

資 料

[資料]

資料-1：調査団員・氏名

(1) 現地調査団団員リスト

氏名	担当	所属先・職位
福田 義夫	総括	JICA 社会基盤・平和構築部 運輸交通・情報通信グループ 第一チーム 専任参事
中川 輝雄	業務主任／橋梁計画	セントラルコンサルタント (株)
藤村 淳	副業務主任／橋梁計画	セントラルコンサルタント (株)
関 康一郎	橋梁設計	(有) 丸重屋
安藤 茂	道路計画／道路設計	セントラルコンサルタント (株)
千葉 靖之	交通量調査／社会状況調査	セントラルコンサルタント (株)
亀海 泰子	環境社会配慮	(株) 建設技研インターナショナル
山中 亮	自然条件調査 (地形・地質)	(株) 中央建設コンサルタント
古川 潤一	自然条件調査 (気象・水理・水文)	セントラルコンサルタント (株)
青木 聡	施工計画／調達事情／積算	セントラルコンサルタント (株)
富山 潤	塩害対策アドバイザー	琉球大学

(2) 概略設計概要説明調査団団員リスト

氏名	担当	所属先・職位
福田 義夫	総括	JICA 社会基盤・平和構築部 運輸交通・情報通信グループ 第一チーム 専任参事
川崎 賢宏	計画管理	JICA 社会基盤・平和構築部 運輸交通・情報通信グループ 第一チーム
中川 輝雄	業務主任／橋梁計画	セントラルコンサルタント (株)
藤村 淳	副業務主任／橋梁計画	セントラルコンサルタント (株)

(2) 概略設計概要説明調査

日程			総括	計画管理	業務主任/橋梁計画	副業務主任/橋梁計画
			福田 義夫	川崎 賢宏	中川 輝雄	藤村 淳
1	12/3	土	羽田10:45 → ナディ08:10+1		成田18:30 → オークランド09:00+1	
2	12/4	日	ナディ14:00 → アピア17:50		オークランド15:50 → アピア20:45	
3	12/5	月	<ul style="list-style-type: none"> ・ 9:00 : JICAサモア支所表敬訪問 ・ 14:00 : LTAと協議 (概略設計概要説明及びミニッツ協議) ・ 15:00 : 大使館表敬訪問 			
4	12/6	火	ミニッツ協議 (LTA)			
5	12/7	水	ミニッツ協議 (LTA)			
6	12/8	木	ミニッツ協議 (LTA)			
7	12/9	金	<ul style="list-style-type: none"> ・ AM : ミニッツ署名 (LTA) ・ PM : JICAサモア支所および大使館へ報告 			
8	12/10	土	アピア07:25→ナディ08:20 ナディ09:20→香港14:50 香港16:20→羽田21:05		アピア15:30→ オークランド18:30	資料収集
9	12/11	日	/		オークランド09:55→ 成田16:45	資料整理
10	12/12	月			<ul style="list-style-type: none"> ・ 相手国側負担事項協議 ・ 現地調査 	
11	12/13	火			<ul style="list-style-type: none"> ・ 相手国側負担事項協議 ・ 現地調査 	
12	12/14	水			<ul style="list-style-type: none"> ・ 相手国側負担事項協議 ・ 現地調査 	
13	12/15	木			<ul style="list-style-type: none"> ・ 相手国側負担事項協議 ・ 現地調査 	
14	12/16	金			<ul style="list-style-type: none"> ・ JICAサモア支所報告 ・ 大使館報告 	
15	12/17	土			アピア15:30→ オークランド18:30	
16	12/18	日			オークランド09:55→ 成田16:45	

資料-3：関係者（面会者）リスト

〈サモア側〉

(1) 陸運局 (LAND TRANSPORT AUTHORITY : LTA)

Leasi Vainalepa Galuvao	Chief Executive Officer
Titi Tutuvanu Schwalge	Manager of Procurement and Programming Division
Maverick Wetzell	Manager of Project Management Division
Namulauulu Lamekeo	Manager of Road Operation Division
Mataafa Sepelini	Manager of Savai Operation Division
Jonathan Fong	Principal Procurement Engineer
Elisaia Kolia	Principal Engineer-Traffic Lights and Drainage
Bill Mawa	Principal Engineering Officer PPD
Meresaini Siasoi	Civil Engineer-Road Operation Division

(2) 自然資源環境省 (MINISTRY OF NATURAL RESOURCES & ENVIRONMENT : MNRE)

Suluimalo Amataga Penaia	Chief Executive Officer
Filomena Nelson	ACEO for the DISASTER MANAGEMENT OFFICE division
Anne Rasmussen	ACEO for the GLOBAL ENVIRONMENT FACILITY division
Fuatino Matatumua Leota	ACEO of Division of Environment & Conservation
Samantha Kwan	Marine Conservation Officer
Filisita Heather	ACEO of Land Management Division
Fetoloai Yandall Alama	ACEO PUMA (Planning and Urban Management Agency)
Jian Vun	Waterfront Development Project
Ferila Brown	Assistant Chief Executive Officer
Grace Malaga	Strategic Planning Officer

(3) 計画都市管理局 (PLANNING AND URBAN MANAGEMENT AGENCY : PUMA)

Fefoloai Yandall Alama	Assistant Chief Executive Officer
Jian Vun	Waterfront Development Project
Fenla Brown	EIA
Grace Malaga	

(4) 農水省 (MINISTRY OF AGRICULTURE AND FISHERIES : MAF)

Joyce Samuelu-Ah Leong	ACEO of Fisheries Division
------------------------	----------------------------

(5) 太平洋地域環境計画事務局 (SECRETARIAT OF THE PACIFIC REGIONAL ENVIRONMENT PROGRAMME : SPREP)

Audrey Brown-Pereira Executive Officer

(6) ニュージーランド ハイ コミッション (NEW ZEALAND HIGH COMMISSION)

Michael Upton First Secretary Development

Michael Rose Project Officer

<日本側>

(1) 日本大使館

澁田 一正 大使

(2) JICA サモア支所

鈴木 秀幸 支所長

伊禮 英全 支所長代理

中曾根 徹治 所員

資料-4：討議議事録（M/D）

(1) 現地調査時

**Minutes of Discussions
on the Preparatory Survey for the Project for
Reconstruction of Vaisigano Bridge**

In response to the request from the Government of the Independent State of Samoa (hereinafter referred to as "Samoa"), the Government of Japan decided to conduct a Preparatory Survey for the Project for Reconstruction of Vaisigano Bridge (hereinafter referred to as "the Project"), and entrusted the Preparatory Survey to Japan International Cooperation Agency (hereinafter referred to as "JICA").


JICA sent the Preparatory Survey Team for the Outline Design (hereinafter referred to as "the Team") to Samoa, headed by Yoshio FUKUDA, Senior Assistant Director, Team 1, Transportaion and ICT Group, Infrastructure and Peacebuilding Department of JICA, and is scheduled to stay in the country from June 5 to July 30, 2016.

The Team held a series of discussions with the officials concerned of the Government of Samoa and conducted a field survey in the Project area. In the course of the discussions, both sides have confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

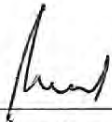
Apia, June 9, 2016




Mr. Yoshio Fukuda
Leader
Preparatory Survey Team
Japan International Cooperation Agency



Hon. Papaliitele Niko Lee Hang
Minister
Ministry of Works, Transport and
Infrastructure
Independent State of Samoa



Hon. Sili Epa Tuiofi
Minister
Ministry of Finance
Independent State of Samoa



Mr. Leasi Vainalepa Galuvao
Chief Executive Officer
Land Transport Authority
Independent State of Samoa

ATTACHEMENT

1. Objective of the Project

The objective of the Project is to recover the function of Vaisigano Bridge in the condition that large vehicle cannot pass by/through the reconstruction of Vaisigano Bridge, thereby contributing to the sustainable economic development of Samoa.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey for the Project for Reconstruction of Vaisigano Bridge”.

3. Project Site

Both sides confirmed that the site of the Project is an access point between Apia and eastern Upolu including Apia Port and domestic Fagali’i Airport, which is shown in Annex 1.

4. Responsible Minister and Executing Agency

Both sides confirmed the responsible Minister and executing agency as follows:

- 4-1. The responsible Minister is the Minister of the Ministry of Works, Transport and Infrastructure (MWTI).
- 4-2. The executing agency is Land Transport Authority (LTA). The executing agency shall coordinate with all the relevant agencies to ensure smooth implementation of the Project and ensure that the Undertakings are taken by relevant agencies properly and on time. The organization charts are shown in Annex 2.

5. Items requested by the Government of Samoa

- 5-1. As a result of discussions, both sides confirmed that the items requested by the Government of Samoa are as follows:
 - Reconstruction of Vaisigano Bridge including approach of the bridge
- 5-2. JICA will assess the appropriateness of the above requested items through the survey and will report findings to the Government of Japan. The final components of the Project would be decided by the Government of Japan.

6. Japanese Grant Scheme

- 6-1. The Samoa side understands the Japanese Grant Scheme and its procedures as described in Annex 3, Annex 4 and Annex 5, and necessary measures to be taken by the Government of Samoa.



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6-2. The Samoa side understands to take the necessary measures, as described in Annex 6, for smooth implementation of the Project, as a condition for the Japanese Grant to be implemented. The detailed contents of the Annex 6 will be worked out during the survey and shall be agreed no later than by the Explanation of the Draft Preparatory Survey Report.

The contents of Annex 6 will be used to determine the following:

- (1) The scope of the Project.
- (2) The timing of the Project implementation.
- (3) Timing and possibility of budget allocation.

Contents of Annex 6 will be updated as the Preparatory Survey progresses, and will finally be the Attachment to the Grant Agreement.

7. Schedule of the Survey

7-1. The Team will proceed with further survey in Samoa until 30 July, 2016.

7-2. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Samoa in order to explain its contents around December, 2016.

7-3. If the contents of the draft Preparatory Survey Report is accepted in principle and the Undertakings are fully agreed by the Samoa side, JICA will complete the final report in English and send it to Samoa around March, 2017.

7-4. The above schedule is tentative and subject to change.

8. Environmental and Social Considerations

8-1. The Samoa side confirmed to give due environmental and social considerations during implementation of the Project, and after completion of the Project, in accordance with the JICA Guidelines for Environmental and Social Considerations (April, 2010).

8-2. The Project is categorized as B because the Project is not located in a sensitive area, nor has it sensitive characteristics, nor falls it into sensitive sectors under the Guidelines, and its potential adverse impacts on the environment are not likely to be significant. The Samoa side confirmed to conduct the necessary procedures concerning the environmental assessment (including stakeholder meetings, Environmental Impact Assessment(EIA) /Initial Environmental Examination (IEE) and information disclosure,etc.) and make EIA/IEE report of the Project. The EIA/IEE approval shall be received from the responsible authorities and submitted to JICA by Dec. 2017.

8-3. For projects that will result in involuntary resettlement, the Samoan side confirmed to prepare a Resettlement Action Plan (RAP)/Abbreviated



Resettlement Action Plan (ARAP) and make it available to the public. In addition, the Samoan side confirmed to provide the affected people with sufficient compensation and/or support in accordance with RAP/ARAP, in a timely manner.

9. Operation and Maintenance

- 9-1. The Samoan side explained that the maintenance works on the target bridge would be conducted by LTA. The Samoa side will take every necessary action including securing enough budget and personnel for the operation and maintenance of the facilities implemented by the Project.
- 9-2. The Team explained to the Samoa side that overloaded trucks which exceed designed axle loads would cause early failure and shorter life. The Team also explained to the Samoa side that proper asset management will impact greatly on maintenance cost and lifespan.

10. Disclosure of Information

Both sides confirmed that the study results excluding the Project cost will be disclosed to the public after the completion of the Survey. All the study result including the Project cost will be disclosed to the public after the verification of all contracts for the Project by JICA are concluded.

11. Safety Measures

- 11-1. To avoid accidents on site during the implementation of the Project, the Samoa 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.
http://www.jica.go.jp/activities/schemes/oda_safety/ku57pq00001nz4eu-att/guidance_en.pdf
- 11-2. The Team recommended to the Samoa side to explain to the residents about the Project (necessity and significance, construction period, sites, impact etc.), so that consensus support can be obtained from them for the smooth implementation of the Project.

12. Misconduct

If JICA receives information related to suspected corrupt or fraudulent practices in the implementation of the Project, LTA and relevant organizations shall provide JICA



with additional such information as JICA may reasonably request, including information related to any concerned official of the government and/or public organizations in Samoa.

LTA and relevant organizations shall not, unfairly or unfavourably treat the person(s) and/or company which provided the information related to suspected corrupt or fraudulent practices in the implementation of the Project.

13. Other Relevant Issues

13-1. Provision of Conveniences to the Team by the Samoa side

The Samoa side shall, at its own expenses, provide the Team with the following items in collaboration with LTA and other organizations concerned:

- (1) Security-related information as well as measures to ensure the safety of the Team members;
- (2) Information as well as support in obtaining medical service;
- (3) Data and information related to the Preparatory Survey;
- (4) Traffic data including axle load records collected at the relevant weight stations;
- (5) Provision of office space for the Team;
- (6) Counterpart personnel from relevant authorities in the Samoa Government;
- (7) Entry permits necessary for the Team members including the sub-consultants to conduct field surveys; and
- (8) Coordinate and support in obtaining official permission, certificate and approval from the relevant government authorities when necessary.

13-2. Number of Traffic Lanes on New Vaisigano Bridge

The Team explained to the Samoa side that JICA will conduct the traffic survey and predict the traffic volume in the future in the survey, but the new bridge will be planned as a two-lane road. The Samoa side agreed about this.

13-3. Works entrusted to local company

Some works in the survey as topographic survey, geological survey and etc., will be entrusted to local company. These works are very important for implementation of the Survey from the point of survey schedule. The Samoa side promised to support the Survey team when necessary.

13-4.

Questionnaire

LTA shall answer to the Questionnaire submitted by the Team in English with



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relevant documents by 15 June.

Annex 1 Project Site

Annex 2 Organization Chart

Annex 3 Japanese Grant

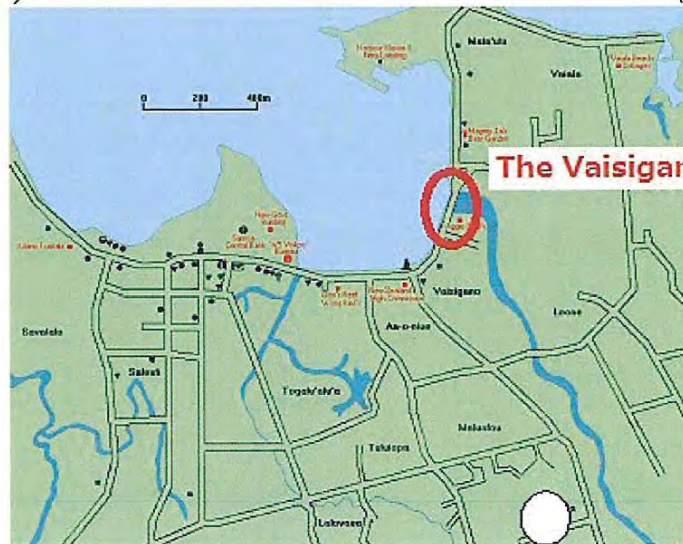
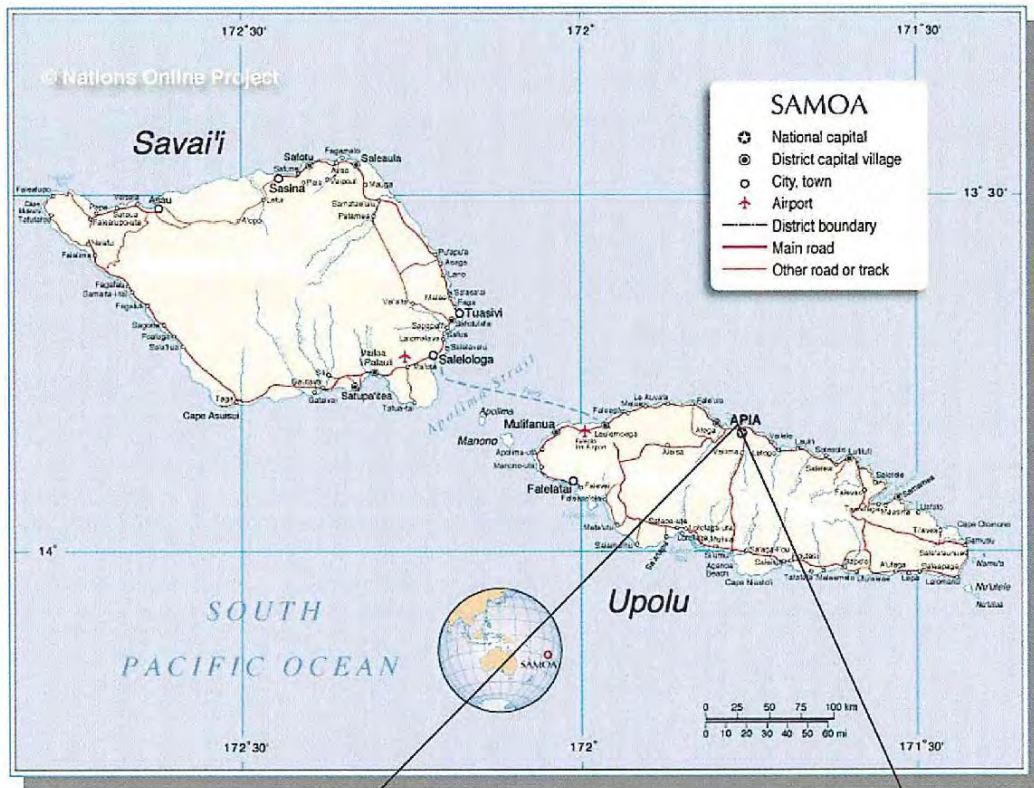
Annex 4 Flow Chart of Japanese Grant Procedures

