :
PLAN (8)

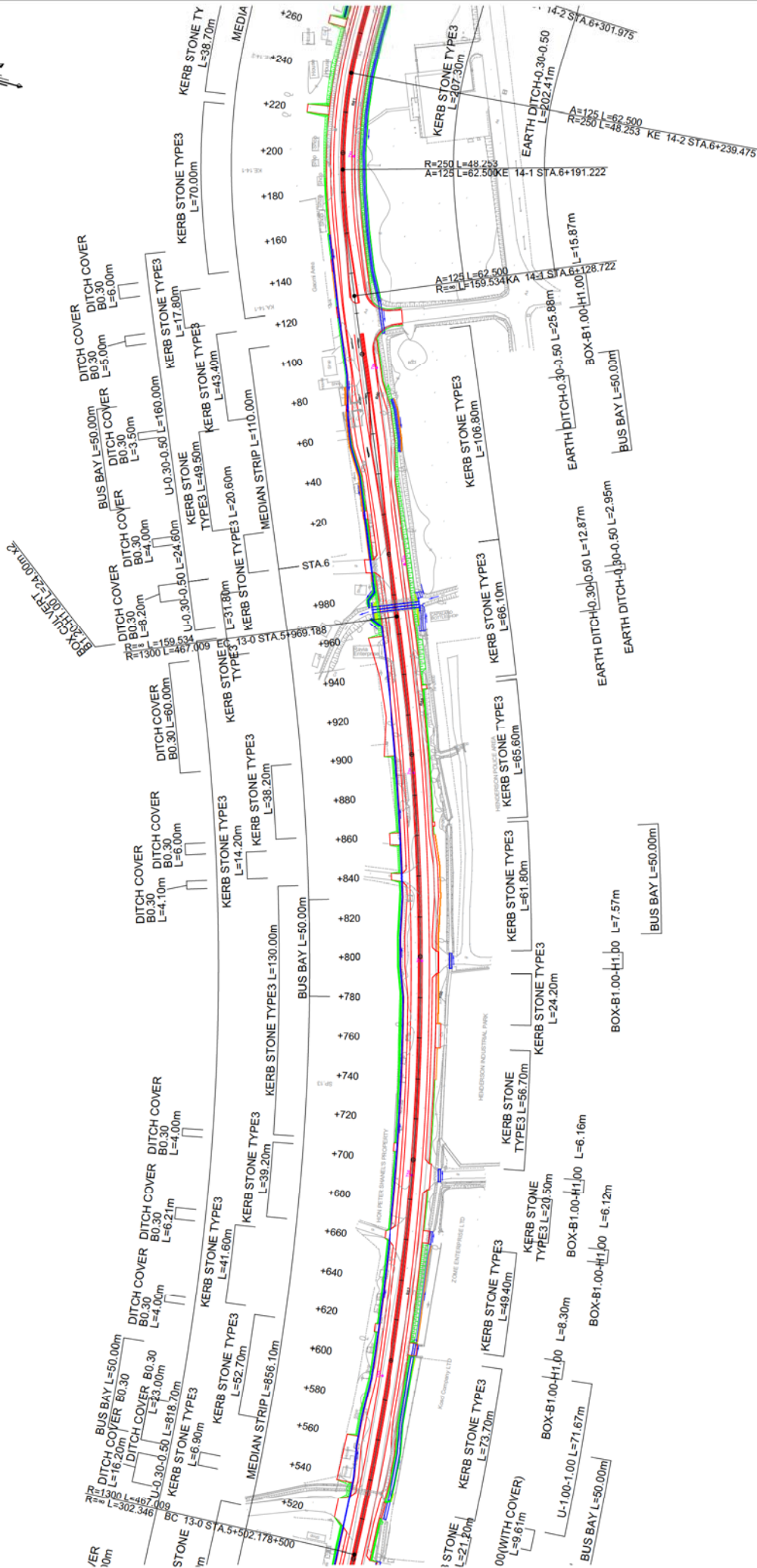
PREPARATORY SURVEY ON
THE PROJECT FOR UPGRADING OF
THE KUKUM HIGHWAY PHASE 2



CTI ENGINEERING INTERNATIONAL CO., LTD.
Designed by: _____ Date: _____
Checked by: _____ Date: _____

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT
Approved by: _____ Date: _____



PLAN (9) S=1:1,000



 SOLOMON ISLANDS GOVERNMENT MINISTRY OF INFRASTRUCTURE DEVELOPMENT	Approved by: _____ Date: _____	 CTI ENGINEERING INTERNATIONAL CO., LTD. Designed by: _____ Date: _____ Checked by: _____ Date: _____	TITLE: PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY PHASE 2	Drawing No. 010
				SCALE 1:1,000

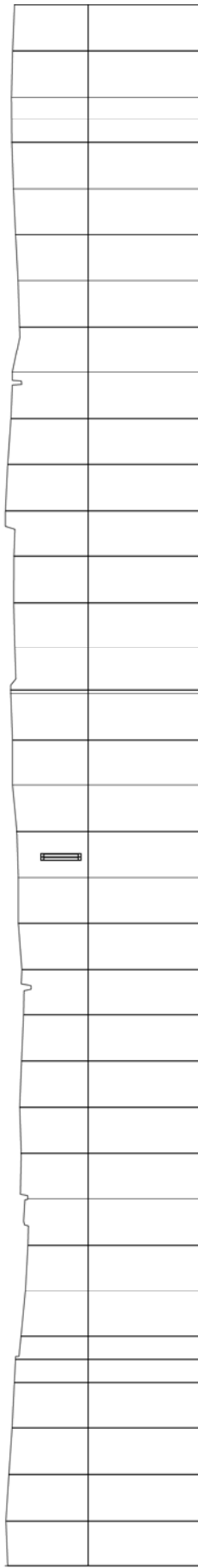
PROFILE (1)

V=1:100
H=1:1,000

BEGINNING POINT OF PROJECT

STA. 0+00

BOX CULVERT B1 20xH1.50 L=26.50m x2
STA. 0+308.9



OVERLAY SECTION

Grade	Embankment Height	Cut Height	Proposed Height	Ground Height	Cumulative Distance	Distance	Station No.	Horizontal Alignment	Superelevation
0.240	0.225	3.355	3.355	3.355	20,000	0.000	BP	R=50.209	0.000
0.130	0.090	3.320	3.320	3.160	40,000	20,000	BC 1-0	R=50.209	0.000
0.460	3.040	3.290	3.290	3.210	80,000	60,000		R=50.209	0.000
0.020	3.000	2.980	2.980	2.820	120,000	100,000		R=50.209	0.000
0.080	2.960	2.900	2.900	2.810	160,000	140,000		R=50.209	0.000
0.110	2.830	2.860	2.860	2.880	200,000	180,000		R=50.209	0.000
0.020	2.800	2.800	2.800	2.800	240,000	220,000		R=50.209	0.000
0.070	3.080	3.290	3.290	3.290	280,000	260,000		R=50.209	0.000
0.210	3.130	3.190	3.190	3.190	320,000	300,000		R=50.209	0.000
0.160	3.180	3.370	3.370	3.370	360,000	340,000		R=50.209	0.000
0.190	3.194	3.194	3.194	3.194	400,000	380,000		R=50.209	0.000
0.180	3.180	3.180	3.180	3.180	440,000	420,000		R=50.209	0.000
0.220	3.360	3.500	3.500	3.500	480,000	460,000		R=50.209	0.000
0.070	3.430	3.500	3.500	3.430	520,000	500,000		R=50.209	0.000
0.120	3.460	3.360	3.360	3.460	560,000	540,000		R=50.209	0.000
0.480	3.730	3.250	3.250	3.730	600,000	580,000		R=50.209	0.000
0.654	3.774	3.320	3.320	3.774	620,000	600,000		R=50.209	0.000
0.450	3.780	3.330	3.330	3.780	640,000	620,000		R=50.209	0.000
0.434	3.774	3.340	3.340	3.774	660,000	640,000		R=50.209	0.000
0.440	3.730	3.290	3.290	3.730	680,000	660,000		R=50.209	0.000
0.470	3.680	3.210	3.210	3.680	700,000	680,000		R=50.209	0.000

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT

CTI ENGINEERING INTERNATIONAL CO., LTD.

PREPARATORY SURVEY ON
THE PROJECT FOR UPGRADING OF
THE KUKUM HIGHWAY PHASE 2

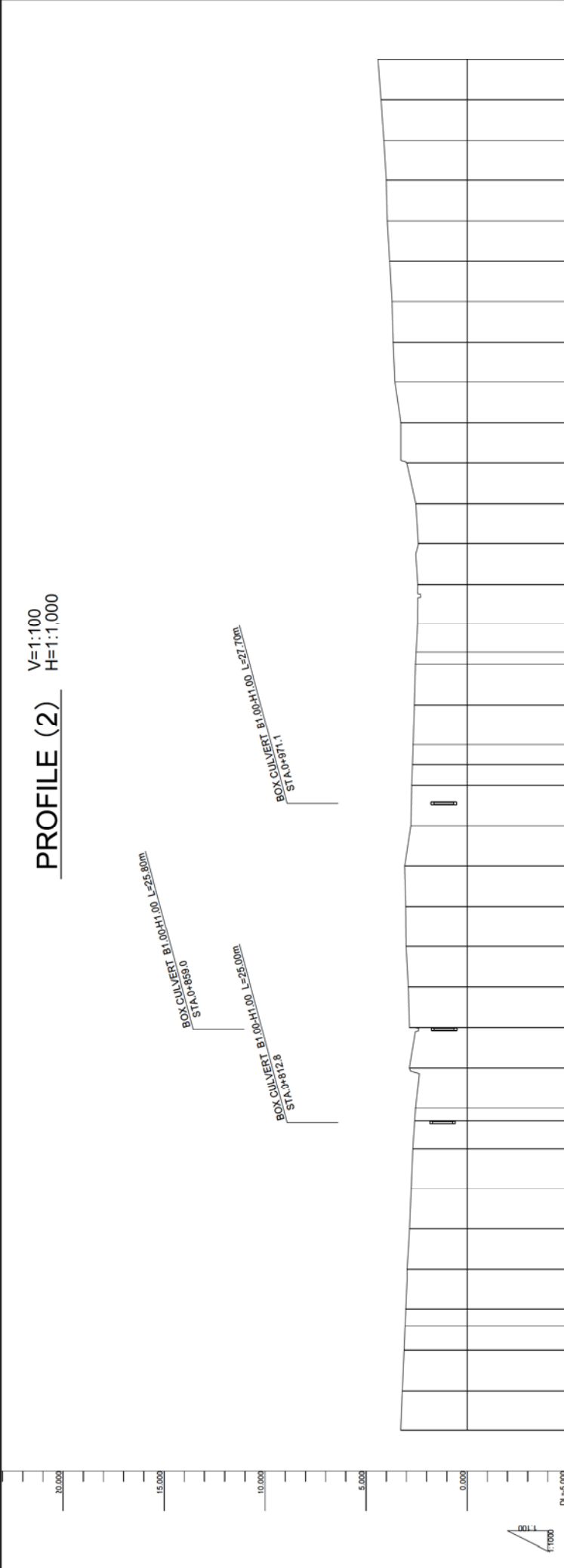
PROFILE (1)