Annex 5 Financial Flow of Japanese Grant

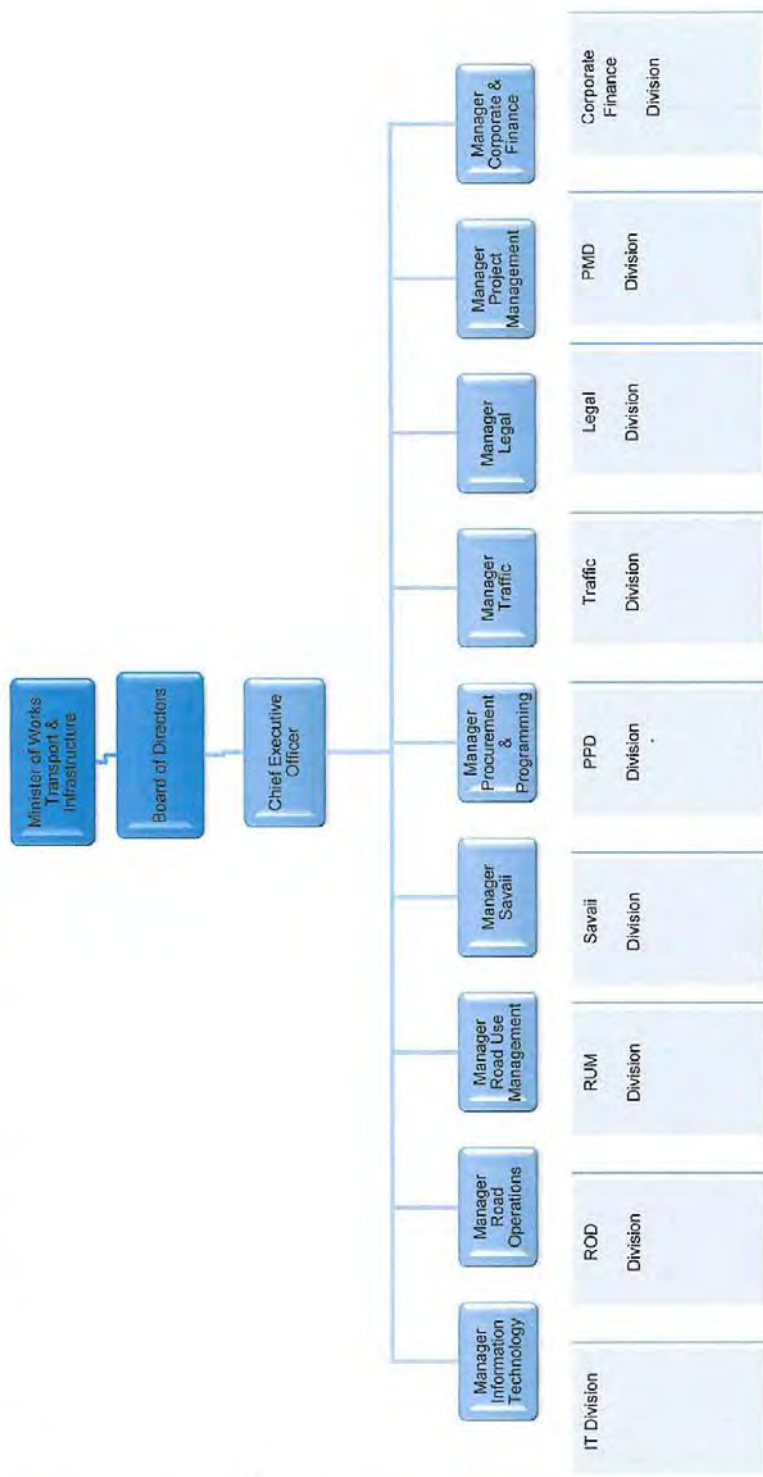
Annex 6 Major Undertakings to be taken by Each Government



Project Site



LAND TRANSPORT AUTHORITY ORGANISATIONAL STRUCTURE



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JAPANESE GRANT

The Japanese Grant (hereinafter referred to as the “Grant”) is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and 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. The Grant is not supplied through the donation of materials as such.

Based on a JICA law which was entered into effect on October 1, 2008 and the decision of the GOJ, JICA has become the executing agency of the Japanese Grant for Projects for construction of facilities, purchase of equipment, etc.

1. Grant Procedures

The Grant is supplied through following procedures :

- Preparatory Survey
 - The Survey conducted by JICA
- Appraisal & Approval
 - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
 - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as “the G/A”)
 - Agreement concluded between JICA and a recipient country
- Implementation
 - Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of 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 country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Scheme 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.

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

JICA requests the Government of the recipient country to take whatever 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 organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (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 appropriateness of the Project.

3. Japanese Grant Scheme

(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 country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles, in accordance with the E/N, to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) 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 country to continue to work on the Project's implementation after the E/N and G/A.

(3) Eligible source country

Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. The Grant may be used for the purchase of the products or services of a third country, if necessary, taking into account the quality, competitiveness and economic rationality of products and services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals", in principle.

(4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals, in principle. Those contracts shall be verified by JICA. This "Verification" is deemed necessary to fulfill accountability to Japanese taxpayers.

(5) Major undertakings to be taken by the Government of the Recipient Country

In the implementation of the Grant Project, the recipient country is required to undertake such necessary measures as Annex. The Japanese Government requests the Government of the recipient country to exempt all customs duties, internal taxes and other fiscal levies such as VAT, commercial tax, income tax, corporate tax, resident tax, fuel tax, but not limited, which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract, since the Grant fund comes from the Japanese taxpayers.

(6) "Proper Use"

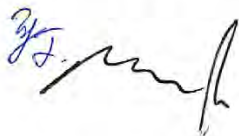
The Government of the recipient country is required to maintain and use properly and effectively the facilities constructed and the equipment purchased under the Grant, to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Grant.

(7) "Export and Re-export"

The products purchased under the Grant should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"), in principle. JICA will execute the Grant by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.



(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions paid to the Bank.

(10) Environmental and Social Considerations

The Government of the recipient country must carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the recipient country and JICA Guidelines for Environmental and Social Consideration (April, 2010) .

(11) Monitoring

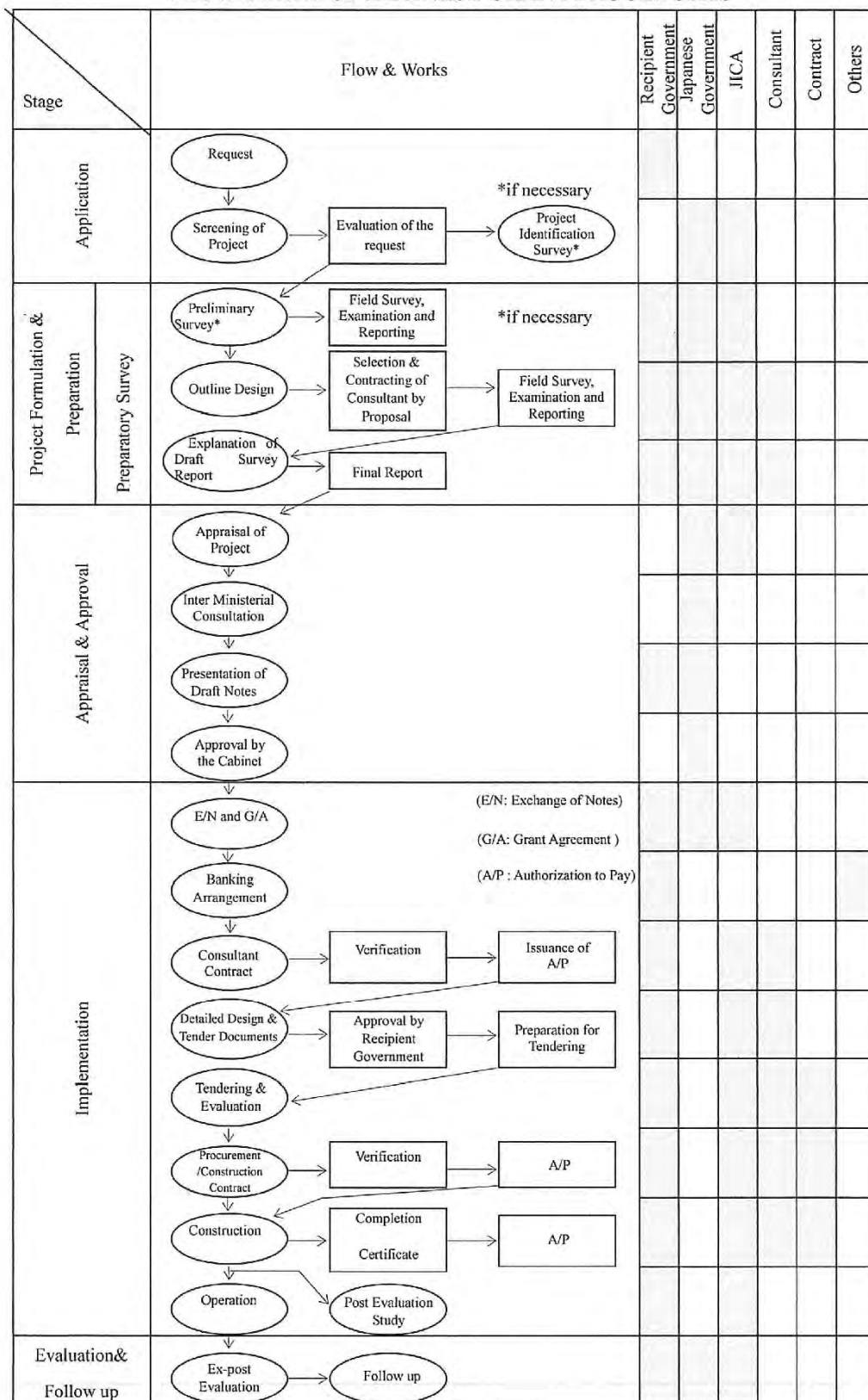
The Government of the recipient country must take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and must regularly report to JICA about its status by using the Project Monitoring Report (PMR).

(12) Safety Measures

The Government of the recipient country must ensure that the safety is highly observed during the implementation of the Project.

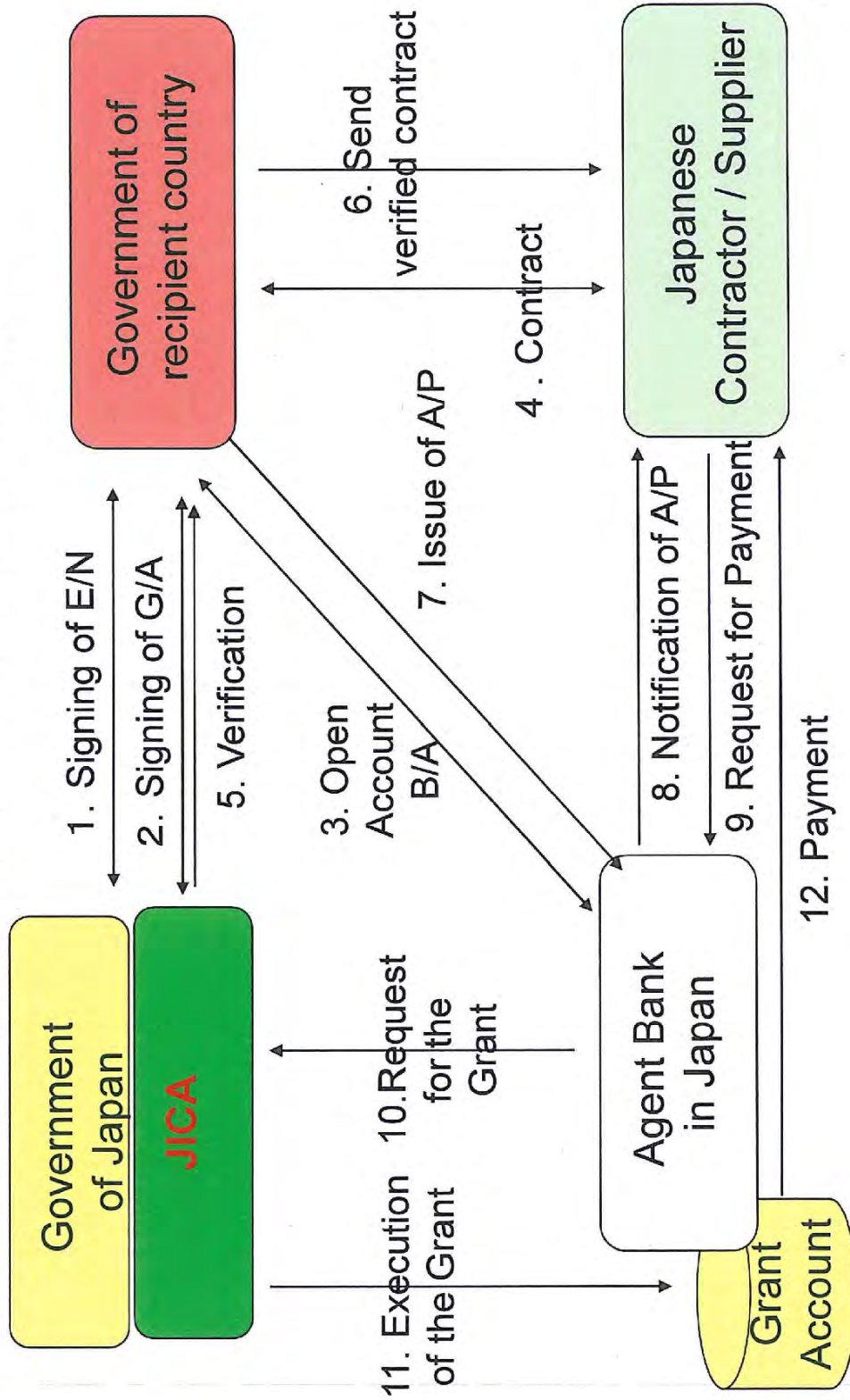


FLOW CHART OF JAPANESE GRANT PROCEDURES



Annex 5.

Financial Flow of Grant Aid (A/P Type)



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Annex 6.

Major Undertakings to be taken by Recipient Government

1. Before the Tender

NO	Items	Deadline	In charge	Cost	Ref.
1	To open Bank Account (Banking Arrangement (B/A))	within 1 month after G/A	LTA		
2	To approve IEE/EIA	within 1 month after G/A	LTA		
3	To implement EIA	before start of the construction	LTA		
4	To secure the following lands 1) right of way for Sta. **+***-Sta. **+*** 2) project sites (****m ² for each) for *****, ***, *****, ***** 3) temporary construction yard and stock yard near the Project area 4) borrow pit and disposal site near the Project area	before notice of the tender document	LTA		
5	To clear, level and reclaim the following sites 1) remove utilities (** power poles and power distribution for Sta. **+***-Sta. **+***, total *** meter water pipes, *** meter optical fiber cable) 2) existing facilities (* signboards at Wienneba junction, * warehouses and * trees at Sta. **+****) 3) leveling and reclaiming the sites (****m ² for each) for *****, ***, *****, *****	before notice of the tender document	LTA		
6	To obtain the planning, zoning, building permit	before notice of the tender document	LTA		
7	To submit the result of DD	end of DD	LTA		

2. During the Project Implementation

NO	Items	Deadline	In charge	Cost	Ref.
1	To bear the following commissions to a bank of Japan for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract	LTA		
	2) Payment commission for A/P	every payment	MOF		
2	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country				
	1) Tax exemption and customs clearance of the products at the port of disembarkation	during the Project	LTA		
	2) Internal transportation from the port of disembarkation to the project site	during the Project			

3	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work	during the Project			
4	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 [(※免税方式の場合) be exempted/ (※先方政府負担 (予算措置) 方式の場合) be borne by its designated authority without using the Grant]; Such customs duties, internal taxes and other fiscal levies mentioned above include VAT, commercial tax, income tax and corporate tax of Japanese nationals, resident tax, fuel tax, but not limited, which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract	during the Project			
5	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment	during the Project			
6	To submit Project Monitoring Report.	every month	LTA		MD
7	To construct access roads				
	1) Outside the site	3 months before completion of the construction			
8	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities				
	1) Electricity The distributing line to the site	before start of the construction			
	2) Water Supply The city water distribution main to the site	6 months before completion of the construction			
	3) Drainage The city drainage main (for storm, sewer and others) to the site	6 months before completion of the construction			

	4) Furniture and Equipment General furniture	1 month before completion of the construction			
9	To implement EMP and EMoP	during the construction			
	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			
	To implement RAP (livelihood restoration program, if needed)	for a period based on livelihood restoration program			
	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 実施機関名 and JICA.	- until the end of livelihood restoration program (In case that livelihood restoration program is provided) - for two years after land acquisition and resettlement complete (In case that livelihood restoration program is not provided)			

3. After the Project

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

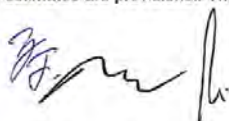
(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)




Major Undertakings to be covered by the Japanese Grant

No	Items	Deadline	Cost Estimated (Million Japanese Yen)*	
1	To construct roads/bridges (or To procure equipment)		XX.XX	
	- Improvement of roads			
	1) To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country			
	a) Marine(Air) transportation of the products from Japan to the recipient country			
	b) Internal transportation from the port of disembarkation to the project site			
以下、個別案件ごとに判断。				
2)	To construct access roads			
	a) Within the site			
	3) To construct the temporary building			
	4) To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities			
	a) Electricity			
	- The drop wiring and internal wiring within the site			
	- The main circuit breaker and transformer			
	b) Water Supply			
	- The supply system within the site (receiving and/or elevated tanks)			
	c) Drainage			
	- The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site			
	d) Furniture and Equipment			
	- Project equipment			
2	To implement detailed design, tender support and construction supervision (Consultant)		YY.YY	
3	Contingencies		ww.ww	
	Total		ZZ.ZZ	

*; The cost estimates are provisional. This is subject to the approval of the Government of Japan.



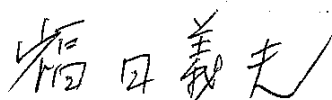

(2) 概略設計概要説明時

Minutes of Discussions
on the Preparatory Survey for the Project for
Reconstruction of Vaisigano Bridge
(Explanation on Draft Preparatory Survey Report)

With reference to the Minutes of Discussions signed between the Land Transport Authority and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on June 9, 2016 and in response to the request from the Government of the Independent State of Samoa (hereinafter referred to as " Samoa ") dated April 10, 2015, JICA dispatched 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") for the Project for Reconstruction of Vaisigano Bridge (hereinafter referred to as "the Project"), headed by Yoshio FUKUDA, Senior Assistant Director, Team 1, Transportaion and ICT Group, Infrastructure and Peacebuilding Department of JICA from December 4 to 10, 2016.

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

Apia, December 8, 2016



Mr. Yoshio FUKUDA
 Leader
 Preparatory Survey Team
 Japan International Cooperation Agency
 Japan



Mr. Leasi Vainalepa Galuvao
 Chief Exective Officer
 Land Transport Authority
 Independent State of Samoa

ATTACHEMENT

1. Responsible authority for the Project

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

- 1-1. The responsible Minister is the Minister of the Ministry of Works, Transport and Infrastructure (MWTI).
- 1-2. The Land Transport Authority (LTA) will be the executing agency for the Project (hereinafter referred to as “the Executing Agency”). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be taken care by relevant authorities properly and on time.

2. Contents of the Draft Report

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

3. Cost estimate

Both sides confirmed that the cost estimate including the contingency described in the Annex 2 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.

4. Confidentiality of the cost estimate and technical specifications

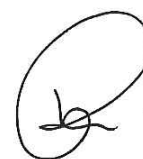
Both sides confirmed that the cost estimate and technical specifications in the Draft Report should never be duplicated or disclosed to any third parties until all the contracts under the Project are concluded.

5. Timeline for the project implementation

The Team explained to the Samoa side that the expected timeline for the project implementation is as attached in Annex 1.

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 Samoa side will be responsible for the achievement of agreed key indicators targeted in



year 2023 and shall monitor the progress based on those indicators.

[Quantitative indicators]

Index	Base Figure (Actual figures of 2016)	Target Figure (2023) (3 years after completion)
Daily Average Total Traffic Volume	15,490 (18,839)	17,300
Daily Average Cargo Traffic Volume	563	580
Travel time between Apia port and Bitele Indusurial Estate(min.)	16.2	13
Annual Number of Passengers Passing through the Bridge (person)	15,630,000	16,330,000
Annual Volume of Cargo Passing through the Bridge (t)	300,000	320,000

Basic Figures are based on the traffic which is reduced the esteemed detoured traffic from the actual observed traffic.

[Qualitative indicators]

- Benefit for citizen by travel time reduction
- Improvement for disaster risks
- Increase of bridge capacity for maximum load

7. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 2, and the use of it as an attachment of G/A.

- (1) With regard to exemption of customs duties, LTA will submit the master list of imported materials and equipment prepared by the contractor to Ministry for Revenue, and receives the approval for tax exemption.
- (2) With regard to VAGST (Value Added Goods & Services Tax), LTA supports to ensure that Ministry for Revenue provides tax exemption (refund system).
- (3) The Samoa side assured to take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project. It is further agreed that the costs are indicative, i.e. at outline design level. More accurate costs will be calculated at the detailed design stage.
- (4) Detailed Undertakings is attached as Annex 7 and Annex 8.
- (5) First stage relocation of fuel pipe and communication cables described in Annex

7 is undertaken by LTA before notice of the tender document.

- (6) Removal or relocation of overhead electric line and poles described in Annex 7 is undertaken by LTA before the start of the construction.
- (7) Procurement of materials for relocation of water pipe described in Annex 7 is undertaken by LTA before the start of the relocation works.
- (8) Procurement of materials for second stage relocation of fuel pipe and communication cables described in Annex 7 is undertaken by LTA before the start of the relocation works.
- (9) Even though the relocation works (i.e. relocation of water pipe, and second stage relocation of fuel pipe and communication cables) except procurement of materials are undertaken by the grant, the contractor is not responsible for any defects liability to the relocation works after taking over.

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 3. The timing of submission of the PMR is every month during the construction period.

9. Project completion

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

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, Sustainability). The result of the evaluation will be publicized. The Samoa 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

Both sides confirmed the items and measures to be considered for the smooth implementation of the Project as follows and in Annex 2:

- Provision and ground leveling of temporary construction yard and stock yard,
- Provision of borrow pit and quarry site,



- Provision of disposal site,
- Provision of waste dumping site,
- Land transfer,
- Relocation of fuel pipe, water pipe, communication cables, and overhead electric line and pole,
- Environment process,
- Tax exemption and refund, and
- Acquisition of various permission for the construction.

12. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Samoa side around April 2017.

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 4. Both sides confirmed that in case of major modification of the content of the Environmental Checklist, the Samoa side shall submit the modified version to JICA in a timely manner.

13-2 Environmental Issues

13-2-1 Environmental Impact Assessment (EIA)

Both sides confirmed the EIA report will be approved by the Ministry of Natural Resources and Environment in March 2017.

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




Both sides confirmed Environmental Management Plan will be prepared in EIA, and Environmental Monitoring Plan (EMoP) of the Project is as Annex 5. 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 that there is no land acquisition and resettlement in the Project.

13-4 Environmental and Social Monitoring

13-4-1 Environmental Monitoring

Both sides agreed that the Samoa side will submit results of environmental monitoring to JICA with PMR by using the monitoring form attached as Annex 6.

13-4-2 Information Disclosure of Monitoring Results

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

The Samoa side agreed JICA will disclose results of environmental and social monitoring submitted by the Samoa side as the monitoring forms attached as Annex 6 on its website.

14. Other Relevant Issues

14-1. 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.

14-2. Number of Traffic Lanes on New Vaisigano Bridge

The Samoa side agreed the result of survey that a two-lane road has capacity for predicted future traffic volume and then has been planed for the Project.

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 Samoa side will take proper measure for this issue. The Samoa side understood this and explained that the use of large cargo vehicle might be prohibited for the Vaisigano bridge.

14-4. Demolish of the Existing Bridge

The existing bridge will be demolished by the Japan side to avoid negative effect of the work for the new bridge.

14-5. Safety Measure

To avoid accidents on site during the implementation of the Project, the Samoa side agreed to cause the consultant and the contractor and 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 Project Implementation Schedule

Annex 2 Major Undertakings to be taken

Annex 3 Project Monitoring Report (template)

Annex 4 Environmental Check List

Annex 5 Environmental Monitoring Plan

Annex 6 Environmental and Social Monitoring Form

Annex 7 Detailed Undertakings

Annex 8 Main O&M items and expenses



Annex1 Project Implementation Schedule

Yr.	2016					2017					2018					2019					2020																
Mo	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Detailed Design	Apr																																				
	May																																				
Construction / Procurement	Nov																																				
	Major Undertakings to be taken by Samoan Government	Nov																																			

Annex 2.

Major Undertakings to be taken by Recipient Government

1. Before the Tender

NO	Items	Deadline	In charge	Cost (Thousand WST)	Ref.
1	To open Bank Account (B/A)	within 1 month after the signing of the G/A	MOF		
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the G/A	MOF		
3	To approve EIA and secure the necessary budget for implementation	March 2017	MNRE / LTA		
4	To secure the following lands 1) Temporary yard for site office, materials, equipment and girder production (10,000 m ² or more) 2) Borrow pit and quarry site 3) Disposal site and waste dumping site 4) Project site for the construction of new access roads and coastal embankments by shifting the bridge location	before notice of the tender document	LTA	291 *	
5	To relocate the following utilities 1) Fuel pipe (temporary relocation for A1 abutment construction, length 16 m) 2) Communication cables (temporary relocation for A1 abutment construction, length 16 m Blue-sky and 16 m CSL)	before notice of the tender document	LTA	304 **	
6	To obtain the planning, zoning, building permit	before notice of the tender document	LTA		
7	To submit Project Monitoring Report (with the result of Detailed Design)	before preparation of bidding documents	LTA		

* Cost for Item of 2.13 included.

** Cost for Item of 2.15 included.

2. During the Project Implementation

NO	Items	Deadline	In charge	Cost (Thousand WST)	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	MOF		

2	To bear the following commissions to a bank of Japan for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract	LTA		
	2) Payment commission for A/P	every payment	MOF	206	
3	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country and to assist the Supplier(s) with internal transportation therein	during the Project	LTA		
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	LTA		
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 the services be exempted or be borne by its designated authority without using the Grant.	during the Project	LTA / MoF / MoR	1,640	
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	LTA		
7	1) To submit Project Monitoring Report.	every month	LTA		MD
	2) To submit Project Monitoring Report(Final)	within one month after signing of Certificate of Completion for the works under the contract(s)	LTA		
8	To submit a report concerning completion of the Project	within six months after completion of the Project	LTA		
9	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities necessary for the temporary construction yard and stock yard				
	1) Electricity	before start of the construction	LTA		
	2) Water Supply	before start of the construction	LTA		
	3) Drainage	before start of the construction	LTA		
10	To implement EMP and EMOF	during the construction	LTA/ Contractor		
11	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	LTA		
12	To secure the following lands	Before start of the demolition work	LTA	***	
	1) Temporary yard for demolition work of the existing bridge (900 m ² or more)				
13	To remove the following utilities	At the start of the construction	LTA	1	
	1) Overhead electric line and pole (remove or temporary relocation, length 309 m)				
14	To prepare the following utilities	Before the bridge surface work and the earthwork	LTA	****	
	1) Fuel pipe (from the existing bridge to the new bridge, length 336 m)				
	2) Water pipe (from the existing bridge to the new bridge, length 168 m)				
	3) Communication cables (from the existing bridge to the new bridge, length 277 m Blue-sky and 348 m CSL))				

*** Cost for Item of 2.13 included in 1.4.

**** Cost for item of 2.15 included in 1.5.

3. After the Project

NO	Items	Deadline	In charge	Cost	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid (as shown in attached Annex 8) 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction	LTA	48.1 thousand WST per a year	
2	To implement EMP and EMOF	for a period based on EMP and EMOF	LTA		
	To submit results of environmental monitoring to JICA, by using the monitoring form, semiannually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between LTA and JICA.	for three years after the Project	LTA		

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

Major Undertakings to be covered by the Japanese Grant

CONFIDENTIAL

yz

(Signature)

Annex 3 Form of Project Monitoring Report (PMR)

<p><u>Project Monitoring Report</u> on <u>Project Name</u> Grant Agreement No. <u>XXXXXXX</u> 20XX, Month</p>

Organizational Information

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

General Information:

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

1: Project Description

1-1 Project Objective

--

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

--

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).

<i>(PMR)</i>

2-3 Implementation Schedule

Items	Original		Actual
	(proposed in the outline design)	(at the time of signing the Grant Agreement)	

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

--

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

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

2-5-2 Cost borne by the Recipient

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

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

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

(PMR)

2-6 Executing Agency

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

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

2-7 Environmental and Social Impacts

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

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

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

Original (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

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

	Contingency Plan (if applicable):
Actual Situation and Countermeasures (PMR)	

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

5-1 Overall evaluation

Please describe your overall evaluation on the project.

--

5-2 Lessons Learnt and Recommendations

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.

--

2/1

6.

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)



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 (Increased) F=C+D
Item 1	●●t	●	●	●	●
Item 2	●●t	●	●	●	
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%)	

Annex 4 Environmental checklist

Category	Environmental Item	Main Checkpoints	Yes: Y No: N	Specific Environmental and Social Considerations (Reason for Yes or No, rationale, mitigation measures, etc.)
1 Approvals, explanations	(1) EIA and environmental approvals	(a) Have environmental assessment reports (EIA Report, etc.) been created? (b) Has the EIA Report, etc. been approved by the government of the relevant country? (c) Does approval for the EIA Report, etc. have attached conditions? If there are attached conditions, have those conditions been met? (d) Apart from the above, have environmental approvals been obtained from local governing agencies if required?	(a) N (b) N (c) N (d) N	(a) An EIA Report is required, and it will be submitted by December 2016. The approval will be expected to issue by March 2017. (b) It is not approved yet. (c) Before EIA approval, PUMA may make comments on the material if deemed necessary. (d) No permissions or approval other than the above are required.
	(2) Explanation for local stakeholders	(a) Has an appropriate explanation of the Project content and impacts been given to local stakeholders with full disclosure, and has their agreement been obtained? (b) Have resident and stakeholder comments been reflected in the Project details?	(a) Y (b) Y	(a) Consultations with the stakeholders in and near the project site were held several times. The attendees were positive to the project. (b) Upon consulting with the hotel near the Project Site, the management had opinions on ensuring safety for the approach road to the hotel and on road drainage. Measures for these items have been integrated into the design.
	(3) Alternative plan analysis	(a) Have multiple alternative plans for the Project been analyzed? (Including analysis of items related to the environment/society.)	(a) Y	(a) Road alignments, bridge height, construction methods, and other items have been analyzed. Which methods are most cost-effective and with the least environmental and social impacts was selected and the concerning people showed understanding.

Category	Environmental Item	Main Checkpoints	Yes: Y No: N	Specific Environmental and Social Considerations (Reason for Yes or No, rationale, mitigation measures, etc.)
2 Pollution Measures	(1) Air pollution	(a) Is there an impact from air pollutants emitted by travelling vehicles, etc.? Is there compliance with the environmental standards of the relevant country? (b) If air pollution in the area near the route already exceeds environmental standards, will the Project further exacerbate air pollution? Will anti-pollution measures be taken?	(a) N (b) N	(a) During construction, the dust and exhaust gas by the construction vehicles will be generated. The water sprinkling and appropriate operation can minimize these impacts. Samoa has no environmental standard, but the environment is controlled in acceptable level and it may meet the standard of Japan as well. During operation, the reductions in traffic congestion can be expected to reduce cumulative emissions. Additionally, the shift of the bridge location toward the seaside will reduce the direct impact of vehicles to the premises near the road. (b) Samoa has no environmental standard, equipment and experience of measurement of air quality. However, the air quality will keep the acceptable quality ensured by above discussion.
	(2) Water quality	(a) Will the water quality in the areas downstream decline due to soil runoff from exposed surface soil in landfilled areas and areas where earth was cut? (b) Will the Project impact water sources such as wells in the surrounding area?	(a) N (b) N	(a) While there is no work that would result in soil runoff, riverwork and shorework may generate turbid water. (b) There is no work that will affect groundwater or water sources.
	(3) Noise and vibration	(a) Is the level of noise and vibration from railways and traveling vehicles in compliance with the standards of the relevant country? (b) Is the level of low-frequency sound from railways and traveling vehicles in compliance with the standards of the relevant country?	(a) N/A (b) N/A	(a)(b) Samoa has its own noise standards, but there are no vibration and low-frequency sound standards. The bridge will shift 20m farther from present location and the effect of the noise and vibration by traffic will be improved. The level can meet the international standard such as Japanese environmental standards.
	(1) Protected areas	(a) Is the site located within a protected area as stipulated by the laws of the relevant country and international treaties? Does the Project impact protected areas?	(a) N	(a) There are no protected areas within the Project Site.