Approved by: _____ Date: _____
Checked by: _____ Date: _____
Designed by: _____ Date: _____

Drawing No. 012
SCALE N=1:100
H=1:1,000
DATE

PROFILE (2)

V=1:100
H=1:1,000



OVERLAY SECTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Grade	0.070	0.130	0.180	0.210	0.170	0.190	0.230	0.190	0.180	0.390	0.590	0.950	0.980	0.870	0.770	0.637	0.580	0.430	0.289	0.230	0.199	0.200	0.200	0.040	0.110	0.270	0.380	0.420	0.780	0.756	0.690	0.600	0.600	0.630	0.560	0.550	0.531	0.510	0.470	0.440																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Embankment Height	4.070	4.390	4.300	4.210	4.120	4.030	3.940	3.850	3.760	3.670	3.580	3.490	3.400	3.310	3.220	3.157	3.130	3.040	2.959	2.871	2.788	2.74	2.78	2.800	3.030	3.130	3.180	3.230	3.280	3.330	3.346	3.380	3.430	3.490	3.530	3.580	3.601	3.630	3.660	3.730																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Cut Height	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Proposed Height	4.41	4.28	4.12	4.00	3.95	3.84	3.71	3.66	3.58	3.28	2.99	2.54	2.42	2.44	2.45	2.52	2.55	2.61	2.67	2.71	2.74	2.78	2.800	3.04	3.02	2.91	2.85	2.86	2.89	2.89	2.89	2.89	2.85	2.85	2.87	3.03	3.07	3.12	3.21	3.29	3.41	4.180																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Ground Height	1940.000	1920.000	1900.000	1880.000	1860.000	1840.000	1820.000	1800.000	1780.000	1760.000	1740.000	1720.000	1700.000	1680.000	1660.000	1646.029	1640.000	1620.000	1600.000	1580.000	1560.000	1540.000	1520.000	1500.000	1480.000	1460.000	1440.000	1420.000	1400.000	1380.000	1368.658	1360.000	1340.000	1320.000	1300.000	1280.000	1260.000	1240.000	1220.000	1200.000	1180.000	1160.000	1140.000	1120.000	1100.000	1080.000	1060.000	1040.000	1020.000	1000.000	980.000	960.000	940.000	920.000	900.000	880.000	860.000	840.000	820.000	800.000	780.000	760.000	740.000	720.000	700.000	680.000	660.000	640.000	620.000	600.000	580.000	560.000	540.000	520.000	500.000	480.000	460.000	440.000	420.000	400.000	380.000	360.000	340.000	320.000	300.000	280.000	260.000	240.000	220.000	200.000	180.000	160.000	140.000	120.000	100.000	80.000	60.000	40.000	20.000	0.000	-20.000	-40.000	-60.000	-80.000	-100.000	-120.000	-140.000	-160.000	-180.000	-200.000	-220.000	-240.000	-260.000	-280.000	-300.000	-320.000	-340.000																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Cumulative Distance	0.000	25.800	51.600	77.400	103.200	129.000	154.800	180.600	206.400	232.200	258.000	283.800	309.600	335.400	361.200	387.000	412.800	438.600	464.400	490.200	516.000	541.800	567.600	593.400	619.200	645.000	670.800	696.600	722.400	748.200	774.000	800.000	826.000	852.000	878.000	904.000	930.000	956.000	982.000	1008.000	1034.000	1060.000	1086.000	1112.000	1138.000	1164.000	1190.000	1216.000	1242.000	1268.000	1294.000	1320.000	1346.000	1372.000	1398.000	1424.000	1450.000	1476.000	1502.000	1528.000	1554.000	1580.000	1606.000	1632.000	1658.000	1684.000	1710.000	1736.000	1762.000	1788.000	1814.000	1840.000	1866.000	1892.000	1918.000	1944.000	1970.000	1996.000	2022.000	2048.000	2074.000	2100.000	2126.000	2152.000	2178.000	2204.000	2230.000	2256.000	2282.000	2308.000	2334.000	2360.000	2386.000	2412.000	2438.000	2464.000	2490.000	2516.000	2542.000	2568.000	2594.000	2620.000	2646.000	2672.000	2698.000	2724.000	2750.000	2776.000	2802.000	2828.000	2854.000	2880.000	2906.000	2932.000	2958.000	2984.000	3010.000	3036.000	3062.000	3088.000	3114.000	3140.000	3166.000	3192.000	3218.000	3244.000	3270.000	3296.000	3322.000	3348.000	3374.000	3400.000	3426.000	3452.000	3478.000	3504.000	3530.000	3556.000	3582.000	3608.000	3634.000	3660.000	3686.000	3712.000	3738.000	3764.000	3790.000	3816.000	3842.000	3868.000	3894.000	3920.000	3946.000	3972.000	3998.000	4024.000	4050.000	4076.000	4102.000	4128.000	4154.000	4180.000	4206.000	4232.000	4258.000	4284.000	4310.000	4336.000	4362.000	4388.000	4414.000	4440.000	4466.000	4492.000	4518.000	4544.000	4570.000	4596.000	4622.000	4648.000	4674.000	4700.000	4726.000	4752.000	4778.000	4804.000	4830.000	4856.000	4882.000	4908.000	4934.000	4960.000	4986.000	5012.000	5038.000	5064.000	5090.000	5116.000	5142.000	5168.000	5194.000	5220.000	5246.000	5272.000	5298.000	5324.000	5350.000	5376.000	5402.000	5428.000	5454.000	5480.000	5506.000	5532.000	5558.000	5584.000	5610.000	5636.000	5662.000	5688.000	5714.000	5740.000	5766.000	5792.000	5818.000	5844.000	5870.000	5896.000	5922.000	5948.000	5974.000	6000.000	6026.000	6052.000	6078.000	6104.000	6130.000	6156.000	6182.000	6208.000	6234.000	6260.000	6286.000	6312.000	6338.000	6364.000	6390.000	6416.000	6442.000	6468.000	6494.000	6520.000	6546.000	6572.000	6598.000	6624.000	6650.000	6676.000	6702.000	6728.000	6754.000	6780.000	6806.000	6832.000	6858.000	6884.000	6910.000	6936.000	6962.000	6988.000	7014.000	7040.000	7066.000	7092.000	7118.000	7144.000	7170.000	7196.000	7222.000	7248.000	7274.000	7300.000	7326.000	7352.000	7378.000	7404.000	7430.000	7456.000	7482.000	7508.000	7534.000	7560.000	7586.000	7612.000	7638.000	7664.000	7690.000	7716.000	7742.000	7768.000	7794.000	7820.000	7846.000	7872.000	7898.000	7924.000	7950.000	7976.000	8002.000	8028.000	8054.000	8080.000	8106.000	8132.000	8158.000	8184.000	8210.000	8236.000	8262.000	8288.000	8314.000	8340.000	8366.000	8392.000	8418.000	8444.000	8470.000	8496.000	8522.000	8548.000	8574.000	8600.000	8626.000	8652.000	8678.000	8704.000	8730.000	8756.000	8782.000	8808.000	8834.000	8860.000	8886.000	8912.000	8938.000	8964.000	8990.000	9016.000	9042.000	9068.000	9094.000	9120.000	9146.000	9172.000	9198.000	9224.000	9250.000	9276.000	9302.000	9328.000	9354.000	9380.000	9406.000	9432.000	9458.000	9484.000	9510.000	9536.000	9562.000	9588.000	9614.000	9640.000	9666.000	9692.000	9718.000	9744.000	9770.000	9796.000	9822.000	9848.000	9874.000	9900.000	9926.000	9952.000	9978.000	10004.000	10030.000	10056.000	10082.000	10108.000	10134.000	10160.000	10186.000	10212.000	10238.000	10264.000	10290.000	10316.000	10342.000	10368.000	10394.000	10420.000	10446.000	10472.000	10498.000	10524.000	10550.000	10576.000	10602.000	10628.000	10654.000	10680.000	10706.000	10732.000	10758.000	10784.000	10810.000	10836.000	10862.000	10888.000	10914.000	10940.000	10966.000	10992.000	11018.000	11044.000	11070.000	11096.000	11122.000	11148.000	11174.000	11200.000	11226.000	11252.000	11278.000	11304.000	11330.000	11356.000	11382.000	11408.000	11434.000	11460.000	11486.000	11512.000	11538.000	11564.000	11590.000	11616.000	11642.000	11668.000	11694.000	11720.000	11746.000	11772.000	11798.000	11824.000	11850.000	11876.000	11902.000	11928.000	11954.000	11980.000	12006.000	12032.000	12058.000	12084.000	12110.000	12136.000	12162.000	12188.000	12214.000	12240.000	12266.000	12292.000	12318.000	12344.000	12370.000	12396.000	12422.000	12448.000	12474.000	12500.000	12526.000	12552.000	12578.000	12604.000	12630.000	12656.000	12682.000	12708.000	12734.000	12760.000	12786.000	12812.000	12838.000	12864.000	12890.000	12916.000	12942.000	12968.000	12994.000	13020.000	13046.000	13072.000	13098.000	13124.000	13150.000	13176.000	13202.000	13228.000	13254.000	13280.000	13306.000	13332.000	13358.000	13384.000	13410.000	13436.000	13462.000	13488.000	13514.000	13540.000	13566.000	13592.000	13618.000	13644.000	13670.000	13696.000	13722.000	13748.000	13774.000	13800.000	13826.000	13852.000	13878.000	13904.000	13930.000	13956.000	13982.000	14008.000	14034.000	14060.000	14086.000	14112.000	14138.000	14164.000	14190.000	14216.000	14242.000	14268.000	14294.000	14320.000	14346.000	14372.000	14398.000	14424.000	14450.000	14476.000	14502.000	14528.000	14554.000	14580.000	14606.000	14632.000	14658.000	14684.000	14710.000	14736.000	14762.000	14788.000	14814.000	14840.000	14866.000	14892.000	14918.000	14944.000	14970.000	14996.000	15022.000	15048.000	15074.000	15100.000	15126.000	15152.000	15178.000	15204.000	15230.000	15256.000	15282.000	15308.000	15334.000	15360.000	15386.000	15412.000	15438.000	15464.000	15490.000	15516.000	15542.000	15568.000	15594.000	15620.000	15646.000	15672.000	15698.000	15724.000	15750.000	15776.000	15802.000	15828.000	15854.000	15880.000	15906.000	15932.000	15958.000	15984.000	16010.000	16036.000	16062.000	16088.000	16114.000	16140.000	16166.000	16192.000	16218.000	16244.000	16270.000	16296.000	16322.000	16348.000	16374.000	16400.000	16426.000	16452.000	16478.000	16504.000	16530.000	16556.000	16582.000	16608.000	16634.000	16660.000	16686.000	16712.000	16738.000	16764.000	16790.000	16816.000	16842.000	16868.000	16894.000	16920.000	16946.000	16972.000	16998.000	17024.000	17050.000	17076.000	17102.000	17128.000	17154.000	17180.000	17206.000	17232.000	17258.000	17284.000</

PROFILE (3)

V=1:100
H=1:1,000

BOX CULVERT B1.20.H0.80 L=26.20m x2
STA.1+784.1



OVERLAY SECTION	
Grade	0.16
Embankment Height	0.08
Cut Height	0.04
Proposed Height	0.07
Ground Height	0.03
Cumulative Distance	0.08
Distance	0.05
Station No.	0.06
Horizontal Alignment	0.09
Superelevation	0.04

Station No.	Ground Height	Proposed Height	Cut Height	Embankment Height	Grade
20+000	1320.000	4.26	4.41	4.46	0.070
19+800	1340.000	4.51	4.57	4.60	0.080
19+600	1380.000	4.54	4.57	4.60	0.120
19+400	1400.000	4.81	4.97	4.75	0.060
19+200	1420.000	4.97	4.94	4.94	0.130
19+000	1440.000	5.06	4.90	4.90	0.130
18+800	1460.000	5.15	5.01	4.98	0.139
18+600	1470.000	5.16	5.03	4.99	0.130
18+400	1480.000	5.17	5.03	4.99	0.139
18+200	1500.000	5.20	4.99	4.99	0.210
18+000	1520.000	5.10	4.94	4.94	0.150
17+800	1522.338	5.09	4.94	4.94	0.150
17+600	1540.000	5.01	4.89	4.89	0.120
17+400	1560.000	4.96	4.84	4.84	0.020
17+200	1580.000	4.84	4.79	4.79	0.050
17+000	1600.000	4.67	4.74	4.74	0.070
16+800	1620.000	4.23	4.69	4.69	0.460
16+600	1640.000	4.73	4.64	4.64	0.090
16+400	1660.000	4.37	4.59	4.59	0.220
16+200	1680.000	4.28	4.54	4.54	0.280
16+000	1700.000	4.32	4.49	4.49	0.170
15+800	1720.000	4.38	4.44	4.44	0.080
15+600	1740.000	4.17	4.38	4.38	0.228
15+400	1750.000	4.19	4.39	4.39	0.209
15+200	1754.082	4.20	4.40	4.40	0.203
15+000	1760.000	4.21	4.41	4.41	0.205
14+800	1780.000	4.21	4.41	4.41	0.191
14+600	1780.000	4.30	4.49	4.49	0.135
14+400	1800.000	4.44	4.57	4.57	0.281
14+200	1820.000	4.94	4.68	4.68	0.297
14+000	1840.000	5.04	4.74	4.74	0.343
13+800	1860.000	5.17	4.82	4.82	0.088
13+600	1880.000	5.00	4.91	4.91	0.088
13+400	1900.000	4.94	4.95	4.95	0.055
13+200	1912.579	5.00	5.04	5.04	0.048
13+000	1920.000	5.04	5.07	5.07	0.039
12+800	1940.000	5.13	5.16	5.16	0.033
12+600	1960.000	5.21	5.24	5.24	0.037
12+400	1979.246	5.29	5.32	5.32	0.036
12+200	1980.000	5.33	5.33	5.33	0.041
12+000	2000.000	6.16	6.16	6.16	0.016

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT

Approved by: _____ Date: _____

CTI ENGINEERING INTERNATIONAL CO., LTD.

Designed by: _____ Date: _____
Checked by: _____ Date: _____

TITLE: PROFILE (3)

Drawing No. 014

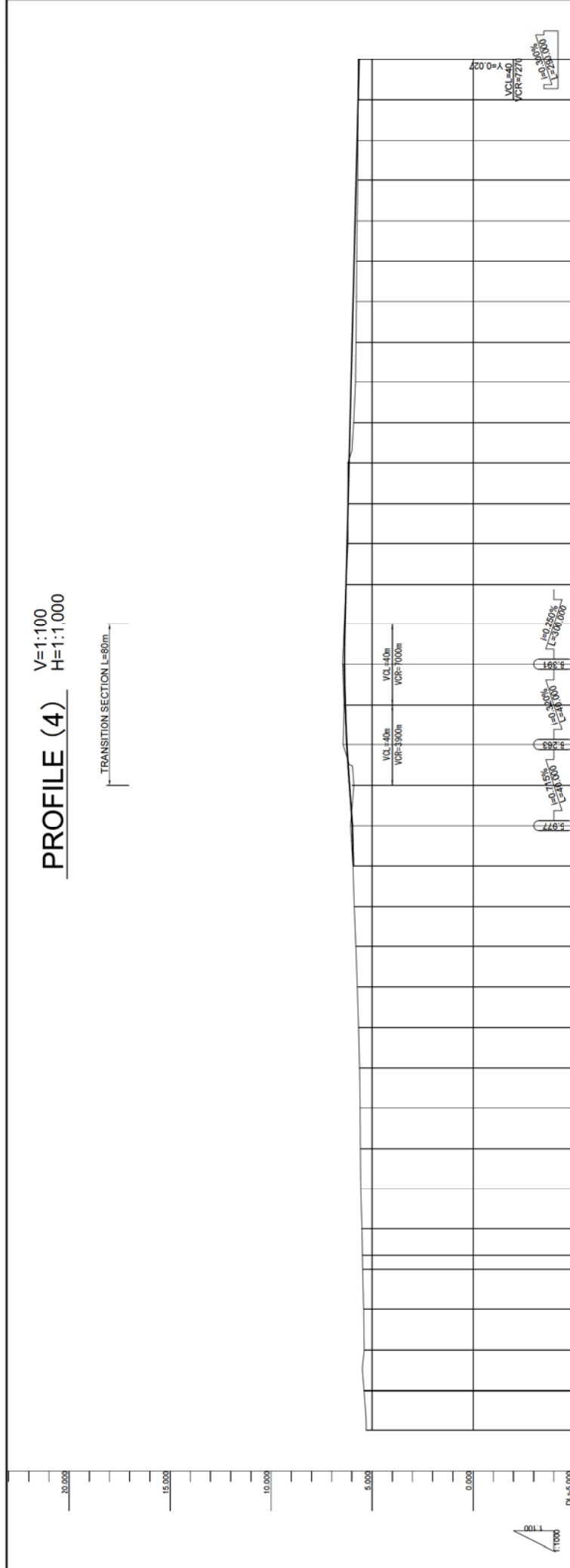
SCALE V=1:100
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DATE

PROFILE (4)