Category	Environmental Item	Main Checkpoints	Yes: Y No: N	Specific Environmental and Social Considerations (Reason for Yes or No, rationale, mitigation measures, etc.)
3 natural environment	(2) Ecosystems	<p>(a) Does the site include virgin forests, tropical old-growth forests, or important ecological habitats (coral reef, mangrove swamps, mudflats, etc.)?</p> <p>(b) Does the site include habitats for rare species that must be protected according to the laws of the relevant country or international treaties?</p> <p>(c) If a significant impact on the ecosystem is a concern, have measures been taken to mitigate the impact?</p> <p>(d) Have measures been taken in regard to blockage of movement paths for wild animals and livestock, and to division of habitats?</p> <p>(e) Will the construction of the bridge/road cause deforestation and poaching that accompanies development, desertification, and/or dried swamps, etc? Is there a risk of disturbing the ecosystem due to an introduction of pests or non-native species (those not naturally inhabiting the region)? Have countermeasures for this been prepared?</p>	<p>(a) N</p> <p>(b) N</p> <p>(c) N</p> <p>(d) Y</p> <p>(e) N</p>	<p>(a) The site does not contain any virgin forests, tropical old-growth forests, or important ecological habitats (coral reef, mangrove swamps, mudflats, etc.).</p> <p>(b) No habitats for any rare species are present in the site.</p> <p>(c) No major concerns.</p> <p>(d) There will be no blockage of movement paths for wild animals and livestock or division of habitats.</p> <p>(e) Given that the Project is for reconstruction of a pre-existing bridge, the Project will not have any new additional impact.</p>
	(3) Hydrology	<p>(a) Will the flow of surface water or ground water be adversely impacted by changes in the river system caused by the placement of structures?</p> <p>(b) Are there places with poor soil quality on the route where slope failure or landslides may occur? If so, has proper action been taken through construction methods, etc.?</p> <p>(c) Will slope failure or landslides occur due to civil engineering work such as landfilling or earth cutting? Have appropriate measures been taken to prevent slope failure and landslides?</p> <p>(d) Will soil runoff occur in areas of landfilling, earth cutting, soil disposal, and/or soil extraction? Have appropriate measures been taken to prevent soil runoff?</p>	<p>(a) N</p> <p>(b) N</p> <p>(c) N</p>	<p>(a) The bridge is being designed to improve river flow compared with the existing bridge.</p> <p>(b) There are no areas with poor soil quality.</p> <p>(c) None of the included work would cause soil failure or landslides.</p> <p>(d) As soil will be extracted from a PUMA-approved, managed borrow pit, there are no concerns of soil runoff in the borrow pit. Soil disposal should be minimal, and impact is expected to be limited.</p>
(4) Topography and geology	<p>(a) Will the flow of surface water or ground water be adversely impacted by changes in the river system caused by the placement of structures?</p> <p>(b) Are there places with poor soil quality on the route where slope failure or landslides may occur? If so, has proper action been taken through construction methods, etc.?</p> <p>(c) Will slope failure or landslides occur due to civil engineering work such as landfilling or earth cutting? Have appropriate measures been taken to prevent slope failure and landslides?</p> <p>(d) Will soil runoff occur in areas of landfilling, earth cutting, soil disposal, and/or soil extraction? Have appropriate measures been taken to prevent soil runoff?</p>	<p>(a) N</p> <p>(b) N</p> <p>(c) N</p>	<p>(a) The bridge is being designed to improve river flow compared with the existing bridge.</p> <p>(b) There are no areas with poor soil quality.</p> <p>(c) None of the included work would cause soil failure or landslides.</p> <p>(d) As soil will be extracted from a PUMA-approved, managed borrow pit, there are no concerns of soil runoff in the borrow pit. Soil disposal should be minimal, and impact is expected to be limited.</p>	

Category	Environmental Item	Main Checkpoints	Yes: Y No : N	Specific Environmental and Social Considerations (Reason for Yes or No, rationale, mitigation measures, etc.)
	(1) Resettlement	<p>(a) Will there be any involuntary resettlement that accompanies project implementation? If so, have efforts been made to minimize the impact of resettlement?</p> <p>(b) Have proper explanations regarding compensation and livelihood reconstruction measures been given to residents prior to resettlement?</p> <p>(c) Has a study been conducted for resettlement with a plan including compensation for replacement costs and recovery of local infrastructure?</p> <p>(d) Will payment of compensation be made prior to resettlement?</p> <p>(e) Has a document for compensation policies been drafted?</p> <p>(f) Does the plan for resettlement include proper consideration for social vulnerable persons such as women, children, the elderly, the poor, and ethnic minorities/indigenous peoples?</p> <p>(g) Will an agreement regarding resettlement be reached prior to resettlement?</p> <p>(h) Is there a system in place for the appropriate implementation of resettlement? Are implementation capacity and budgetary provisions sufficient?</p> <p>(i) Is there a plan for monitoring the effects of resettlement?</p> <p>(j) Has a system been created for processing complaints?</p>	<p>(a) N</p> <p>(b) N/A</p> <p>(c) N/A</p> <p>(d) N/A</p> <p>(e) N/A</p> <p>(f) N/A</p> <p>(g) N/A</p> <p>(h) N/A</p> <p>(i) N/A</p> <p>(j) N/A</p>	<p>(a) There will be no involuntary settlement, meaning that questions (b)-(j) are not applicable.</p>

Category	Environmental Item	Main Checkpoints	Yes: Y No: N	Specific Environmental and Social Considerations (Reason for Yes or No, rationale, mitigation measures, etc.)
4.Social Environment	(2) Lives and livelihoods	<p>(a) If a bridge/access road is built for new development, will there be an impact on existing means of transportation and the residents using those means? Will there be large changes in land usage/ livelihood means, and/or loss of employment? Does the plan give consideration to mitigating these impacts?</p> <p>(b) Will the lives of other residents be adversely impacted by the Project? Will consideration be given to mitigating these impacts if necessary?</p> <p>(c) Is there a risk of disease outbreaks (including infectious diseases such as HIV) from the population influx from other regions? Will considerations for appropriate public health measures be made according to need?</p> <p>(d) Will road traffic in the surrounding areas be negatively impacted by the Project? (congestion, increase in accidents, etc)</p> <p>(e) Will this hinder the movement of residents?</p> <p>(f) Will overpasses, etc. block sunlight or cause electromagnetic wave interference?</p>	<p>(a) N</p> <p>(b) N</p> <p>(c) N</p> <p>(d) N</p> <p>(e) N</p> <p>(f) N</p>	<p>(a) The Project is a bridge reconstruction and cannot be considered new development. The bridge should improve existing means of transportation and resident life and should not have any negative impact.</p> <p>(b) The access of sidewalk during construction is ensured and it will be recreated after construction. The people living in the area does not use river water for washing. The local fishery activity does not exist. The disturbance to the residents is not expected.</p> <p>(c) Impacts from population influx will be limited to the construction period.</p> <p>(d) The Project should help to improve road traffic.</p> <p>(e) The temporal disturbance to traffic is expected during construction but the measures for mitigation is taken such as signboard and guiding person.</p> <p>(f) There should be no such impediments. The new bridge will be only 1.5 m higher than the existing bridge and shifted to a location farther seaward than the existing bridge.</p>
	(3) Cultural heritage	(a) Does the Project present a risk of damaging anthropological, historical, cultural, religiously important heritages or historical remains? Have measures stipulated by the domestic laws of the relevant country been considered?	(a) N	(a) No anthropological, historical, cultural, religiously important heritages or historical remains have been identified in the Project Site.
	(4) Landscape	(a) If there are any landscapes that should be especially considered, will they be adversely impacted? If so, will necessary measures be taken?	(a) Y	(a) There is a promenade on the road before and after the bridge. This promenade will be shifted, with its current form kept nearly intact.

Category	Environmental Item	Main Checkpoints	Yes: Y No: N	Specific Environmental and Social Considerations (Reason for Yes or No, rationale, mitigation measures, etc.)
	(5) Ethnic minorities and indigenous peoples	<p>(a) Have considerations been made to lessen the impact on the culture and lifestyles of ethnic minority groups and indigenous people of the relevant country?</p> <p>(b) Will the rights regarding land and resources of ethnic minorities and indigenous peoples be respected?</p>	(a) N/A (b) N/A	(a)(b) There are no ethnic minorities or indigenous peoples living near the Project Site.
(6) Working conditions		<p>(a) Are laws pertaining to working conditions in the relevant country being observed for the Project?</p> <p>(b) Are the physical aspects of safety for people working on the Project being considered? (These may include installing safety equipment to prevent work-related accidents and management of toxic substances.)</p> <p>(c) Are the non-physical aspects of safety for people working on the project being planned and implemented? (These may include formulating a plan for safety/health and conducting safety education including traffic safety and public health.)</p> <p>(d) Will appropriate measures be taken to ensure that Project security personnel do not compromise the safety of people working on the Project or residents of the area?</p>	(a) Y (b) Y (c) Y (d) Y	<p>(a) Adherence to laws concerning working conditions will be made explicit in contracts with contractors and managed.</p> <p>(b) To be managed with an Environmental Management Plan (EMP).</p> <p>(c) To be managed with an EMP.</p> <p>(d) To be managed with an EMP.</p>
5 Other	(1) Confirm impacts during construction	<p>(a) Will mitigation measures be prepared for pollution during construction? (noise, vibration, turbid water, dust, gas emissions, waste, etc.)</p> <p>(b) Will the natural environment (ecosystem) be adversely impacted by construction work? Will mitigation measures be prepared for these impacts? Will mitigation measures be prepared for these impacts?</p> <p>(c) Will the social environment be adversely impacted by construction work? Will mitigation measures be prepared for these impacts?</p>	(a) Y (b) Y (c) Y	<p>(a) Mitigation measures will be prepared for managing all noise, vibration, turbid water, dust, gas emissions, and waste discharged from the work site, including work methods. Implementation details will be listed in the EMP.</p> <p>(b) The project site is located in the urban area, and the notable ecosystem is not observed. The biota in the bay has limited diversity due to polluted condition. The impact by the construction is not significant.</p> <p>(c) More vehicles may access the work site and there may be a shift in detour routes. Impact will be minimized by informing the local residents.</p>

Category	Environmental Item	Main Checkpoints	Yes: Y No: N	Specific Environmental and Social Considerations (Reason for Yes or No, rationale, mitigation measures, etc.)
	(2) Monitoring	(a) Will monitoring for the employer be planned and conducted for environmental items that may have an impact from among those listed above? (b) In what way will the items of the relevant plan, along with methods and frequencies, etc. be stipulated? (c) Will a monitoring system for the employer be established? (including organization, personnel, equipment, budget, etc., and the continuity of these items) (d) Has the method and frequency, etc. for reporting from the employer to the governing agencies been defined?	(a) Y (b) Y (c) Y (d) Y	(a) An EMP will be drafted, and contractors will adhere to the EMP under LTA supervision. (b) The impacts are only expected during construction period and the monitoring items, method, frequency, etc are determined in accordance with construction method in EMP. (c) The monitoring during construction is conducted by the contractor and LTA supervises it. The necessary equipment is included in budget. (d) To be stipulated in the EMP.
6 Focal points	Referencing other environmental checklists	(a) If necessary, relevant items from other checklists pertaining to roads, railways, and forestry may be added to this list and assessed. (For large-scale deforestation, etc.) (b) If necessary, relevant items from other checklists pertaining to the transmission, transformation, and distribution of electricity may be added to this list and assessed. (For constructing facilities for the transmission, transformation, and distribution of electricity, etc.)	(a) N/A (b) N/A	(a) None (b) None
	Precautions when using the environmental checklist	(a) If necessary, trans-boundary problems or impacts on global climate change may be checked. (For example, trans-boundary waste disposal, acid rain, depletion of the ozone layer, factors contributing to global warming, etc.)	(a) N/A	(a) None

Annex 5 Environmental Monitoring plan (work in progress)

Impacts	Item	Monitoring Method	Location	Frequency	Responsibility
Air pollution	Dust	Visual	Around work site	Daily	Contractor
Noise	Noise	Equipment measurement	Border with neighboring facilities	Daily throughout the construction period	Contractor
Water pollution	Turbidity	Visual	Point of wastewater influx	Daily during earthwork Weekly outside of earthwork	Contractor
	Water quality	pH, EC, COD, turbidity, oil content	Point of wastewater influx	In cases of abnormalities	Contractor
Solid waste (domestic)	Waste management	Visual	Domestic waste	Weekly	Contractor
Solid waste (construction)	Proper discharge of waste	Visual	Staging area	At waste disposal	Contractor
Sediment	Bottom sediment agitation	Visual	Around work site	Daily during pier work	Contractor
Ecosystem	The effect of ecosystem is mainly created by the water pollution, thus the water quality monitoring will cover the ecosystem impact.				
Hydrology	Construction schedule in rainy season	Work monthly report	Work office	Monthly during rainy season	Contractor
Land use	Lease of land	Contract document	Work office	Time of making contract	LTA
Infrastructure and social services	Mitigation measures for disturbance of traffic	Work monthly report	Work office	Monthly	Contractor
Working conditions	Safety and health management	Work monthly report	Work office	Monthly	Contractor
Accidents	Safety and health management	Work monthly report	Work office	Monthly	Contractor

Annex 6 Environmental and Social Monitoring form (tentative)

Monitoring Item	Procedure	Result	Measures to be taken	Reference standard	Frequency
Dust	Visual inspection			Acceptable or not	Daily
Noise (A-weighted equivalent sound level in dB)	Sound level meter			Samoa standard	Daily
Noise and vibration	Operation time check			Stated operation time in EMP	Daily
Water Quality (turbidity, oil)	Visual inspection			Acceptable or not	Daily
Water Quality	pH	Laboratory test		Japanese discharge standard	Abnormal observation of turbidity or oil
	EC				
	COD				
	Turbidity				
	Oil				
Waste (Domestic)	Patrol			Acceptable or not	Weekly
Waste (Constriction)	Patrol			Acceptable or not	Monthly
Sediment	Visual inspection			Acceptable or not	Daily during construction of pier
Hydrology	Construction plan preventing flood			Acceptable or not	Once at rainv season
Land Use	Lease condition			Acceptable or not	Contract of lease
Traffic management	Patrol			Stated procedure in EMP	Monthly
Landscape	Patrol			Stated procedure in EMP	Monthly
Accident	Patrol			Acceptable or not	Monthly
Claim and comment	Report check			Acceptable or not	Monthly

Annex 7

Detailed Undertakings to be taken by Samoan Government

Items	Details	Implementation deadline
1. Provision and ground leveling of temporary construction yard and stock yard	(1) LTA selects the most suitable location of temporary construction yard and stock yard by the explanation of Draft Final Report (the beginning of December, 2016). The location is chosen among proposed site shown in attached Annex 7-1 or proposed other suitable location by LTA.	Before notice of the tender document.
	(2) LTA secures the required area which is 10,000 m ² . If one location does not have a sufficient area, LTA can provide two places having the required area together.	
	(3) LTA secures the land shown in attached Annex 7-2 for the demolition work of the existing bridge.	Before commencement of the demolition work.
2. Provision of borrow pit and quarry site	(1) LTA selects the most suitable location of borrow pit and quarry site before notice of the tender document. The location is chosen among proposed site shown in attached Annex 7-3 or proposed other suitable location by LTA. (2) If there is only available at the location of local contractor's own, LTA supports to make the borrow pit and quarry site available from the start of the construction.	Before notice of the tender document (or at the start of the construction).
3. Provision of disposal site	(1) Since total amount of excavated soil is not much, it is treated as construction waste.	Before notice of the tender document.
4. Provision of waste dumping site	(1) MNRE mentioned that they had an experience to sell the demolished structure by open tender, and the potential waste was recycled and utilized. LTA tries to reduce the construction waste as much as possible, and the remaining waste is dumped at the authorized dumping site with the proper procedure.	Before notice of the tender document.
5. Land transfer	(1) LTA ensures the implementation of the land transfer for the construction of new access roads and coastal embankments by shifting the bridge location.	Before notice of the tender document.