V=1:100
H=1:1,000

TRANSITION SECTION L=80m



Station No.	Distance	Cumulative Distance	Ground Height	Proposed Height	Cut Height	Embankment Height	Grade
0.041	0.754	1980.000	5.29	5.331			
0.045	0.800	2000.000	5.40	5.418			
0.050	1.673	2020.000	5.39	5.499			
0.055	20.000	2040.000	5.42	5.583			
0.060	20.000	2060.000	5.47	5.667			
0.065	6.994	2066.994	5.48	5.686			
0.070	13.008	2080.000	5.50	5.751			
0.075	20.000	2100.000	5.58	5.805			
0.080	20.000	2120.000	5.58	5.919			
0.085	20.000	2140.000	5.59	6.003			
0.090	20.000	2160.000	5.67	6.171			
0.095	20.000	2200.000	5.73	6.255			
0.100	20.000	2220.000	5.81	6.338			
0.105	20.000	2240.000	5.88	6.423			
0.110	20.000	2280.000	5.95	6.507			
0.115	20.000	2280.000	6.07	6.558			
0.120	20.000	2300.000	5.90	6.541			
0.125	2220.000	2320.000	6.44	6.461			
0.130	20.000	2340.000	6.39	6.441			
0.135	20.000	2360.000	6.46	6.391			
0.140	20.000	2380.000	6.38	6.341			
0.145	20.000	2400.000	6.30	6.291			
0.150	20.000	2420.000	6.19	6.241			
0.155	20.000	2440.000	6.20	6.191			
0.160	20.000	2460.000	6.20	6.141			
0.165	20.000	2480.000	5.91	6.091			
0.170	20.000	2500.000	5.82	6.041			
0.175	20.000	2520.000	5.80	5.991			
0.180	20.000	2540.000	5.78	5.941			
0.185	20.000	2560.000	5.76	5.891			
0.190	20.000	2580.000	5.74	5.841			
0.195	20.000	2600.000	5.71	5.791			
0.200	20.000	2620.000	5.70	5.741			
0.205	20.000	2640.000	5.69	5.691			
0.210	20.000	2660.000	5.68	5.641			
0.215	20.000	2680.000	5.66	5.591			
0.220	20.000	2700.000	5.66	5.531			
0.225	20.000	2720.000	5.66	5.471			
0.230	20.000	2740.000	5.66	5.411			
0.235	20.000	2760.000	5.66	5.351			
0.240	20.000	2780.000	5.66	5.291			
0.245	20.000	2800.000	5.66	5.231			
0.250	20.000	2820.000	5.66	5.171			
0.255	20.000	2840.000	5.66	5.111			
0.260	20.000	2860.000	5.66	5.051			
0.265	20.000	2880.000	5.66	4.991			
0.270	20.000	2900.000	5.66	4.931			
0.275	20.000	2920.000	5.66	4.871			
0.280	20.000	2940.000	5.66	4.811			
0.285	20.000	2960.000	5.66	4.751			
0.290	20.000	2980.000	5.66	4.691			
0.295	20.000	3000.000	5.66	4.631			
0.300	20.000	3020.000	5.66	4.571			
0.305	20.000	3040.000	5.66	4.511			
0.310	20.000	3060.000	5.66	4.451			
0.315	20.000	3080.000	5.66	4.391			
0.320	20.000	3100.000	5.66	4.331			
0.325	20.000	3120.000	5.66	4.271			
0.330	20.000	3140.000	5.66	4.211			
0.335	20.000	3160.000	5.66	4.151			
0.340	20.000	3180.000	5.66	4.091			
0.345	20.000	3200.000	5.66	4.031			
0.350	20.000	3220.000	5.66	3.971			
0.355	20.000	3240.000	5.66	3.911			
0.360	20.000	3260.000	5.66	3.851			
0.365	20.000	3280.000	5.66	3.791			
0.370	20.000	3300.000	5.66	3.731			
0.375	20.000	3320.000	5.66	3.671			
0.380	20.000	3340.000	5.66	3.611			
0.385	20.000	3360.000	5.66	3.551			
0.390	20.000	3380.000	5.66	3.491			
0.395	20.000	3400.000	5.66	3.431			
0.400	20.000	3420.000	5.66	3.371			
0.405	20.000	3440.000	5.66	3.311			
0.410	20.000	3460.000	5.66	3.251			
0.415	20.000	3480.000	5.66	3.191			
0.420	20.000	3500.000	5.66	3.131			
0.425	20.000	3520.000	5.66	3.071			
0.430	20.000	3540.000	5.66	3.011			
0.435	20.000	3560.000	5.66	2.951			
0.440	20.000	3580.000	5.66	2.891			
0.445	20.000	3600.000	5.66	2.831			
0.450	20.000	3620.000	5.66	2.771			
0.455	20.000	3640.000	5.66	2.711			
0.460	20.000	3660.000	5.66	2.651			
0.465	20.000	3680.000	5.66	2.591			
0.470	20.000	3700.000	5.66	2.531			
0.475	20.000	3720.000	5.66	2.471			
0.480	20.000	3740.000	5.66	2.411			
0.485	20.000	3760.000	5.66	2.351			
0.490	20.000	3780.000	5.66	2.291			
0.495	20.000	3800.000	5.66	2.231			
0.500	20.000	3820.000	5.66	2.171			
0.505	20.000	3840.000	5.66	2.111			
0.510	20.000	3860.000	5.66	2.051			
0.515	20.000	3880.000	5.66	1.991			
0.520	20.000	3900.000	5.66	1.931			
0.525	20.000	3920.000	5.66	1.871			
0.530	20.000	3940.000	5.66	1.811			
0.535	20.000	3960.000	5.66	1.751			
0.540	20.000	3980.000	5.66	1.691			
0.545	20.000	4000.000	5.66	1.631			
0.550	20.000	4020.000	5.66	1.571			
0.555	20.000	4040.000	5.66	1.511			
0.560	20.000	4060.000	5.66	1.451			
0.565	20.000	4080.000	5.66	1.391			
0.570	20.000	4100.000	5.66	1.331			
0.575	20.000	4120.000	5.66	1.271			
0.580	20.000	4140.000	5.66	1.211			
0.585	20.000	4160.000	5.66	1.151			
0.590	20.000	4180.000	5.66	1.091			
0.595	20.000	4200.000	5.66	1.031			
0.600	20.000	4220.000	5.66	0.971			
0.605	20.000	4240.000	5.66	0.911			
0.610	20.000	4260.000	5.66	0.851			
0.615	20.000	4280.000	5.66	0.791			
0.620	20.000	4300.000	5.66	0.731			
0.625	20.000	4320.000	5.66	0.671			
0.630	20.000	4340.000	5.66	0.611			
0.635	20.000	4360.000	5.66	0.551			
0.640	20.000	4380.000	5.66	0.491			
0.645	20.000	4400.000	5.66	0.431			
0.650	20.000	4420.000	5.66	0.371			
0.655	20.000	4440.000	5.66	0.311			
0.660	20.000	4460.000	5.66	0.251			
0.665	20.000	4480.000	5.66	0.191			
0.670	20.000	4500.000	5.66	0.131			
0.675	20.000	4520.000	5.66	0.071			
0.680	20.000	4540.000	5.66	0.011			
0.685	20.000	4560.000	5.66				
0.690	20.000	4580.000	5.66				
0.695	20.000	4600.000	5.66				
0.700	20.000	4620.000	5.66				
0.705	20.000	4640.000	5.66				
0.710	20.000	4660.000	5.66				
0.715	20.000	4680.000	5.66				
0.720	20.000	4700.000	5.66				
0.725	20.000	4720.000	5.66				
0.730	20.000	4740.000	5.66				
0.735	20.000	4760.000	5.66				
0.740	20.000	4780.000	5.66				
0.745	20.000	4800.000	5.66				
0.750	20.000	4820.000	5.66				
0.755	20.000	4840.000	5.66				
0.760	20.000	4860.000	5.66				
0.765	20.000	4880.000	5.66				
0.770	20.000	4900.000	5.66				
0.775	20.000	4920.000	5.66				
0.780	20.000	4940.000	5.66				
0.785	20.000	4960.000	5.66				
0.790	20.000	4980.000	5.66				
0.795	20.000	5000.000	5.66				

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT

Approved by: _____ Date: _____

CTI ENGINEERING INTERNATIONAL CO., LTD.

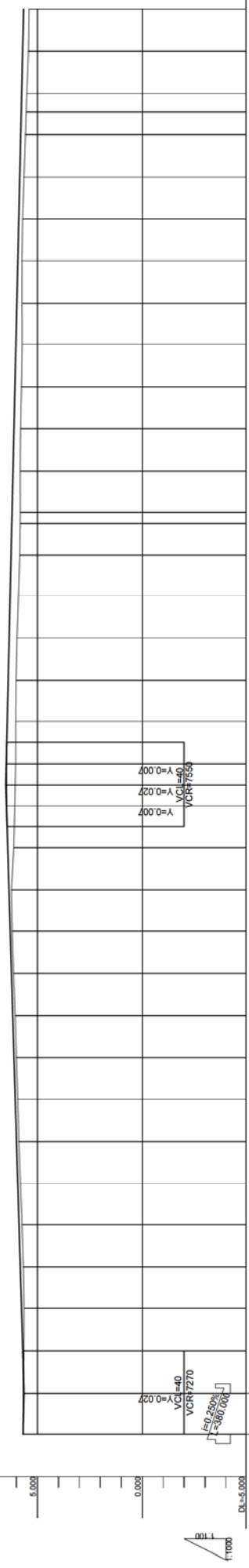
Designed by: _____ Date: _____
Checked by: _____ Date: _____

TITLE: PROFILE (4)

Drawing No. 015
SCALE V=1:100
H=1:1,000
DATE

PROFILE (5)

V=1:100
H=1:1,000



Grade	Embankment Height	Cut Height	Proposed Height	Ground Height	Cumulative Distance	Distance	Station No.	Horizontal Alignment	Superelevation
5.691	0.001		5.691	5.69	2640.000	2640.000	+640.000		
5.668	0.008		5.668	5.65	2680.000	2680.000	+680.000		
5.701	0.051		5.701	5.64	2700.000	2700.000	+700.000		
5.761	0.121		5.761	5.67	2720.000	2720.000	+720.000		
5.821	0.151		5.821	5.74	2740.000	2740.000	+740.000		
5.881	0.141		5.881	6.06	2840.000	2840.000	+840.000		
6.14	0.101		6.241	6.14	2880.000	2880.000	+880.000		
6.20	0.101		6.301	6.20	2880.000	2880.000	+880.000		
6.24	0.121		6.361	6.24	2900.000	2900.000	+900.000		
6.421	0.291		6.474	6.13	2920.000	2920.000	+920.000		
6.58	0.384		6.674	6.08	2940.000	2940.000	+940.000		
6.68	0.425		6.68	6.06	2950.000	2950.000	+950.000		
6.81	0.441		6.81	6.04	2960.000	2960.000	+960.000		
6.442	0.402		6.442	6.04	2980.000	2980.000	+980.000		
6.398	0.378		6.398	6.02	3000.000	3000.000	+1000.000		
6.350	0.370		6.350	5.98	3020.000	3020.000	+1020.000		
6.91	0.304		6.91	6.91	3040.000	3040.000	+1040.000		
6.258	0.418		6.258	5.84	3060.000	3060.000	+1060.000		
6.224	0.404		6.224	5.82	3080.000	3080.000	+1080.000		
5.257	0.392		5.257	5.82	3080.000	3080.000	+1080.000		
5.74	0.242		5.74	5.74	3180.000	3180.000	+1180.000		
5.73	0.298		5.73	5.73	3160.000	3160.000	+1160.000		
5.774	0.242		5.774	5.74	3190.000	3190.000	+1190.000		
5.74	0.198		5.74	5.74	3200.000	3200.000	+1200.000		
5.71	0.190		5.71	5.71	3220.000	3220.000	+1220.000		
5.844	0.194		5.844	5.85	3240.000	3240.000	+1240.000		
5.798	0.228		5.798	5.57	3260.000	3260.000	+1260.000		
5.772	0.232		5.772	5.54	3271.319	3271.319	+1271.319		
5.752	0.242		5.752	5.51	3280.000	3280.000	+1280.000		
5.708	0.278		5.708	5.43	3300.000	3300.000	+1300.000		
5.40	0.280		5.40	5.40	3320.000	3320.000	+1320.000		

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT

Approved by: _____ Date: _____

CTI ENGINEERING INTERNATIONAL CO., LTD.

Designed by: _____ Date: _____

Checked by: _____ Date: _____

TITLE: PROFILE (5)

Drawing No. 016

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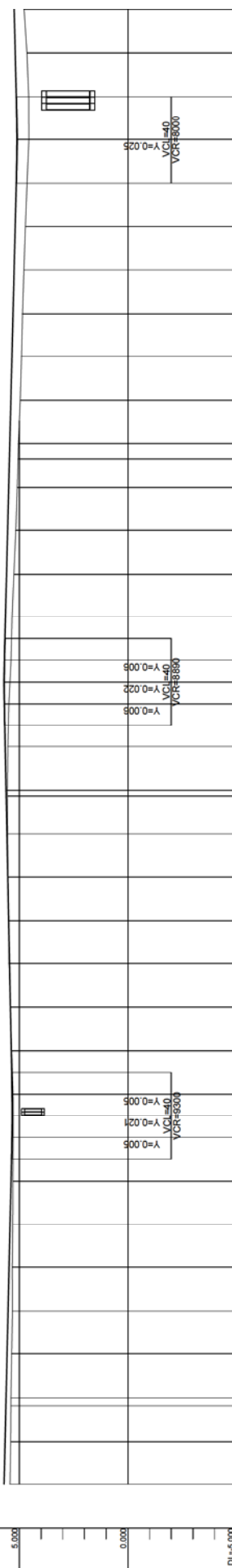
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PROFILE (6)

V=1:100
H=1:1,000

BOX CULVERT B1.20-H0.80 L=29.00m x2
STA.3+472.0

BOX CULVERT B2.60-H2.00 L=44.40m x3
STA.3+938.4
BURNS CREEK



Station No.	Distance	Cumulative Distance	Ground Height	Proposed Height	Cut Height	Embankment Height	Grade
0.278	20.000	338.408	5.43	5.43	0.000	0.224	5.090
0.300	20.000	358.408	5.40	5.40	0.000	0.224	5.090
0.400	20.000	378.408	5.36	5.36	0.000	0.224	5.090
0.500	20.000	398.408	5.32	5.32	0.000	0.224	5.090
0.600	20.000	418.408	5.28	5.28	0.000	0.224	5.090
0.700	20.000	438.408	5.29	5.29	0.000	0.224	5.090
0.800	20.000	458.408	5.35	5.35	0.000	0.224	5.090
0.900	20.000	478.408	5.41	5.41	0.000	0.224	5.090
1.000	20.000	498.408	5.48	5.48	0.000	0.224	5.090
1.100	20.000	518.408	5.58	5.58	0.000	0.224	5.090
1.200	20.000	538.408	5.75	5.75	0.000	0.224	5.090
1.300	20.000	558.408	6.00	6.00	0.000	0.224	5.090
1.400	20.000	578.408	6.22	6.22	0.000	0.224	5.090
1.500	20.000	598.408	6.58	6.58	0.000	0.224	5.090
1.600	20.000	618.408	7.00	7.00	0.000	0.224	5.090
1.700	20.000	638.408	7.48	7.48	0.000	0.224	5.090
1.800	20.000	658.408	8.00	8.00	0.000	0.224	5.090
1.900	20.000	678.408	8.58	8.58	0.000	0.224	5.090
2.000	20.000	698.408	9.20	9.20	0.000	0.224	5.090
2.100	20.000	718.408	9.88	9.88	0.000	0.224	5.090
2.200	20.000	738.408	10.60	10.60	0.000	0.224	5.090
2.300	20.000	758.408	11.38	11.38	0.000	0.224	5.090
2.400	20.000	778.408	12.20	12.20	0.000	0.224	5.090
2.500	20.000	798.408	13.08	13.08	0.000	0.224	5.090
2.600	20.000	818.408	14.00	14.00	0.000	0.224	5.090
2.700	20.000	838.408	14.98	14.98	0.000	0.224	5.090
2.800	20.000	858.408	16.00	16.00	0.000	0.224	5.090
2.900	20.000	878.408	17.08	17.08	0.000	0.224	5.090
3.000	20.000	898.408	18.20	18.20	0.000	0.224	5.090
3.100	20.000	918.408	19.38	19.38	0.000	0.224	5.090
3.200	20.000	938.408	20.60	20.60	0.000	0.224	5.090
3.300	20.000	958.408	21.88	21.88	0.000	0.224	5.090
3.400	20.000	978.408	23.20	23.20	0.000	0.224	5.090
3.500	20.000	998.408	24.58	24.58	0.000	0.224	5.090
3.600	20.000	1018.408	26.00	26.00	0.000	0.224	5.090
3.700	20.000	1038.408	27.48	27.48	0.000	0.224	5.090
3.800	20.000	1058.408	29.00	29.00	0.000	0.224	5.090
3.900	20.000	1078.408	30.58	30.58	0.000	0.224	5.090
4.000	20.000	1098.408	32.20	32.20	0.000	0.224	5.090
4.100	20.000	1118.408	33.88	33.88	0.000	0.224	5.090
4.200	20.000	1138.408	35.60	35.60	0.000	0.224	5.090
4.300	20.000	1158.408	37.38	37.38	0.000	0.224	5.090
4.400	20.000	1178.408	39.20	39.20	0.000	0.224	5.090
4.500	20.000	1198.408	41.08	41.08	0.000	0.224	5.090
4.600	20.000	1218.408	43.00	43.00	0.000	0.224	5.090
4.700	20.000	1238.408	44.98	44.98	0.000	0.224	5.090
4.800	20.000	1258.408	47.00	47.00	0.000	0.224	5.090
4.900	20.000	1278.408	49.08	49.08	0.000	0.224	5.090
5.000	20.000	1298.408	51.20	51.20	0.000	0.224	5.090
5.100	20.000	1318.408	53.38	53.38	0.000	0.224	5.090
5.200	20.000	1338.408	55.60	55.60	0.000	0.224	5.090
5.300	20.000	1358.408	57.88	57.88	0.000	0.224	5.090
5.400	20.000	1378.408	60.20	60.20	0.000	0.224	5.090
5.500	20.000	1398.408	62.58	62.58	0.000	0.224	5.090
5.600	20.000	1418.408	65.00	65.00	0.000	0.224	5.090
5.700	20.000	1438.408	67.48	67.48	0.000	0.224	5.090
5.800	20.000	1458.408	70.00	70.00	0.000	0.224	5.090
5.900	20.000	1478.408	72.58	72.58	0.000	0.224	5.090
6.000	20.000	1498.408	75.20	75.20	0.000	0.224	5.090
6.100	20.000	1518.408	77.88	77.88	0.000	0.224	5.090
6.200	20.000	1538.408	80.60	80.60	0.000	0.224	5.090
6.300	20.000	1558.408	83.38	83.38	0.000	0.224	5.090
6.400	20.000	1578.408	86.20	86.20	0.000	0.224	5.090
6.500	20.000	1598.408	89.08	89.08	0.000	0.224	5.090
6.600	20.000	1618.408	92.00	92.00	0.000	0.224	5.090
6.700	20.000	1638.408	94.98	94.98	0.000	0.224	5.090
6.800	20.000	1658.408	98.00	98.00	0.000	0.224	5.090
6.900	20.000	1678.408	101.08	101.08	0.000	0.224	5.090
7.000	20.000	1698.408	104.20	104.20	0.000	0.224	5.090
7.100	20.000	1718.408	107.38	107.38	0.000	0.224	5.090
7.200	20.000	1738.408	110.60	110.60	0.000	0.224	5.090
7.300	20.000	1758.408	113.88	113.88	0.000	0.224	5.090
7.400	20.000	1778.408	117.20	117.20	0.000	0.224	5.090
7.500	20.000	1798.408	120.58	120.58	0.000	0.224	5.090
7.600	20.000	1818.408	124.00	124.00	0.000	0.224	5.090
7.700	20.000	1838.408	127.48	127.48	0.000	0.224	5.090
7.800	20.000	1858.408	131.00	131.00	0.000	0.224	5.090
7.900	20.000	1878.408	134.58	134.58	0.000	0.224	5.090
8.000	20.000	1898.408	138.20	138.20	0.000	0.224	5.090
8.100	20.000	1918.408	141.88	141.88	0.000	0.224	5.090
8.200	20.000	1938.408	145.60	145.60	0.000	0.224	5.090
8.300	20.000	1958.408	149.38	149.38	0.000	0.224	5.090
8.400	20.000	1978.408	153.20	153.20	0.000	0.224	5.090
8.500	20.000	1998.408	157.08	157.08	0.000	0.224	5.090
8.600	20.000	2018.408	161.00	161.00	0.000	0.224	5.090
8.700	20.000	2038.408	164.98	164.98	0.000	0.224	5.090
8.800	20.000	2058.408	169.00	169.00	0.000	0.224	5.090
8.900	20.000	2078.408	173.08	173.08	0.000	0.224	5.090
9.000	20.000	2098.408	177.20	177.20	0.000	0.224	5.090
9.100	20.000	2118.408	181.38	181.38	0.000	0.224	5.090
9.200	20.000	2138.408	185.60	185.60	0.000	0.224	5.090
9.300	20.000	2158.408	189.88	189.88	0.000	0.224	5.090
9.400	20.000	2178.408	194.20	194.20	0.000	0.224	5.090
9.500	20.000	2198.408	198.58	198.58	0.000	0.224	5.090
9.600	20.000	2218.408	203.00	203.00	0.000	0.224	5.090
9.700	20.000	2238.408	207.48	207.48	0.000	0.224	5.090
9.800	20.000	2258.408	212.00	212.00	0.000	0.224	5.090
9.900	20.000	2278.408	216.58	216.58	0.000	0.224	5.090
10.000	20.000	2298.408	221.20	221.20	0.000	0.224	5.090

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT

Approved by: _____ Date: _____

CTI ENGINEERING INTERNATIONAL CO., LTD.