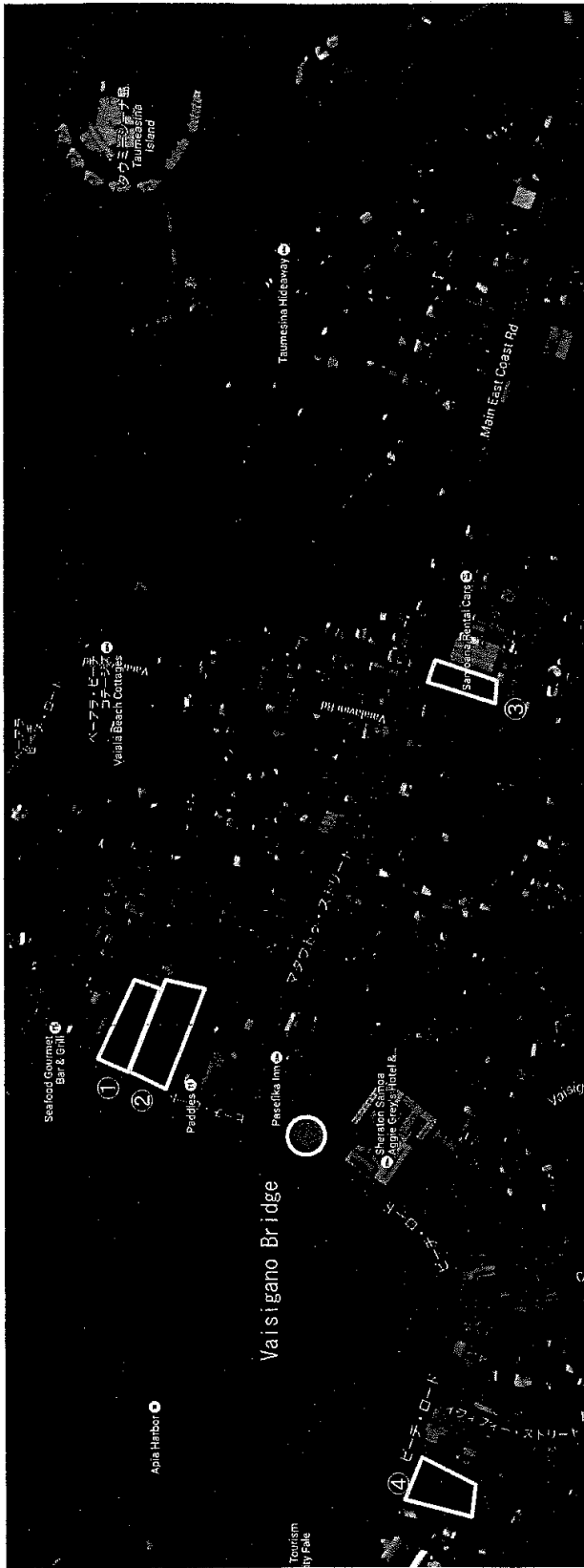
Items	Details	Implementation deadline
6. Relocation of fuel pipe	(1) First stage relocation: Underground fuel pipe which interferes with the construction of a new A1 abutment will be temporarily relocated to the existing road side as shown in attached Annex 7-4 .	Before notice of the tender document.
	(2) Second stage relocation: Attached fuel pipe to the existing bridge will be relocated to the downstream side of the new bridge with the steel bracket. The underground pipe installed at the existing road will be relocated to the new road side as shown in attached Annex 7-4 .	Bridge section: During the bridge surface work (after the steel bracket installation). Road section: During the earthwork (before the paving work).
7. Relocation of water pipe	(1) Attached water pipe to the existing bridge will be relocated to the downstream side of the new bridge with the steel bracket as shown in attached Annex 7-5 .	Bridge section: During the bridge surface work (after the steel bracket installation). Road section: During the earthwork (before the side ditch installation).
8. Relocation of communication cables (Blue-sky and CSL)	(1) First stage relocation: Underground communication cables (Blue-sky and CSL) which interfere with the construction of a new A1 abutment will be temporarily relocated to the existing road side as shown in attached Annex 7-6 & 7-7 .	Before notice of the tender document.
	(2) Second stage relocation: Attached communication cables (Blue-sky and CSL) to the existing bridge will be relocated to the sidewalk upstream side of the new bridge. The underground communication cables installed at the existing road will be relocated to the new road side as shown in attached Annex 7-6 & 7-7 .	Bridge section: During the bridge surface work (before the sidewalk concrete casting work). Road section: During the earthwork (before the paving work).

Items	Details	Implementation deadline
9. Relocation of overhead electric line and pole	(1) Overhead electric lines and poles in construction work area will be removed or temporarily relocated to the area which may not interfere with the construction work as shown in attached Annex 7-8 .	At the start of the construction.
10. Environment	(1) LTA submits EIA report to PUMA by the explanation of Draft Final Report (the beginning of December, 2016), and follows its progress until receiving approval.	By the beginning of December, 2016 (DF/R).
	(2) LTA submits DCA (Development Consent Application) to PUMA with the proposed design plans and drawings, and follows its progress until receiving approval.	During detail design stage.
	(3) DCA including EIA will be approved by PUMA.	Before notice of the tender document.
	(4) LTA supervises the contractor for preparation of environmental management plan and its proper implementation.	Before and during the construction.
	(5) LTA receives report of environmental monitoring from the contractor, and supervises it for proper implementation of the environmental management.	During the construction.
11. Tax exemption	(1) Custom duty: LTA submits the master list of imported materials and equipment prepared by the contractor to Ministry for Revenue, and receives the approval for tax exemption.	At the start of the construction.
	(2) VAGST (Value Added Goods & Services Tax): LTA supports to ensure that Ministry for Revenue provides tax exemption (refund system).	During the construction (every 2 months).
12. Acquisition of various permission for the construction	(1) LTA supports Japanese firms for the required procedure shown in the followings. <ul style="list-style-type: none"> • Certificate of Registration issued by Ministry of Commerce, Industry and Labour. • Foreign Investment Certificate issued by Ministry of Commerce, Industry and Labour. • Business Licence Certificate issued by Ministry for Revenue. 	At the start of the construction.
	(2) If any permission for construction is necessary before the start of the construction, the permission will be taken by LTA.	Before notice of the tender document.
	(3) If any permission for construction is necessary during the construction, the permission will be taken by LTA.	During the construction.

Items	Details	Implementation deadline
13. Maintenance works	<p>(1) Based on the maintenance management plan prepared by JICA Preparatory Survey Team, LTA conducts the maintenance works on the Vaisigano Bridge and its access roads etc.</p> <p>(2) LTA ensures every necessary action including securing enough budget and personnel for the operation and maintenance of the facilities implemented by the project.</p>	After the inauguration (after taking over the facilities).

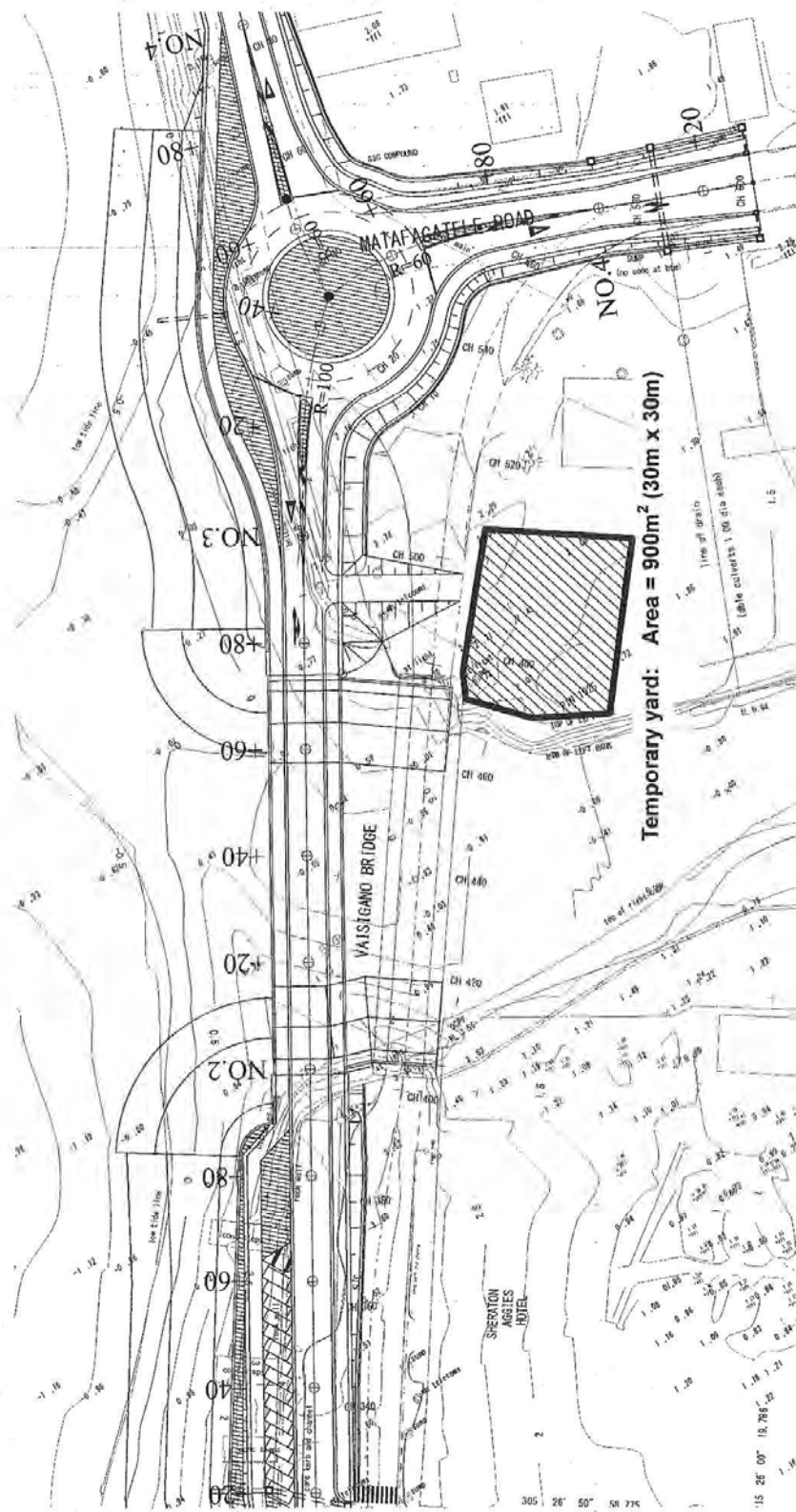


Annex 7-1. Temporary Yard for Site Office, Materials, Equipment and Girder Production

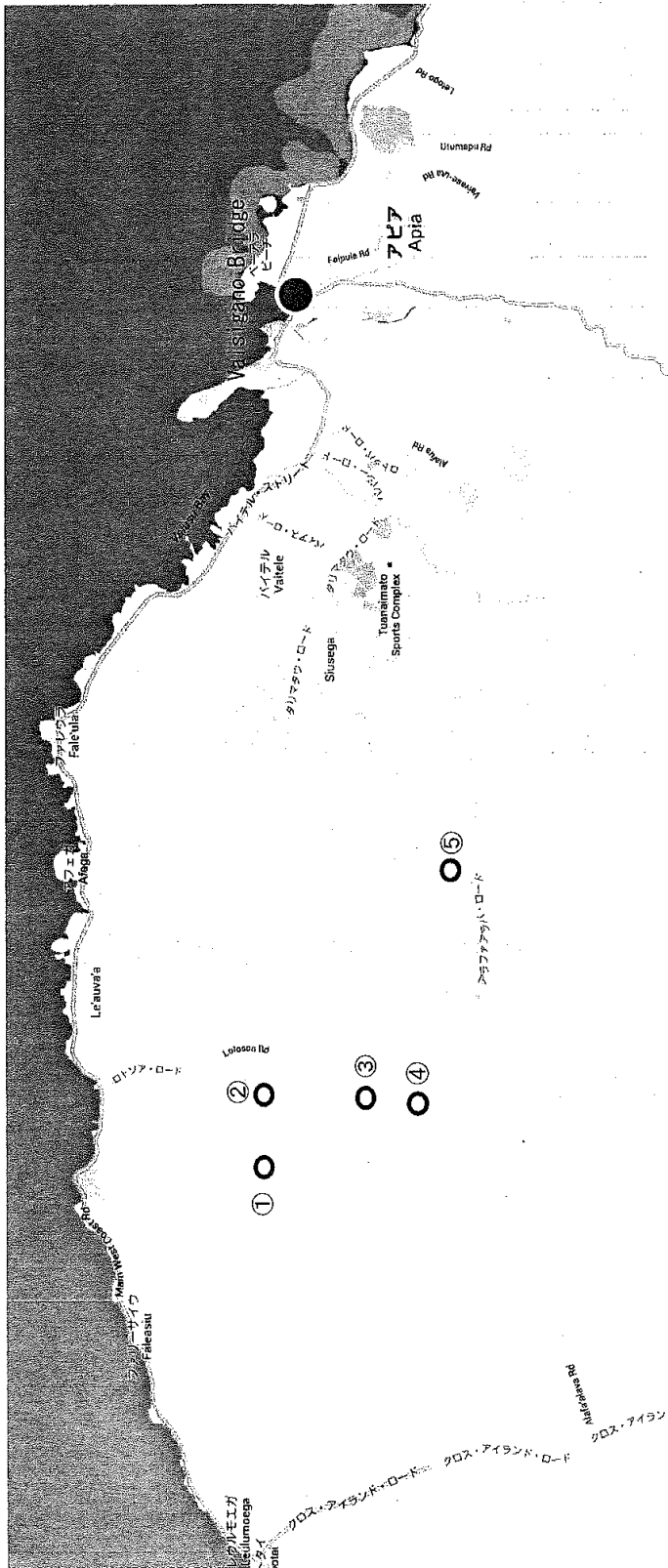







Site Number	①	②	③	④
Picture				
Estimated area	30m × 100m	40m × 120m	30m × 100m	50m × 90m
Site Condition	Grass Private land	Many trees Private land	Grass Private land	Grass, Pavement Parking, land sale area

Annex 7-2. Temporary Yard for Demolition Work of the Existing Bridge

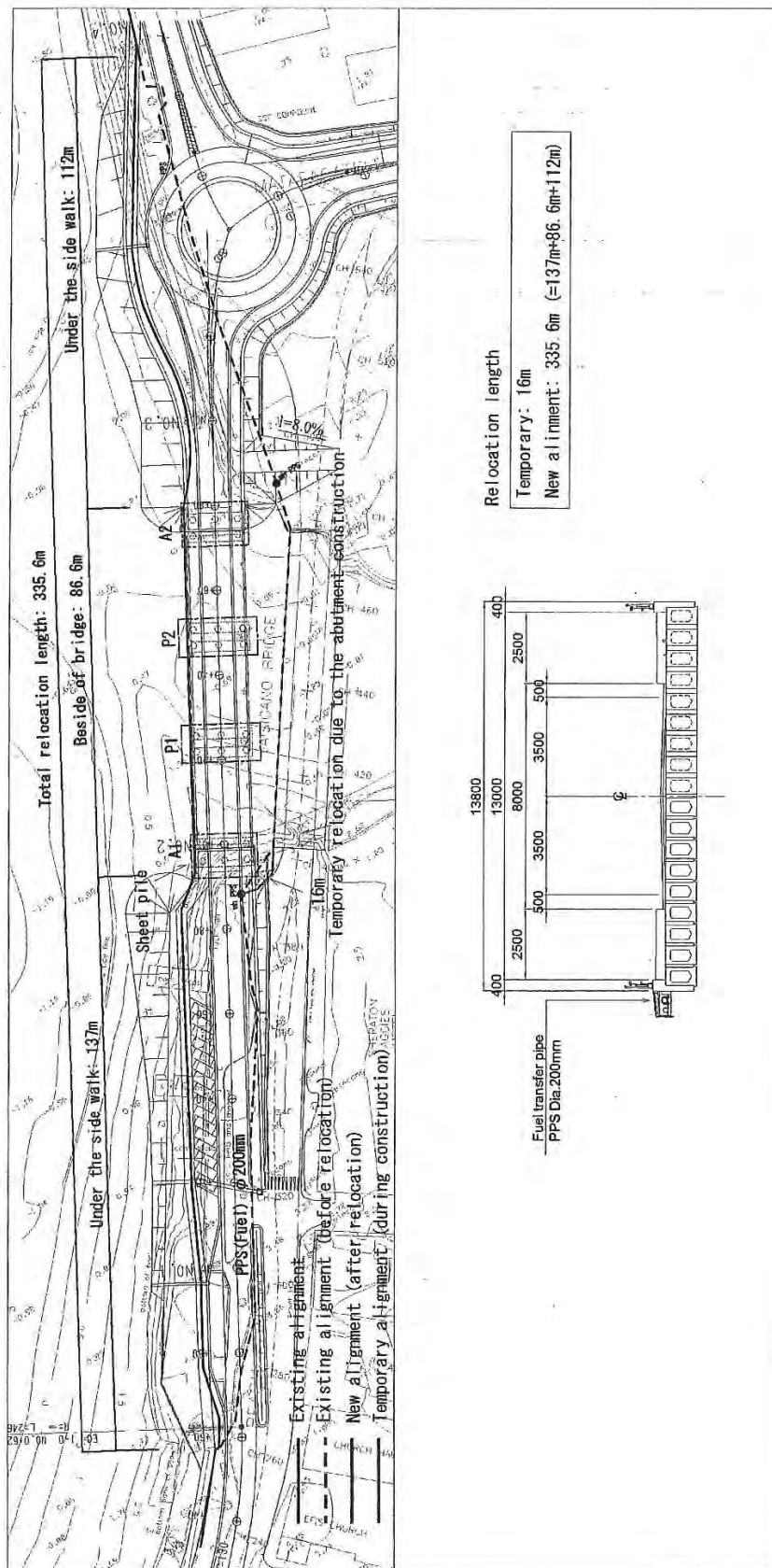


Annex 7-3. Borrow Pit and Quarry Site

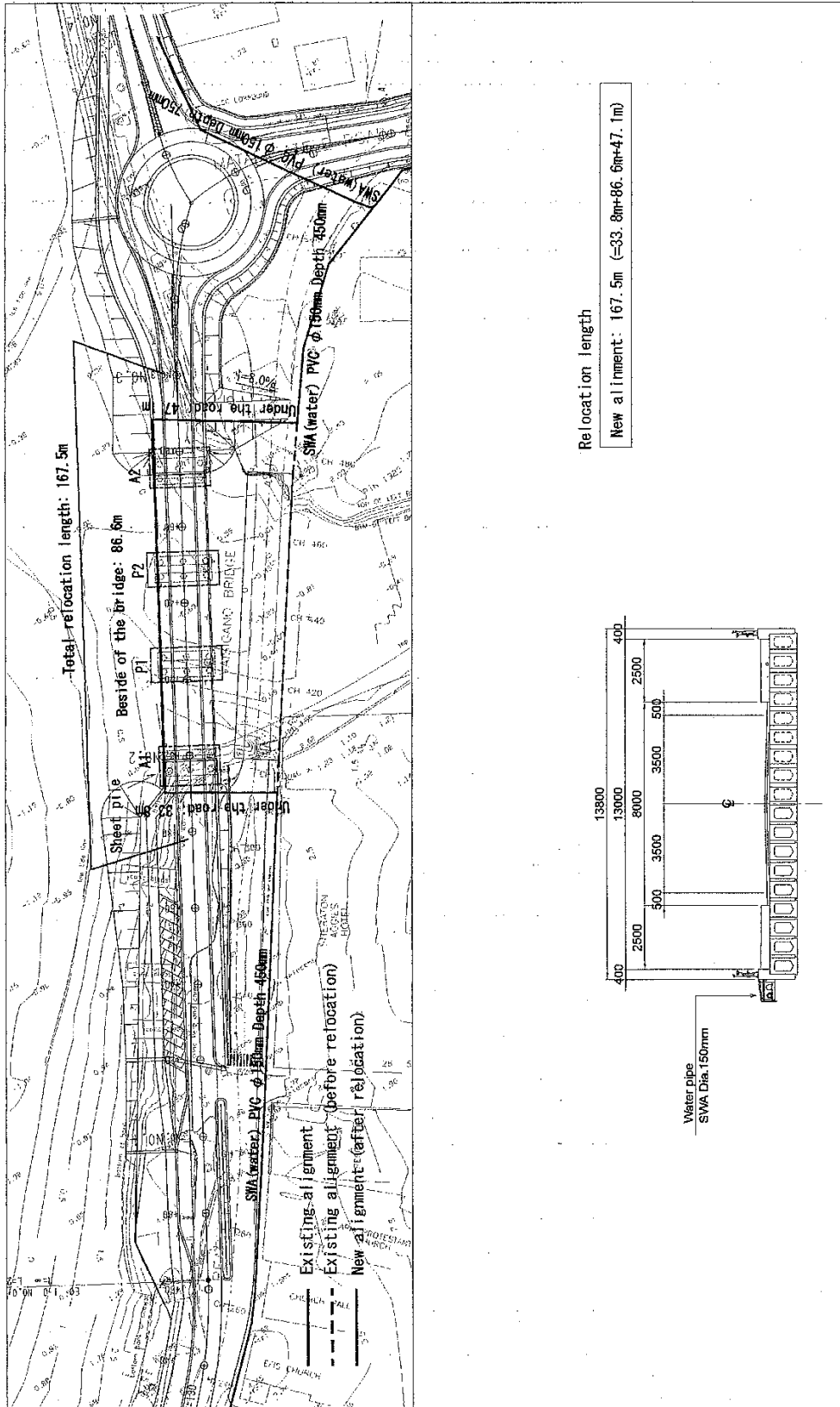


Site Number	①	②	③	④	⑤
Picture					

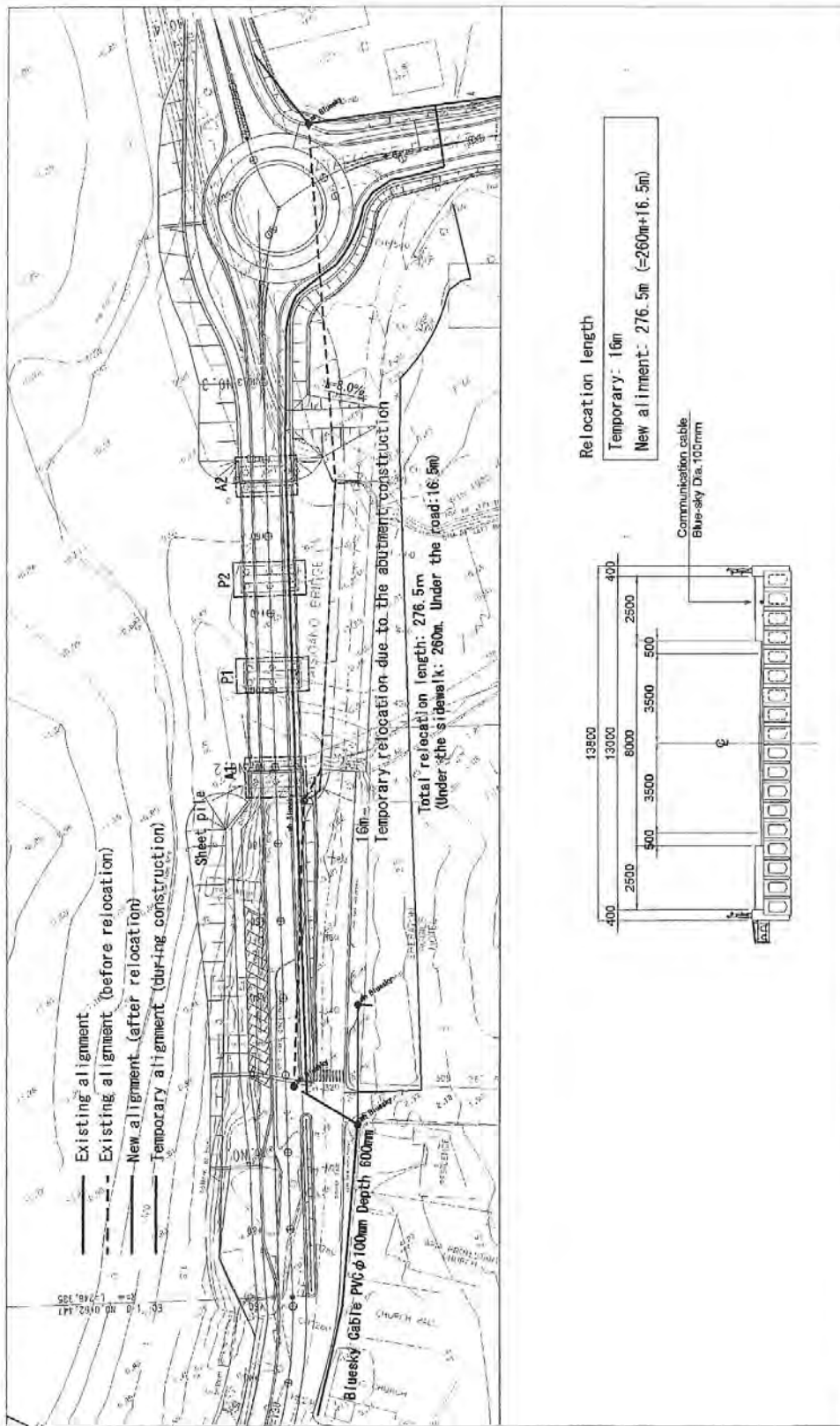
Annex 7-4. Relocation of Fuel Pipe (PPS)



Annex 7-5. Relocation of Water Pipe (SWA)

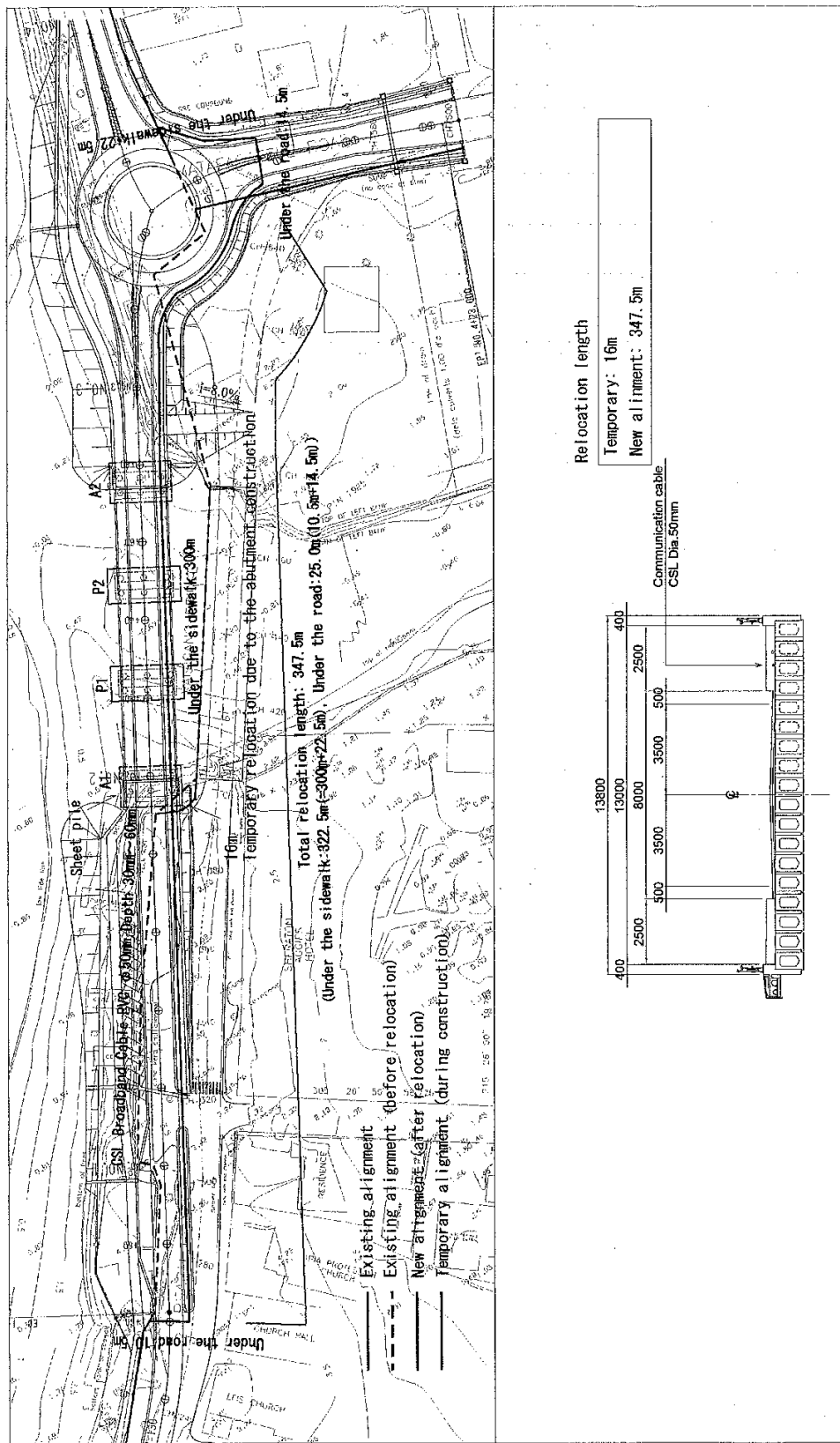


Annex 7-6. Relocation of Communication Cable (Blue-sky)

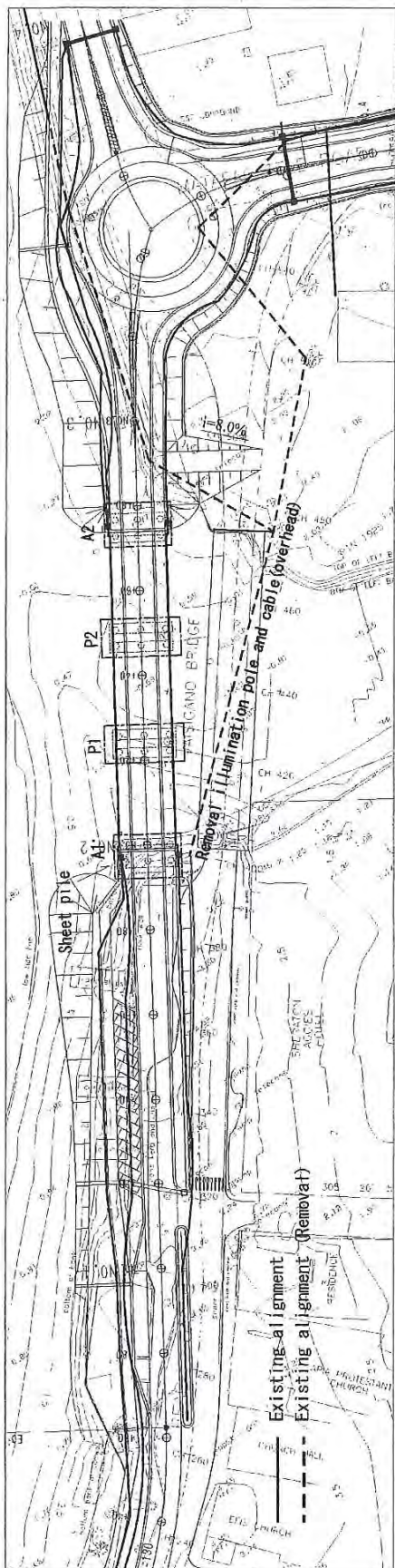


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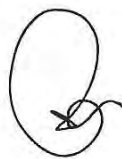
Annex 7-7. Relocation of Communication Cable (CSL)



Annex 7-8. Relocation of Overhead Electric Line and Pole (Road illumination)



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Annex 8

Main O&M items and expenses

Category	Frequency	Area Inspected	Work Details	Est. Cost (1,000s SAT)		Notes
				Per Inspection	Per Annum (Annual Avg.)	
Drainage O&M	4 times/yr.	Bridge surface drains and gutters	Sediment removal	2.5	9.8	
Expansion joint and bearing O&M	Annually	Around expansion joints and bearings	Remove trash and clean	0.4	0.4	
Traffic safety work O&M	Annually	Road markings	Repaint	0.4	0.4	10% of direct cost anticipated
Road maintenance	Twice annually	Road shoulders and slopes	Weeding	1.0	2.0	
Inspection and repair for revetments and bed protection	When flooded (expected every 5 years)	Revetments and bed protection	Repair damaged areas	54.5	10.9	2% of direct cost anticipated
Pavement maintenance and repair	Once/5 yrs.	Paved surfaces	Overlay and repair cracks, potholes, etc.	54.0	10.8	10% of direct cost anticipated
Direct construction cost					34.3	
Overhead (40%)					13.7	
Annual O&M costs (yearly average)					48.1	

資料-5 : テクニカルノート

Preparatory Survey for the Project for Reconstruction of Vaisigano Bridge**Technical Notes**

LTA and JICA Preparatory Survey Team confirmed the following technical matters on the Project for Reconstruction of Vaisigano Bridge.

1. Longitudinal bridge plan

The longitudinal height of the bridge is planned to raise the road surface to approximately 1.5m at the abutment position in consideration of high water level, freeboard beneath the girders and structure height.

2. Bridge location

In case of raising the longitudinal height to approximately 1.5m, the location of the new bridge is shifted approximately 20m to the downstream of the existing bridge in consideration of the construction in order to ensure the service of the existing bridge.

3. Bridge type

As a bridge type, PC 3 span interconnected pre-tension hollow slab bridge ($L=3@25.0m=75.0m$) is adopted.

4. Removal of the existing bridge

The existing bridge will be removed after the new bridge is constructed. The removal will be conducted by the Japanese side.

5. Regulation of heavy vehicles

Entry restrictions of large vehicles to Apia city will be also continued after the construction of the new bridge. Therefore, large vehicles will not be allowed to pass Vaisigano Bridge. However, large vehicles can be allowed in case of emergency.

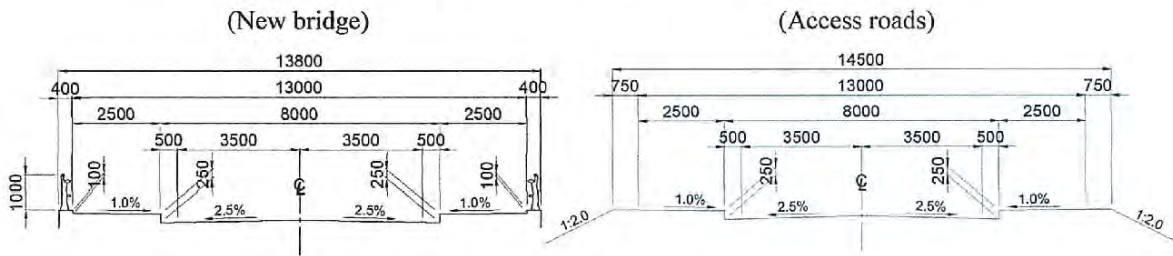
6. Design standards

Since this project is the Japanese grant aid project, and the design standards for bridges, roads, and rivers have not been established in Samoa, Japanese standards should be basically applied for the design.

In addition, New Zealand standards, Australian standards, and AASHTO will be applied for the design.

7. Width

The width of the new bridge and access roads shall be as shown in the figure below.



8. Design speed

Design speed is set to 50km/h, which is shown in Austroads. However, 40km/h should be applied as a regulation on the operation.

9. Design live load

Since the bending moment of B live load in Japanese Road Bridge Standard is larger than that of the live load in New Zealand Bridge manual, B live load should be adopted.

10. Lateral force coefficient

Taking into account the importance of the bridge, the regional coefficient, and the structure factor, etc., the lateral force coefficient obtained by the New Zealand and Samoa Standard is 0.2.

Apia, August 5th, 2016

Teruo Nakagawa
Chief Consultant
Preparatory Survey Team
Japan International Cooperation Agency
Japan

Leasi Vainalepa Galuvao
Chief Executive Officer
Land Transport Authority
Independent State of Samoa

資料-6 : 相手国側負担事項

**MEMORANDUM
ON
THE PREPARATORY SURVEY
FOR
THE PROJECT FOR RECONSTRUCTION OF VAISIGANO BRIDGE**

JICA Preparatory Survey Team has been conducting the site work in the independent state of Samoa for a study “The Preparatory Survey for the Project for Reconstruction of Vaisigano Bridge” by Japan International Cooperation Agency (JICA) since the beginning of June, 2016.