Designed by: _____ Date: _____
Checked by: _____ Date: _____

Drawing No. 017

SCALE V=1:100
H=1:1,000

DATE

TITLE: PROFILE (6)

PREPARATORY SURVEY ON THE PROJECT FOR UPGRADING OF THE KUKUM HIGHWAY PHASE 2

PROFILE (7)

V=1:100
H=1:1,000

EXISTING BRIDGE
LUNGGGA BRIDGE

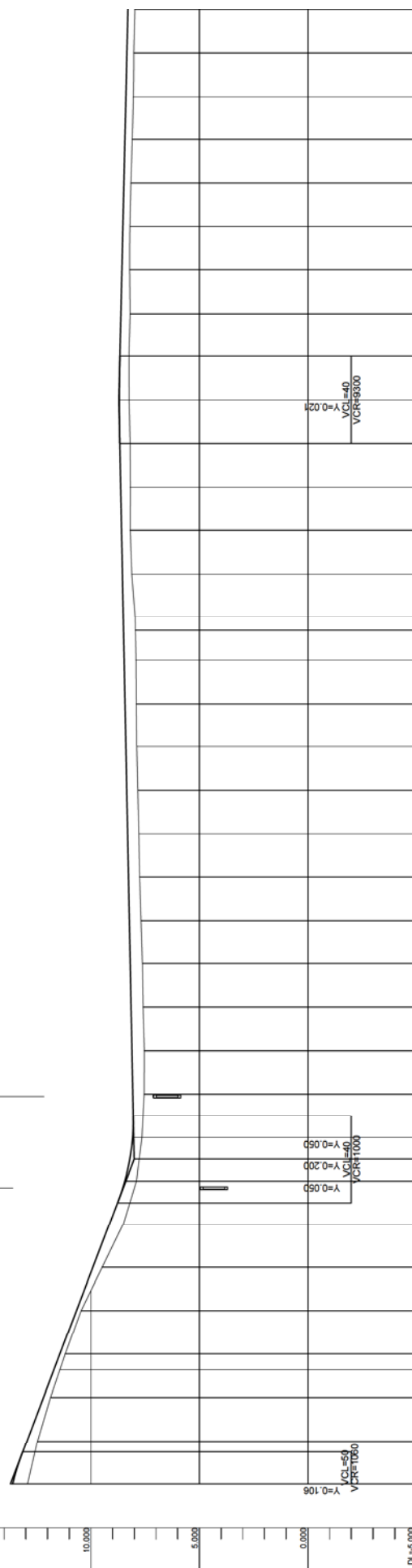


Station No.	Distance	Cumulative Distance	Ground Height	Proposed Height	Cut Height	Embankment Height	Grade
5.190	0.000	0.000	4.85	5.190			
5.240	0.400	0.400	4.76	5.240			
5.340	0.800	0.800	4.84	5.340			
5.450	1.200	1.200	4.94	5.450			
5.540	1.600	1.600	5.04	5.540			
5.640	2.000	2.000	5.14	5.640			
5.730	2.400	2.400	5.24	5.730			
5.840	2.800	2.800	5.34	5.840			
5.940	3.200	3.200	5.44	5.940			
6.040	3.600	3.600	5.54	6.040			
6.140	4.000	4.000	5.64	6.140			
6.240	4.400	4.400	5.74	6.240			
6.340	4.800	4.800	5.84	6.340			
6.440	5.200	5.200	5.94	6.440			
6.540	5.600	5.600	6.04	6.540			
6.640	6.000	6.000	6.14	6.640			
6.740	6.400	6.400	6.24	6.740			
6.840	6.800	6.800	6.34	6.840			
6.940	7.200	7.200	6.44	6.940			
7.040	7.600	7.600	6.54	7.040			
7.140	8.000	8.000	6.64	7.140			
7.240	8.400	8.400	6.74	7.240			
7.340	8.800	8.800	6.84	7.340			
7.440	9.200	9.200	6.94	7.440			
7.540	9.600	9.600	7.04	7.540			
7.640	10.000	10.000	7.14	7.640			
7.740	10.400	10.400	7.24	7.740			
7.840	10.800	10.800	7.34	7.840			
7.940	11.200	11.200	7.44	7.940			
8.040	11.600	11.600	7.54	8.040			
8.140	12.000	12.000	7.64	8.140			
8.240	12.400	12.400	7.74	8.240			
8.340	12.800	12.800	7.84	8.340			
8.440	13.200	13.200	7.94	8.440			
8.540	13.600	13.600	8.04	8.540			
8.640	14.000	14.000	8.14	8.640			
8.740	14.400	14.400	8.24	8.740			
8.840	14.800	14.800	8.34	8.840			
8.940	15.200	15.200	8.44	8.940			
9.040	15.600	15.600	8.54	9.040			
9.140	16.000	16.000	8.64	9.140			
9.240	16.400	16.400	8.74	9.240			
9.340	16.800	16.800	8.84	9.340			
9.440	17.200	17.200	8.94	9.440			
9.540	17.600	17.600	9.04	9.540			
9.640	18.000	18.000	9.14	9.640			
9.740	18.400	18.400	9.24	9.740			
9.840	18.800	18.800	9.34	9.840			
9.940	19.200	19.200	9.44	9.940			
10.040	19.600	19.600	9.54	10.040			
10.140	20.000	20.000	9.64	10.140			
10.240	20.400	20.400	9.74	10.240			
10.340	20.800	20.800	9.84	10.340			
10.440	21.200	21.200	9.94	10.440			
10.540	21.600	21.600	10.04	10.540			
10.640	22.000	22.000	10.14	10.640			
10.740	22.400	22.400	10.24	10.740			
10.840	22.800	22.800	10.34	10.840			
10.940	23.200	23.200	10.44	10.940			
11.040	23.600	23.600	10.54	11.040			
11.140	24.000	24.000	10.64	11.140			
11.240	24.400	24.400	10.74	11.240			
11.340	24.800	24.800	10.84	11.340			
11.440	25.200	25.200	10.94	11.440			
11.540	25.600	25.600	11.04	11.540			
11.640	26.000	26.000	11.14	11.640			
11.740	26.400	26.400	11.24	11.740			
11.840	26.800	26.800	11.34	11.840			
11.940	27.200	27.200	11.44	11.940			
12.040	27.600	27.600	11.54	12.040			
12.140	28.000	28.000	11.64	12.140			
12.240	28.400	28.400	11.74	12.240			
12.340	28.800	28.800	11.84	12.340			
12.440	29.200	29.200	11.94	12.440			
12.540	29.600	29.600	12.04	12.540			
12.640	30.000	30.000	12.14	12.640			
12.740	30.400	30.400	12.24	12.740			
12.840	30.800	30.800	12.34	12.840			
12.940	31.200	31.200	12.44	12.940			
13.040	31.600	31.600	12.54	13.040			
13.140	32.000	32.000	12.64	13.140			
13.240	32.400	32.400	12.74	13.240			
13.340	32.800	32.800	12.84	13.340			
13.440	33.200	33.200	12.94	13.440			
13.540	33.600	33.600	13.04	13.540			
13.640	34.000	34.000	13.14	13.640			
13.740	34.400	34.400	13.24	13.740			
13.840	34.800	34.800	13.34	13.840			
13.940	35.200	35.200	13.44	13.940			
14.040	35.600	35.600	13.54	14.040			
14.140	36.000	36.000	13.64	14.140			
14.240	36.400	36.400	13.74	14.240			
14.340	36.800	36.800	13.84	14.340			
14.440	37.200	37.200	13.94	14.440			
14.540	37.600	37.600	14.04	14.540			
14.640	38.000	38.000	14.14	14.640			
14.740	38.400	38.400	14.24	14.740			
14.840	38.800	38.800	14.34	14.840			
14.940	39.200	39.200	14.44	14.940			
15.040	39.600	39.600	14.54	15.040			
15.140	40.000	40.000	14.64	15.140			
15.240	40.400	40.400	14.74	15.240			
15.340	40.800	40.800	14.84	15.340			
15.440	41.200	41.200	14.94	15.440			
15.540	41.600	41.600	15.04	15.540			
15.640	42.000	42.000	15.14	15.640			
15.740	42.400	42.400	15.24	15.740			
15.840	42.800	42.800	15.34	15.840			
15.940	43.200	43.200	15.44	15.940			
16.040	43.600	43.600	15.54	16.040			
16.140	44.000	44.000	15.64	16.140			
16.240	44.400	44.400	15.74	16.240			
16.340	44.800	44.800	15.84	16.340			
16.440	45.200	45.200	15.94	16.440			
16.540	45.600	45.600	16.04	16.540			
16.640	46.000	46.000	16.14	16.640			
16.740	46.400	46.400	16.24	16.740			
16.840	46.800	46.800	16.34	16.840			
16.940	47.200	47.200	16.44	16.940			
17.040	47.600	47.600	16.54	17.040			
17.140	48.000	48.000	16.64	17.140			
17.240	48.400	48.400	16.74	17.240			
17.340	48.800	48.800	16.84	17.340			
17.440	49.200	49.200	16.94	17.440			
17.540	49.600	49.600	17.04	17.540			
17.640	50.000	50.000	17.14	17.640			
17.740	50.400	50.400	17.24	17.740			
17.840	50.800	50.800	17.34	17.840			
17.940	51.200	51.200	17.44	17.940			
18.040	51.600	51.600	17.54	18.040			
18.140	52.000	52.000	17.64	18.140			
18.240	52.400	52.400	17.74	18.240			
18.340	52.800	52.800	17.84	18.340			
18.440	53.200	53.200	17.94	18.440			
18.540	53.600	53.600	18.04	18.540			
18.640	54.000	54.000	18.14	18.640			
18.740	54.400	54.400	18.24	18.740			
18.840	54.800	54.800	18.34	18.840			
18.940	55.200	55.200	18.44	18.940			
19.040	55.600	55.600	18.54	19.040			
19.140	56.000	56.000	18.64	19.140			
19.240	56.400	56.400	18.74	19.240			
19.340	56.800	56.800	18.84	19.340			
19.440	57.200	57.200	18.94	19.440			
19.540	57.600	57.600	19.04	19.540			
19.640	58.000	58.000	19.14	19.640			
19.740	58.400	58.400	19.24	19.740			
19.840	58.800	58.800	19.34	19.840			
19.940	59.200	59.200	19.44	19.940			
20.040	59.600	59.600	19.54	20.040			
20.140	60.000	60.000	19.64	20.140			
20.240	60.400	60.400	19.74	20.240			
20.340	60.800	60.800	19.84	20.340			
20.440	61.200	61.200	19.94	20.440			
20.540	61.600	61.600	20.04	20.540			
20.640	62.000	62.000	20.14	20.640			
20.740	62.400	62.400	20.24	20.740			
20.840	62.800	62.800	20.34	20.840			
20.940	63.200	63.200	20.44	20.940			
21.040	63.600	63.600	20.54	21.040			
21.140	64.000	64.000	20.64	21.140			
21.240	64.400	64.400	20.74	21.240			
21.340	64.800	64.800	20.84	21.340			
21.440	65.200	65.200	20.94	21.440			
21.540	65.600	65.600	21.04	21.540			
21.640	66.000	66.000	21.14	21.640			
21.740	66.400	66.400	21.24	21.740			
21.840	66.800	66.800	21.34	21.840			
21.940	67.200	67.200	21.44	21.940			
22.040	67.600	67.600	21.54	22.040			
22.140	68.000	68.000	21.64	22.140			
22.240	68.4						

PROFILE (8) V=1:100 H=1:1,000

BOX CULVERT B1.00+H1.00 L=29.10m
STA.4+756.8

BOX CULVERT B1.00+H1.00 L=25.40m
STA.4+768.0



Station No.	Distance	Cumulative Distance	Ground Height	Proposed Height	Cut Height	Embankment Height	Grade
20.000	4620.000	12.92	13.804	12.850	0.954	0.884	13.804
20.000	4440.000	12.40	12.950	12.850	0.100	0.884	12.950
20.000	4720.000	9.48	9.910	9.430	0.480	0.884	9.910
20.000	4740.000	8.81	9.160	8.440	0.720	0.884	9.160
20.000	4770.000	7.78	8.210	7.900	0.310	0.884	8.210
10.000	4780.000	7.65	8.080	7.850	0.230	0.884	8.080
20.000	4800.000	7.55	8.070	7.540	0.530	0.884	8.070
20.000	4820.000	7.54	7.540	7.540	0.000	0.884	7.540
20.000	4840.000	7.59	7.590	7.590	0.000	0.884	7.590
19.994	4860.000	7.63	7.630	7.630	0.000	0.884	7.630
20.000	4880.000	7.69	7.690	7.690	0.000	0.884	7.690
20.000	4900.000	7.75	7.750	7.750	0.000	0.884	7.750
20.000	4920.000	7.79	7.790	7.790	0.000	0.884	7.790
20.000	4940.000	7.84	7.840	7.840	0.000	0.884	7.840
20.000	4960.000	7.89	7.890	7.890	0.000	0.884	7.890
20.000	4980.000	7.91	7.910	7.910	0.000	0.884	7.910
20.000	5000.000	7.92	7.920	7.920	0.000	0.884	7.920
13.832	5013.832	7.95	7.950	7.950	0.000	0.884	7.950
6.168	5020.000	7.96	8.510	8.498	0.012	0.884	8.510
20.000	5040.000	8.12	8.550	8.550	0.000	0.884	8.550
20.000	5060.000	8.18	8.590	8.590	0.000	0.884	8.590
20.000	5080.000	8.18	8.630	8.630	0.000	0.884	8.630
20.000	5100.000	8.19	8.670	8.670	0.000	0.884	8.670
20.000	5120.000	8.24	8.688	8.688	0.000	0.884	8.688
20.000	5140.000	8.25	8.664	8.664	0.000	0.884	8.664
20.000	5160.000	8.19	8.618	8.618	0.000	0.884	8.618
20.000	5180.000	8.22	8.572	8.572	0.000	0.884	8.572
20.000	5198.832	8.23	8.528	8.528	0.000	0.884	8.528
20.000	5220.000	8.18	8.480	8.480	0.000	0.884	8.480
20.000	5240.000	8.10	8.434	8.434	0.000	0.884	8.434
20.000	5260.000	8.04	8.388	8.388	0.000	0.884	8.388
20.000	5280.000	8.03	8.342	8.342	0.000	0.884	8.342
20.000	5300.000	7.97	8.296	8.296	0.000	0.884	8.296

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT

Approved by: _____ Date: _____

CTI ENGINEERING INTERNATIONAL CO., LTD.

Designed by: _____ Date: _____
Checked by: _____ Date: _____

Drawing No. 019

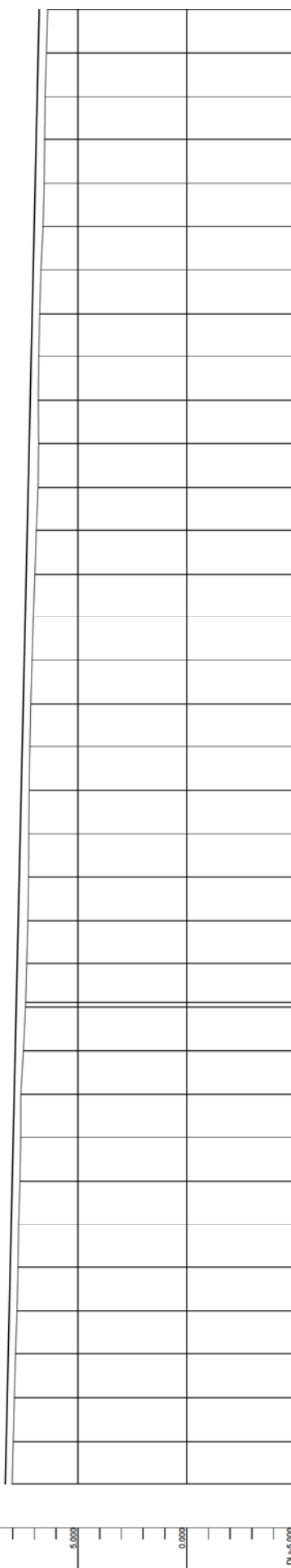
SCALE V=1:100
H=1:1,000

DATE

TITLE: PROFILE (8)

PREPARATORY SURVEY ON
THE PROJECT FOR UPGRADING OF
THE KUKUM HIGHWAY PHASE 2


PROFILE (9) V=1:100 H=1:1,000



Grade	Embankment Height	Cut Height	Proposed Height	Ground Height	Cumulative Distance	Distance	Station No.	Horizontal Alignment	Superelevation
8.242	0.312		7.97	8.03	20.000	5280.000	20.000		
8.204	0.334		7.87	7.87	5340.000	5320.000	20.000		
8.158	0.358		7.80	7.80	5360.000	5360.000	20.000		
8.112	0.382		7.73	7.75	5380.000	5400.000	20.000		
8.066	0.338		7.73	7.73	5400.000	5400.000	20.000		
7.974	0.344		7.63	7.63	5440.000	5420.000	20.000		
7.928	0.298		7.53	7.53	5460.000	5460.000	20.000		
7.882	0.372		7.51	7.51	5460.000	5480.000	20.000		
7.836	0.428		7.41	7.41	5500.000	5500.000	20.000		
7.789	0.444		7.30	7.30	5540.000	5520.000	20.000		
7.743	0.430		7.38	7.38	5520.000	5520.000	17.822		
7.697	0.444		7.30	7.30	5540.000	5520.000	20.000		
7.651	0.428		7.27	7.27	5560.000	5580.000	20.000		
7.605	0.382		7.28	7.28	5580.000	5600.000	20.000		
7.559	0.366		7.24	7.24	5600.000	5620.000	20.000		
7.513	0.350		7.21	7.21	5620.000	5640.000	20.000		
7.467	0.344		7.17	7.17	5640.000	5660.000	20.000		
7.421	0.358		7.11	7.11	5660.000	5680.000	20.000		
7.375	0.372		7.05	7.05	5680.000	5700.000	20.000		
7.329	0.386		6.98	6.98	5700.000	5720.000	20.000		
7.283	0.420		6.91	6.91	5720.000	5740.000	20.000		
7.237	0.454		6.83	6.83	5740.000	5760.000	20.000		
7.191	0.428		6.81	6.81	5760.000	5780.000	20.000		
7.145	0.372		6.82	6.82	5780.000	5800.000	20.000		
7.100	0.346		6.80	6.80	5800.000	5820.000	20.000		
7.054	0.340		6.78	6.78	5820.000	5840.000	20.000		
7.008	0.354		6.80	6.80	5840.000	5860.000	20.000		
6.962	0.408		6.80	6.80	5860.000	5880.000	20.000		
6.916	0.386		6.53	6.53	5900.000	5900.000	20.000		
6.870	0.360		6.51	6.51	5920.000	5920.000	20.000		
6.824	0.374		6.45	6.45	5940.000	5940.000	20.000		
6.778	0.388		6.39	6.39	5960.000	5960.000	20.000		

SOLOMON ISLANDS GOVERNMENT
MINISTRY OF
INFRASTRUCTURE DEVELOPMENT

Approved by: _____ Date: _____



CTI ENGINEERING INTERNATIONAL CO., LTD.