As a part of the Survey, JICA Preparatory Survey Team has assisted that Land Transport Authority (Hereafter, “LTA”) enabled to complete the works for the Major Undertakings to be taken by the Samoan Government on the Preparatory Survey for the Project for Reconstruction of Vaisigano Bridge at the right time to take responsibility.

LTA and JICA Preparatory Survey Team confirmed the matters described in the attached sheets with respect to the Major Undertakings to be taken by the Samoan Government on the Preparatory Survey for the Project for Reconstruction of Vaisigano Bridge.

Apia, August 5th, 2016



Teruo Nakagawa
Chief Consultant
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Leasi Vainalepa Galuvao
Chief Executive Officer
Land Transport Authority
Independent State of Samoa

Preparatory Survey for the Project for Reconstruction of Vaisigano Bridge

Major Undertakings to be taken by Samoan Government

Items	Details	Implementation deadline
1. Provision and ground leveling of temporary construction yard and stock yard	<ul style="list-style-type: none"> LTA selects the most suitable location of temporary construction yard and stock yard by the explanation of Draft Final Report (the end of November). The location is chosen among proposed site shown in attached Annex 1 or proposed other suitable location by LTA. LTA secures the required area which is 10,000 m². If one location does not have a sufficient area, LTA can provide two places having the required area together. 	Before notice of the tender document
2. Provision of borrow pit and quarry	<ul style="list-style-type: none"> LTA selects the most suitable location of borrow pit and quarry before notice of the tender document. The location is chosen among proposed site shown in attached Annex 2 or proposed other suitable location by LTA. If there is only available at the location of local contractor's own, LTA support to make the borrow pit and quarry available from the start of the construction. 	Before notice of the tender document (or at the start of the construction)
3. Provision of disposal site	<ul style="list-style-type: none"> Since total amount of excavated soil is not much, it is treated as construction waste. 	Before notice of the tender document
4. Provision of waste dumping site	<ul style="list-style-type: none"> MNRE mentioned that they had an experience to sell the demolished structure by open tender, and the potential waste was recycled and utilized. LTA tries to reduce the construction waste as much as possible, and the remaining waste is dumped at the authorized dumping site with the proper procedure. 	Before notice of the tender document
5. Land acquisition	<ul style="list-style-type: none"> LTA ensures the implementation of the land acquisition for the construction of new access roads and coastal embankments by shifting the bridge location. 	Before notice of the tender document
6. Relocation of fuel pipe	<ul style="list-style-type: none"> First stage relocation: Underground fuel pipe which interferes with the construction of a new A1 abutment will be temporarily relocated to the existing road side. (see Annex 3) 	Before notice of the tender document
	<ul style="list-style-type: none"> Second stage relocation: Bridge-attached fuel pipe at the downstream side of the existing bridge will be relocated to the downstream side of the new bridge. The underground pipe installed at the existing road will be relocated to the new road side. (see Annex 3) 	At the construction of bridge surface work and embankment work

Items	Details	Implementation deadline
7. Relocation of water pipe	<ul style="list-style-type: none"> Bridge-attached water pipe at the upstream side of the existing bridge will be relocated to the downstream side of the new bridge. (see Annex 4) 	At the construction of bridge surface work and embankment work
8. Relocation of communication cables	<ul style="list-style-type: none"> First stage relocation: Underground communication cables (Blue sky and CSL) which interfere with the construction of a new A1 abutment will be temporarily relocated to the existing road side. (see Annex 5 & 6) 	Before notice of the tender document
	<ul style="list-style-type: none"> Second stage relocation: Bridge-attached communication cables (blue sky and CSL) at the downstream side of the existing bridge will be relocated to the upstream side of the new bridge. The underground communication cables installed at the existing road will be relocated to the new road side. (see Annex 5 & 6) 	At the construction of bridge surface work and embankment work
9. Relocation of electric wire and pole	<ul style="list-style-type: none"> Electric wires and poles in construction work area will be removed or temporarily relocated to the area which may not interfere with the construction work. (see Annex 7) 	Before notice of the tender document
	<ul style="list-style-type: none"> Electric wires and poles for lighting will be installed at the new road side based on the lighting installation plan. (see Annex 7) 	At the construction of bridge surface work and embankment work
10. Environmental and social considerations	<ul style="list-style-type: none"> LTA submits EIA report to PUMA by the end of November, and follows its progress until receiving approval. 	By the end of November (DF/R)
	<ul style="list-style-type: none"> LTA submits DCA (Development Consent Application) to PUMA with the proposed design plans and drawings, and follows its progress until receiving approval. 	During detail design stage
	<ul style="list-style-type: none"> DCA will be approved by PUMA 	Before the start of the construction
	<ul style="list-style-type: none"> LTA supervises preparation of environment management plan and its proper implementation. 	Before and during the construction
	<ul style="list-style-type: none"> LTA receives report of environmental monitoring, and supervises a contractor for proper implementation of the environmental management. 	During the Construction




Items	Details	Implementation deadline
11. Tax exemption	<ul style="list-style-type: none"> • Custom duty; LTA submits the master list of imported goods prepared by contractor to Ministry for Revenue and receives the approval. 	At the start of the project
	<ul style="list-style-type: none"> • Value Added Goods & Services Tax (VAGST); LTA supports to ensure that Ministry for Revenue provides tax exemption (Tax refund system). 	Every 2 months
12. Acquisition of various permission for the construction	<ul style="list-style-type: none"> • LTA supports the procedure shown in the followings. <ol style="list-style-type: none"> (1) Certificate of Registration Ministry of Commerce, Industry and Labour (2) Foreign Investment Certificate Ministry of Commerce, Industry and Labour (3) Business Licence Certificate Ministry for Revenue 	At the start of the construction
	<ul style="list-style-type: none"> • If any permission for construction is necessary before the start of the construction, the permission will be taken by LTA. 	Before notice of the tender document
	<ul style="list-style-type: none"> • If any permission for construction is necessary during the construction, the permission will be taken by LTA. 	During construction
13. Maintenance works	<ul style="list-style-type: none"> • Based on the maintenance management plan prepared by JICA Preparatory Survey Team, LTA conducts the maintenance works on the Vaisigano Bridge and its access roads. • LTA ensures every necessary action including securing enough budget and personnel for the operation and maintenance of the facilities implemented by the project. 	After the construction




Schedule for Project Implementation and Major Undertakings to be taken by Samcoon Government (draft)

Yr.	2017												2018												2019												2020																																																																																																																																																																																																																																															
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12																																																																																																																																																																																																																																				
Detailed Design																																																																																																																																																																																																																																																																																				
Mo	(Work in Simsoo)												(Work in Japan)												(Tender preparation)												(Tend 11.6 months)																																																																																																																																																																																																																																															
Construction / Procurement																																																																																																																																																																																																																																																																																				
Mo	Preparation work												Foundation work												Sub-structure work												Superstructure work												Bridge surface work												Access road work												Access road work												Costal reclamation work												River reclamation work												Costal reclamation work												Demolition												Demobilization																																																																																																																																															
* Schedule will be modified after detailed consideration																																																																																																																																																																																																																																																																																				
Major Undertakings to be taken by Samcoon Government																																																																																																																																																																																																																																																																																				
Mo	Provision and guard for village/tenants' construction yard and stock yard												Provision of borrow pit and quarry												Provision of disposal site												Provision of waste dumping site												(Securing necessary fund)												(First stage relocation of utility (fuel pipe))												(First stage relocation of utility (communication cable))												(Removal or relocation of utility (electric wire and pole))												(EIA approval)												(PCA approval)												(Second stage relocation of utility (fuel pipe))												(Relocation of utility (water pipe))												(Second stage relocation of utility (communication cable))												(Installation of utility (electric wire and pole))												(Implementation of environmental management plan)												(Use permit)												(Permit for construction Certificate of Registration, Foreign Investment Certificate, Business License Certification)												(Required permission before construction)												(Required permission during construction)												(Banking Arrangement (BAA))												(AP: Consultant)												(AP: Contractor)												(Maintenance and operation)											

(Handwritten signatures and initials)

Annex-1. Temporary Yard for Site office, Materials, Equipment and Girder production



Site Number	①	②	③	④
Picture				
Estimated area	30m × 100m	40m × 120m	30m × 100m	50m × 90m
Site Condition	Grass Private land	Many trees Private land	Grass Private land	Grass, Pavement Parking, land sale area

Handwritten blue signature or initials.

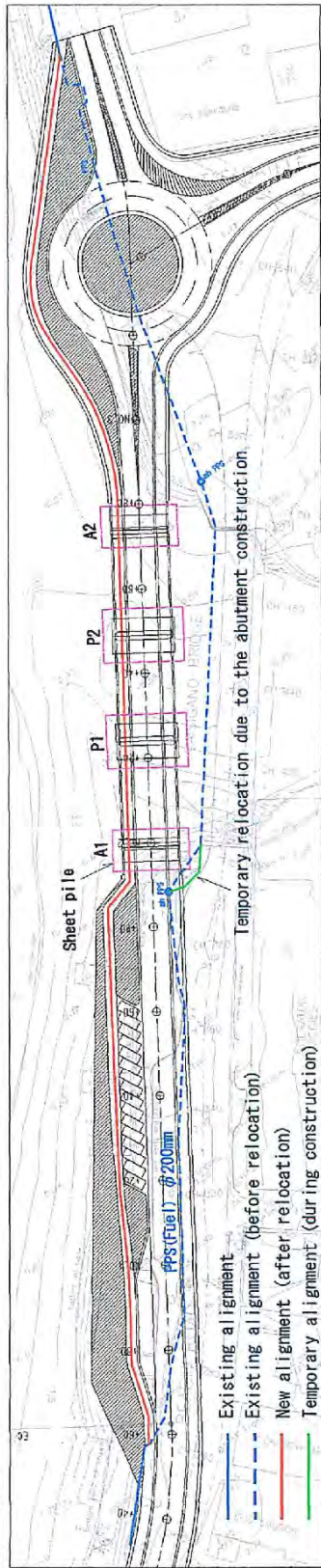
Annex-2. Borrow pit and Quarry site



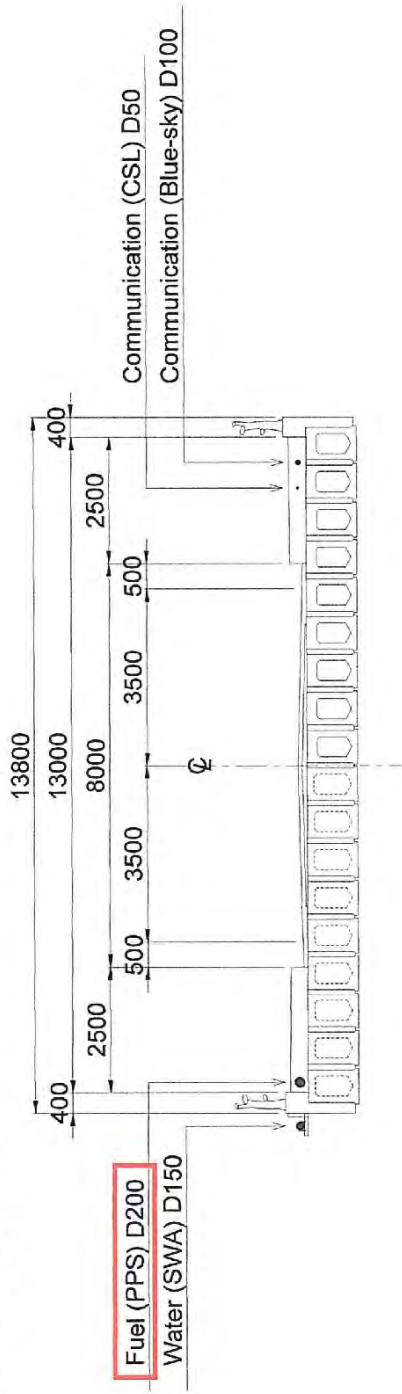
Site Number	①	②	③	④	⑤
Picture					

Annex-3. Relocation of Fuel Pipe (PPS)

(1) Plan view



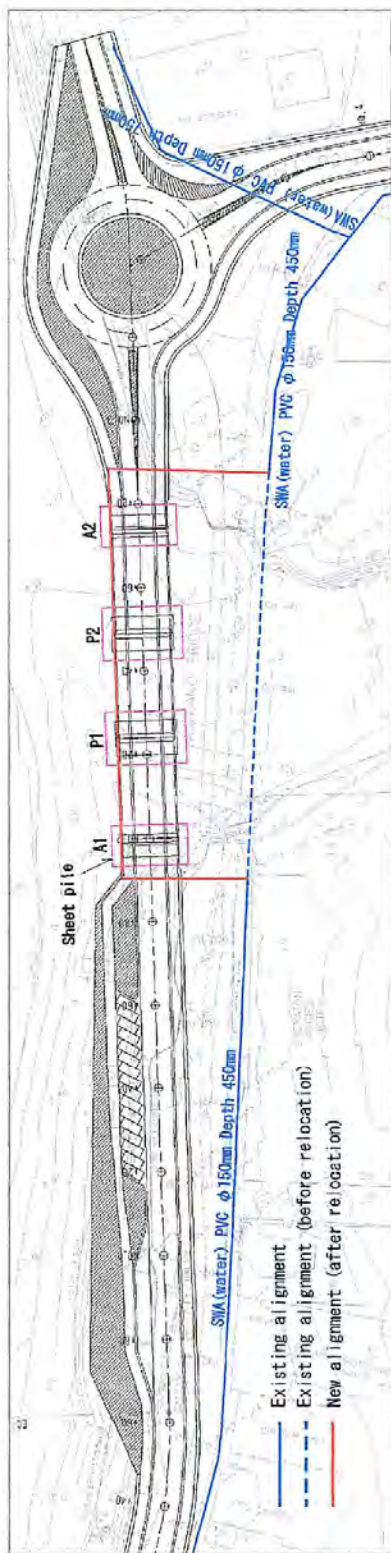
(2) Cross section of the new bridge



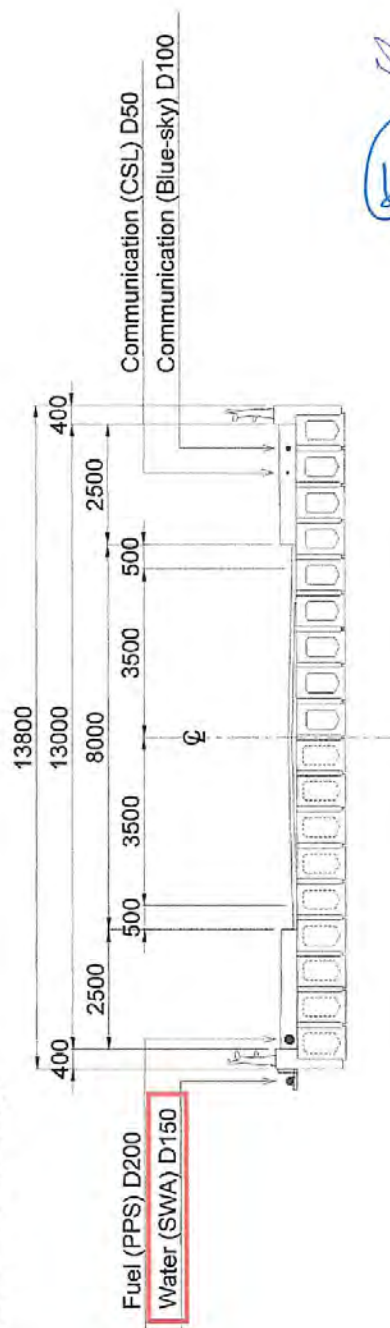
Handwritten blue initials and a circled 'R'.