Designed by: _____ Date: _____
Checked by: _____ Date: _____

TITLE: PROFILE (9)

Drawing No. 020
SCALE V=1:100
H=1:1,000
DATE

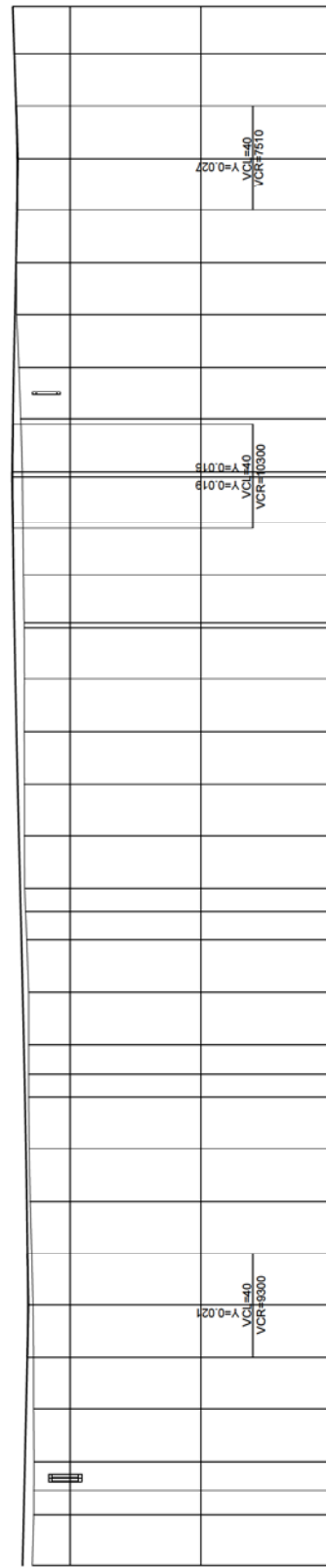
PROFILE (10)

V=1:100
H=1:1,000

ENDING POINT OF PROJECT
STA 6+475.00

BOX CULVERT B1.00-H0.80 L=27.30m
STA 5+388.9

BOX CULVERT B1.20-H1.00 L=24.00m x2
STA 5+973.9



Grade	Embankment Height	Cut Height	Proposed Height	Ground Height	Cumulative Distance	Distance	Station No.	Horizontal Alignment	Superelevation
7.200	0.012		7.200	7.200	0.374	0.374	940.000	EA 20+27.58 Curv=100.00 L=467.009	
7.198			7.198	7.198	0.387	0.761	930.000		
7.088	0.021		7.088	7.088	0.752	1.513	900.000		
7.075			7.075	7.075	0.757	2.270	890.000		
7.068			7.068	7.068	0.776	3.046	880.000		
7.027			7.027	7.027	0.798	3.844	870.000		
7.015			7.015	7.015	0.824	4.668	860.000		
7.008			7.008	7.008	0.854	5.522	850.000		
7.001			7.001	7.001	0.888	6.410	840.000		
6.998			6.998	6.998	0.928	7.338	830.000		
6.988			6.988	6.988	0.973	8.311	820.000		
6.976			6.976	6.976	1.022	9.339	810.000		
6.960			6.960	6.960	1.075	10.416	800.000		
6.940			6.940	6.940	1.132	11.548	790.000		
6.918			6.918	6.918	1.193	12.741	780.000		
6.888			6.888	6.888	1.258	14.000	770.000		
6.854			6.854	6.854	1.327	15.327	760.000		
6.824			6.824	6.824	1.400	16.727	750.000		
6.814			6.814	6.814	1.476	18.203	740.000		
6.814			6.814	6.814	1.556	19.759	730.000		
6.814			6.814	6.814	1.639	21.398	720.000		
6.814			6.814	6.814	1.725	23.123	710.000		
6.814			6.814	6.814	1.814	24.937	700.000		
6.814			6.814	6.814	1.906	26.843	690.000		
6.814			6.814	6.814	2.001	28.844	680.000		
6.814			6.814	6.814	2.100	30.944	670.000		
6.814			6.814	6.814	2.201	33.145	660.000		
6.814			6.814	6.814	2.305	35.448	650.000		
6.814			6.814	6.814	2.411	37.853	640.000		
6.814			6.814	6.814	2.520	40.361	630.000		
6.814			6.814	6.814	2.631	42.972	620.000		
6.814			6.814	6.814	2.744	45.696	610.000		
6.814			6.814	6.814	2.860	48.542	600.000		
6.814			6.814	6.814	2.978	51.510	590.000		
6.814			6.814	6.814	3.100	54.610	580.000		
6.814			6.814	6.814	3.224	57.844	570.000		
6.814			6.814	6.814	3.351	61.313	560.000		
6.814			6.814	6.814	3.481	64.916	550.000		
6.814			6.814	6.814	3.614	68.654	540.000		
6.814			6.814	6.814	3.750	72.526	530.000		
6.814			6.814	6.814	3.889	76.533	520.000		
6.814			6.814	6.814	4.031	80.676	510.000		
6.814			6.814	6.814	4.176	84.955	500.000		
6.814			6.814	6.814	4.324	89.370	490.000		
6.814			6.814	6.814	4.474	93.922	480.000		
6.814			6.814	6.814	4.627	98.613	470.000		
6.814			6.814	6.814	4.783	103.444	460.000		
6.814			6.814	6.814	4.942	108.416	450.000		
6.814			6.814	6.814	5.104	113.529	440.000		
6.814			6.814	6.814	5.269	118.784	430.000		
6.814			6.814	6.814	5.437	124.181	420.000		
6.814			6.814	6.814	5.609	129.720	410.000		
6.814			6.814	6.814	5.784	135.401	400.000		
6.814			6.814	6.814	5.962	141.224	390.000		
6.814			6.814	6.814	6.144	147.190	380.000		
6.814			6.814	6.814	6.329	153.309	370.000		
6.814			6.814	6.814	6.518	159.580	360.000		
6.814			6.814	6.814	6.711	166.013	350.000		
6.814			6.814	6.814	6.908	172.618	340.000		
6.814			6.814	6.814	7.109	179.395	330.000		
6.814			6.814	6.814	7.314	186.344	320.000		
6.814			6.814	6.814	7.523	193.465	310.000		
6.814			6.814	6.814	7.736	200.758	300.000		
6.814			6.814	6.814	7.953	208.223	290.000		
6.814			6.814	6.814	8.174	215.860	280.000		
6.814			6.814	6.814	8.400	223.660	270.000		
6.814			6.814	6.814	8.630	231.623	260.000		
6.814			6.814	6.814	8.864	239.750	250.000		
6.814			6.814	6.814	9.102	248.040	240.000		
6.814			6.814	6.814	9.344	256.494	230.000		
6.814			6.814	6.814	9.590	265.113	220.000		
6.814			6.814	6.814	9.840	273.897	210.000		
6.814			6.814	6.814	10.094	282.846	200.000		
6.814			6.814	6.814	10.352	291.960	190.000		
6.814			6.814	6.814	10.614	301.239	180.000		
6.814			6.814	6.814	10.880	310.683	170.000		
6.814			6.814	6.814	11.150	320.292	160.000		
6.814			6.814	6.814	11.424	330.066	150.000		
6.814			6.814	6.814	11.702	339.905	140.000		
6.814			6.814	6.814	11.984	349.809	130.000		
6.814			6.814	6.814	12.270	359.878	120.000		
6.814			6.814	6.814	12.560	370.112	110.000		
6.814			6.814	6.814	12.854	380.511	100.000		
6.814			6.814	6.814	13.152	391.075	90.000		
6.814			6.814	6.814	13.454	401.804	80.000		
6.814			6.814	6.814	13.760	412.698	70.000		
6.814			6.814	6.814	14.070	423.757	60.000		
6.814			6.814	6.814	14.384	434.981	50.000		
6.814			6.814	6.814	14.702	446.370	40.000		
6.814			6.814	6.814	15.024	457.924	30.000		
6.814			6.814	6.814	15.350	469.643	20.000		
6.814			6.814	6.814	15.680	481.527	10.000		
6.814			6.814	6.814	16.014	493.576	0.000		
6.814			6.814	6.814	16.352	505.790			
6.814			6.814	6.814	16.694	518.169			
6.814			6.814	6.814	17.040	530.713			
6.814			6.814	6.814	17.390	543.422			
6.814			6.814	6.814	17.744	556.296			
6.814			6.814	6.814	18.102	569.335			
6.814			6.814	6.814	18.464	582.539			
6.814			6.814	6.814	18.830	595.908			
6.814			6.814	6.814	19.200	609.442			
6.814			6.814	6.814	19.574	623.141			
6.814			6.814	6.814	19.952	637.005			
6.814			6.814	6.814	20.334	651.034			
6.814			6.814	6.814	20.720	665.228			
6.814			6.814	6.814	21.110	679.587			
6.814			6.814	6.814	21.504	694.111			
6.814			6.814	6.814	21.902	708.800			
6.814			6.814	6.814	22.304	723.654			
6.814			6.814	6.814	22.710	738.673			
6.814			6.814	6.814	23.120	753.857			
6.814			6.814	6.814	23.534	769.206			
6.814			6.814	6.814	23.952	784.720			
6.814			6.814	6.814	24.374	800.399			
6.814			6.814	6.814	24.800	816.243			
6.814			6.814	6.814	25.230	832.252			
6.814			6.814	6.814	25.664	848.426			
6.814			6.814	6.814	26.102	864.765			
6.814			6.814	6.814	26.544	881.269			
6.814			6.814	6.814	26.990	897.938			
6.814			6.814	6.814	27.440	914.772			
6.814			6.814	6.814	27.894	931.771			
6.814			6.814	6.814	28.352	948.935			
6.814			6.814	6.814	28.814	966.264		</	