Annex-4. Relocation of Water Pipe (SWA)

(1) Plan view



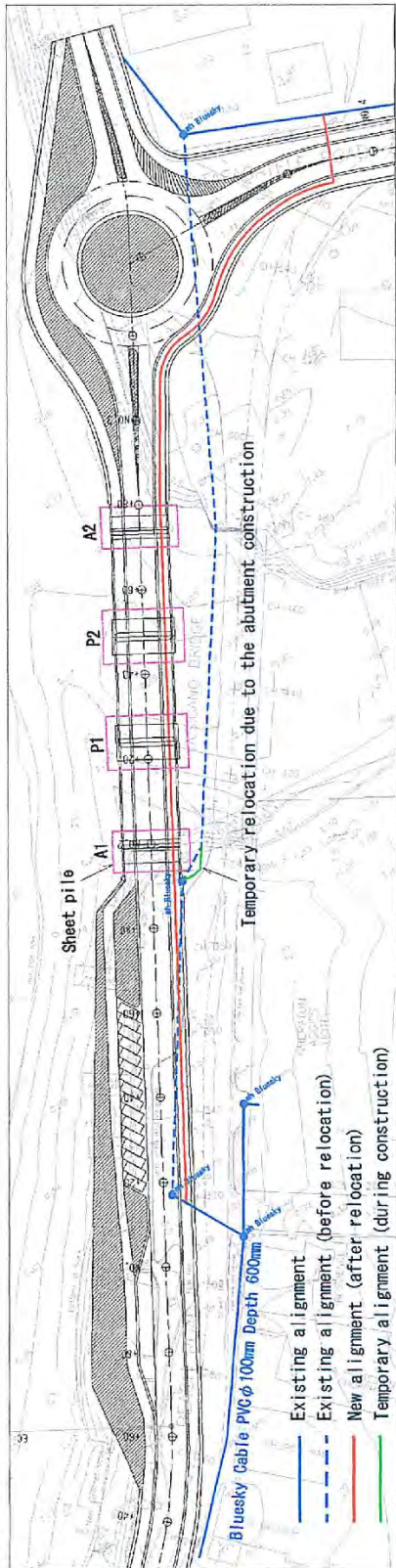
(2) Cross section of the new bridge



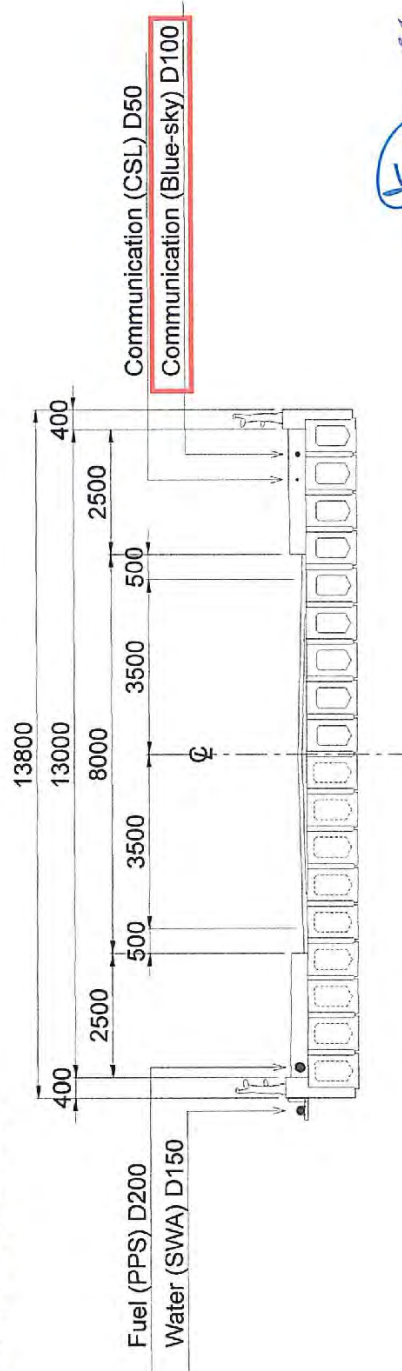
Handwritten signature and initials in blue ink.

Annex-5. Communication Cable (Blue-sky)

(1) Plan view

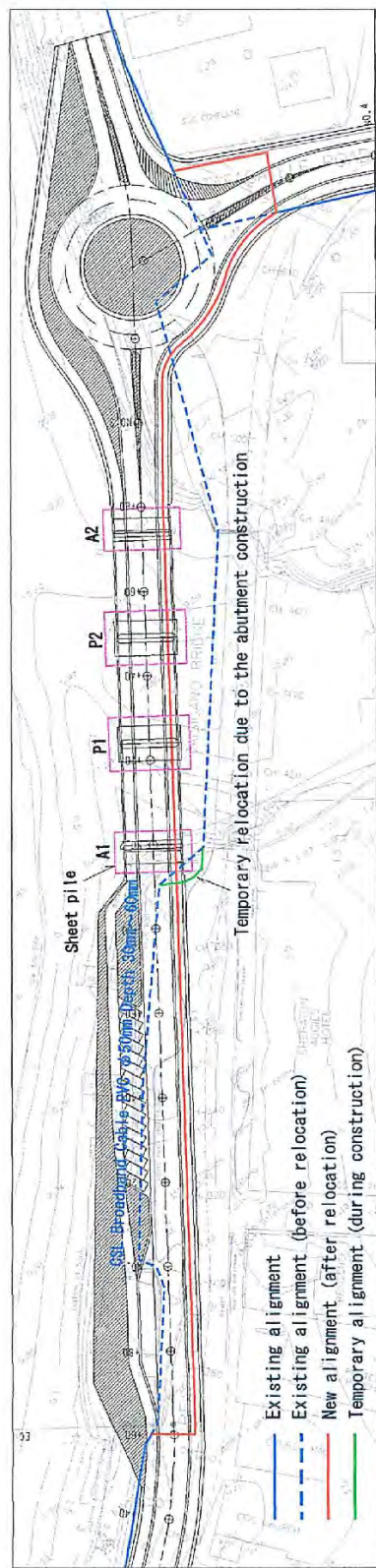


(2) Cross section of the new bridge

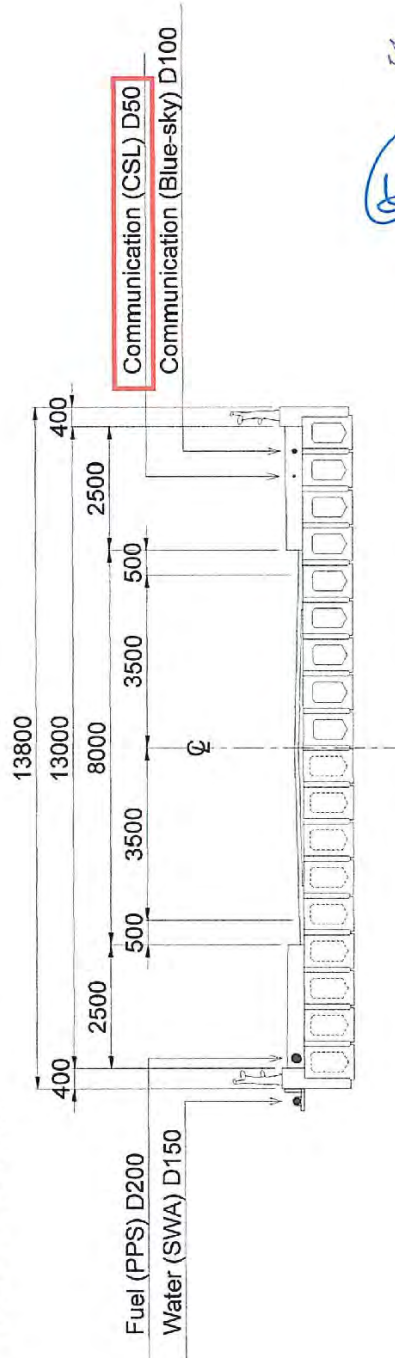


Annex-6. Communication Cable (CSL)

(1) Plan view

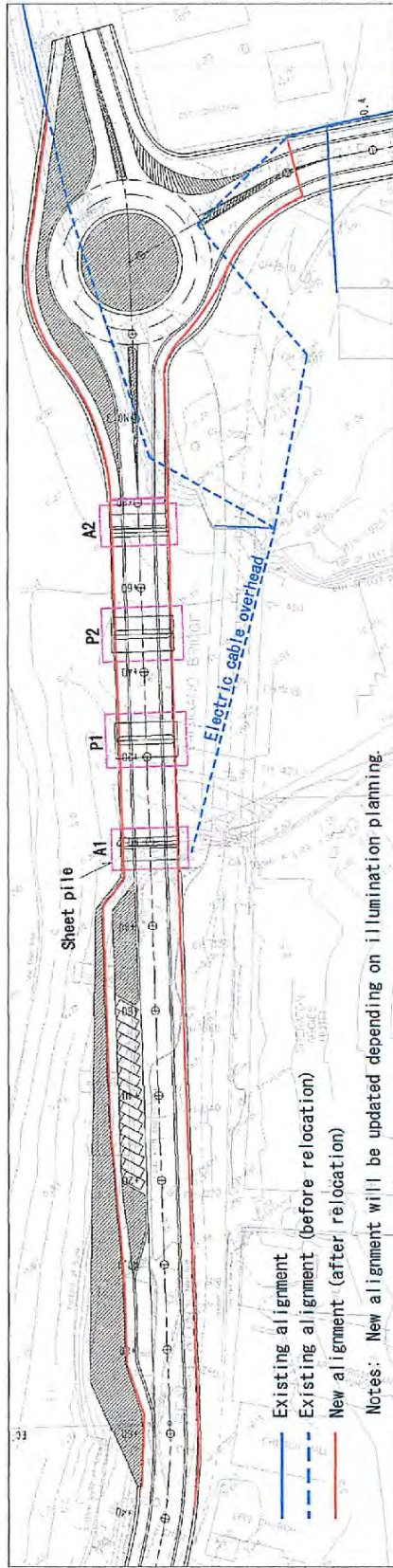


(2) Cross section of the new bridge



Annex-7. Electric Wire (Road illumination)

(1) Plan view



Handwritten blue initials 'R' and 'H'.

資料-7：収集資料リスト

収集資料リスト (1/4)

番号	名称	形態、図書、ビデオ、地図、写真等	オリジナル・コピー	発行機関	発行年
1	サモア開発戦略 (SDS:2012-2016)	PDF	コピー	サモア国政府	2012
2	国家インフラ戦略計画	PDF	コピー	サモア国政府	2011
3	Donor Funded Projects	Excel	コピー	LTA	2013
4	全国道路網図	ハードコピー	コピー	LTA	
5	LTA 組織図	ハードコピー	コピー	LTA	2016
6	National Building Code - 1992	PDF	コピー	MWTI	1992
7	用地境界線	DWG	コピー	LTA	
8	Bridge manual – Third edition	PDF	コピー	NZ Transport Agency	2014
9	NZ 4203:1992 Code of practice for general structural design and design loadings for buildings (Known as the Loadings Standard)	PDF	コピー	Standards New Zealand	1992
10	月平均気温(Apia,過去 10 年間)	Excel	コピー	ホーストラリア政府	2016
11	月平均相対湿度(Apia,過去 5 年間)	JPEG	コピー	民間 website	2016
12	10 分雨量(Naifauna,Afiamalu,過去 5 年間)	Excel	コピー	MET T	2016
13	年最大、平均、最低潮位(Apia,過去 23 年間)	Excel	コピー	MET	2016
14	時間風速、風向(Apia,過去 5 年間)	Excel	コピー	ホーストラリア政府	2016
15	Vaisigano_Update_Flood_Study - Volume 1 Report	PDF	コピー	MNRE(委託先 Water Technology)	2014
16	Vaisigano_Update_Flood_Study - Volume 2 Report	PDF	コピー	MNRE(委託先 Water Technology)	2014
17	Vaisigano_Update_Flood_Study - Volume 3 Report	PDF	コピー	MNRE(委託先 Water Technology)	2014
18	Vaisigano river - Stage 1 Preliminary Revetment Investigation	PDF	コピー	MNRE(委託先 Water Technology)	2015
19	Vaisigano river - Stage 2 Preliminary Revetment Investigation	PDF	コピー	MNRE(委託先 Water Technology)	2015
20	Vaisigano river - Stage 3 Preliminary Revetment Investigation	PDF	コピー	MNRE(委託先 Water Technology)	2015
21	Vaisigano Flood Mitigation Works Consultants Briefing	PDF	コピー	MNRE(委託先 Water Technology)	2015

収集資料リスト (2/4)

番号	名 称	形態、図書、ビデオ、地図、写真等	オリジナル・コピー	発 行 機 関	発行年
22	Vaisigano Flood of December 2012 Report on Damage and Possible Causes	PDF	コピー	MNRE(委託先 GHD)	2013
23	Vaisigano_River(2010)_Detailed Boundaries	JPEG	コピー	MNRE	2010
24	Design of Vaisigano River Protection System Concept Design Report	PDF	コピー	MNRE(委託先 Kramer Ausenco)	2015
25	Design of Vaisigano River Protection System Detailed Design Report and Drawing Segment 1 Vaisigano Bridge to Leone Bridge	PDF CAD ファイル(DWG)	コピー	MNRE(委託先 Kramer Ausenco)	2015
26	Design of Vaisigano River Protection System Detailed Design Report and Drawing Segment 2 to 4 Leone Bridge to Eastern and Western Reaches	PDF	コピー	MNRE(委託先 Kramer Ausenco)	2015
27	Ministry of Natural Resources & Environment Vaisigano River Flood Protection Wall Project Specification for Marine Concrete	PDF	コピー	MNRE(委託先 Kramer Ausenco)	2015
28	Ministry of Natural Resources & Environment Vaisigano River Flood Protection Wall Project Specification for Rock Retment	PDF	コピー	MNRE(委託先 Kramer Ausenco)	2015
29	Design of Vaisigano River Protection System Project Specification Supply of Steel Piles	PDF	コピー	MNRE(委託先 Kramer Ausenco)	2016
30	Design of Vaisigano River Protection System Project Specification for Installation of Steel Piles	PDF	コピー	MNRE(委託先 Kramer Ausenco)	2016
31	Comprehensive Environmental assessment Report Construction of the Vaisigano River Protection Wall	PDF	コピー	MNRE(委託先 Kramer Ausenco)	2015
32	Geotechnical Analysis Report Vaisigano River Protection Drilling	PDF	コピー	MNRE(委託先 WAM Engineers)	2015
33	Construction Works for Vaisigano River Flood Protection Concrete Levee Segment 1 Final Tender Evaluation Report (Revision 1) and BOQ	WORD EXCEL	コピー	the Evaluation Committee for the Tenders Board	2016
34	Report on the Ground truthing Inspection of Buildings/Properties within the proposed location of the Vaisigano River Wall – Segment 1	WORD	コピー	MNRE	2015
35	GIS data	GIS ファイル	コピー	MNRE	2013
36	Donor Funded Projects	WORD	コピー	MNRE	2016

収集資料リスト (3/4)

番号	名 称	形態、図書、ビデオ、地図、写真等	オリジナル・コピー	発 行 機 関	発行年
37	EU EDF 8 – SOPAC Project Report 69c	PDF	コピー	SOPAC	2006
38	港湾・護岸災害復旧整備計画 1992～1993年度	PDF	コピー	JICA (委託先 日本テトラポッド㈱)	1993
39	High Resolution Met-Ocean Modelling for Storm Surge Risk Analysis in Apia, Samoa – Final Report	PDF	コピー	CSIRO	2014
40	Wind and Wave Setup Contributions to Extreme Sea Levels at a Tropical High Island: A Stochastic Cyclone Simulation Study for Apia, Samoa	PDF	コピー	Journal of Marine Science and Engineering	2015
41	Guide to Road Design, Part 4: Intersections and crossings - general	PDF	コピー	AUSTRROADS	2009
42	Guide to Road Design, Part 4A: Unsignalised and signalized intersections	PDF	コピー	AUSTRROADS	2010
43	Guide to Road Design, Part 4B: Roundabouts	PDF	コピー	AUSTRROADS	2011
44	Guide to Road Design, Part 5: Drainage design	PDF	コピー	AUSTRROADS	2008
45	Guide to Road Design, Part 6A: Pedestrian and cyclist paths	PDF	コピー	AUSTRROADS	2009
46	Guide to Road Safety, Part 6: Road safety audit	PDF	コピー	AUSTRROADS	2009
47	Standard specifications, General specifications	PDF	コピー	LTA	2006
48	Standard specifications, Road construction	PDF	コピー	LTA	2003
49	Standard specifications, Bridge construction	PDF	コピー	LTA	2003
50	Standard specifications, Road maintenance	PDF	コピー	LTA	2006
51	Manual of traffic signs and markings	PDF	コピー	NZ Transport Agency	2010
52	Planning and Urban Management Act 2004	PDF	コピー	サモア国政府	2004
53	Lands, Surveys and Environment Act 1989	PDF	コピー	サモア国政府	1989
54	Samoa Codes of Environmental Practice	PDF	コピー	サモア国政府	2006
55	Taking land act	PDF	コピー	サモア国政府	1964

収集資料リスト (4/4)

番号	名 称	形態、図書、ビデオ、地図、写真等	オリジナル・コピー	発行機関	発行年
56	National Parks and Reserves Act 1974	PDF	コピー	サモア国政府	1974
57	Marine Pollution Prevention Act 2008	PDF	コピー	サモア国政府	2008
58	Marine Wildlife Protection Regulations 2009	PDF	コピー	サモア国政府	2009
59	Local Fisheries Regulations 1995	PDF	コピー	サモア国政府	1995
60	Waste Management Act 2010	PDF	コピー	サモア国政府	2010
61	Water Resources Management Act 2008	PDF	コピー	サモア国政府	2008
62	Animals Ordinance 1960	PDF	コピー	サモア国政府	1960
63	Land Valuation Act 2010	PDF	コピー	サモア国政府	2010
64	Noise Policy	PDF	コピー	天然資源環境省都市計画管理局 (PUMA)	2011
65	Samoa's State of the Environment (SOE) Report 2013	PDF	コピー	天然資源環境省 (MNRE)	2013
66	Priority Sites for Conservation in Samoa	PDF	コピー	天然資源環境省 (MNRE)	2010
67	SAMOA FORESTRY OUTLOOK STUDY	PDF	コピー	国連食糧農業機関 (FAO)	2009
68	Land Transport Authority Act 2007	PDF	コピー	サモア国政府	2007
69	Samoa Socio-economic Atlas 2011	PDF	コピー	サモア統計局 (SBS)	2011
70	Paloro Deep National Marine Reserve	PDF	コピー	太平洋地域環境計画事務局 (SPREP)	1994