

Environmental Monitoring Report

Semestral Report (July – December 2021)
February 2022

Cambodia: Second Urban Environmental Management in the Tonle Sap Basin Project

Prepared by Ministry of Public Works and Transport for the Kingdom of Cambodia and the Asian Development Bank.

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Semi-Annual Environment Monitoring Report (Draft)

CAMBODIA

Ministry of Public Works and Transport (MPWT)

SECOND URBAN ENVIRONMENTAL MANAGEMENT IN THE TONLE SAP BASIN PROJECT

(TS2 Project)

(ADB L3684/G0591 CAM)

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(as of October 2020)

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ABBREVIATIONS

ADB	–	Asian Development Bank
COI	–	Corridor of Impact
DED	–	Detailed Engineering Design
EMC	–	Environmental Monitoring Consultant
EMP	–	Environmental Management Plan
FGD	–	Focus Group Discussion
FT	–	Full Time
GDR	–	General Department of Resettlement
GRM	–	Grievance Redress Mechanism
IEE	–	Initial Environmental Examination
IESIA	–	Initial Environmental and Social Impact Assessment
IRP	–	Income Restoration Plan
MoE	–	Ministry of Environment
MPWT	–	Ministry of Public Works and Transport
NR	–	National Road
PT	–	Part Time
PIU	–	Project Implementation Unit
PMC	–	Project Management Consultants
PMU	–	Project Management Unit
SEMR	–	Semi-annual Environment Monitoring Report
TL	–	Team Leader
TS2 Project	–	Second Urban Environmental Management in The Tonle Sap Basin Project
WW	–	Wastewater
WWTP	–	Wastewater Treatment Plant

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1 ENVIRONMENTAL SAFEGUARDS SUMMARY

1.1 Introduction

1. The Royal Government of Cambodia has obtained a loan and grant from the Asian Development Bank (ADB) towards the cost of the Second Urban Environmental Management in the Tonle Sap Basin Project (hereinafter referred to as TS2). The location of the project towns is shown in **Figure 1**. The TS2 project will improve urban environmental services in Battambang, Serei Saophoan and Stueng Saen, three of Cambodia's provincial cities located around the Tonle Sap Lake. The project will also improve institutional effectiveness to provide sustainable services and support an improved policy and planning environment for wastewater and solid waste management.
2. The TS2 project has three outputs:
 - Output 1: Urban environmental infrastructure improved
 - Output 2: Institutional effectiveness improved
 - Output 3: Policy and planning environment improved

Figure 1: Location of Project Towns



3. The 4th Semi-Annual Environment Monitoring Report (SEMR) covers the period from 01 July to 31 December 2021 for the Second Urban Environmental Management in The Tonle Sap Basin Project (TS2 Project).
4. The SEMR presents the status of project implementation, details of compliance with environmental regulations of the Government and policies of ADB, details of compliance with environmental loan covenants, details of complaints received and their redressal and the status of compliance with various aspects of Environmental Management Plans (EMPs). The SEMR has been prepared to fulfil the safeguard policy requirement of ADB.
5. The SEMR is prepared by the Project Management Consultants (PMC) team (Ramboll Danmark A/S in Joint Venture with Oriental Consultant Global Co., Ltd. and SCE in association with Tancons (Cambodia) Co., Ltd) for the TS2 Project.

6. The Ministry of Public Works and Transport (MPWT) is the Project's Executing Agency and the Ministry manages the implementation of the Project's outputs through a Project Management Unit (PMU) based in MPWT's main office in Phnom Penh (**Table 1**).
7. Project Implementation Units (PIUs) have been established in each of the Project towns. These are embedded within the provincial Departments of Public Works and Transport (DPWT) for the relevant provinces.

Table 1: Project Basic Data

ADB Grant/Loan number:	ADB Loan 3684-CAM, and ADB Grant 0591-CAM (Grant funded by Asian Development Fund)
Project Title:	Second Urban Environmental Management in the Tonle Sap Basin Project
Beneficiary:	Royal Government of Cambodia
Executing Agency:	Ministry of Public Works and Transport
Implementing Agency:	(i) Battambang Provincial Government and Battambang Provincial Project Implementation Unit (ii) Serei Saophoan Provincial Government and Serei Saophoan Provincial Project Implementation Unit (iii) Stueng Saen Provincial Government and Stueng Saen Provincial Project Implementation Unit
Date of Effectiveness:	14 December 2018
Closing Date:	30 June 2024

8. The TS2 Project includes 6 subprojects. Construction activities are ongoing for 4 of the 6 subprojects, and of the two remaining subprojects, one subproject will start construction work in February 2022, and the second subproject is subject to redesign. When no activities can be reported in the below sections, the term not applicable (n/a) will be used.

1.2 Summary of Project Progress

9. **Table 2** gives a brief summary of the project progress in terms of contract awards, construction works and other key activities in this reporting period.

Table 2: Project Progress Summary

Safeguards Category	Environment	B	
Reporting Period:	January – June 2021	Date Last Report Issued:	24/08/2021
Contracts Awarded to Date:	- CW01 Lot 1, Steung Saen Wastewater and Drainage awarded on 16 July 2020 - CW01 Lot 2, Battambang Wastewater awarded on 14 August 2020 - CW02, Serei Saophoan Wastewater and Drainage awarded on 19 April 2021 - CW03b, Stueng Saen Solid Waste Management awarded on 14 June 2021 - CW03c, Battambang Solid Waste Management awarded on 15 March 2021		
Key Subproject Activities in this Reporting Period (See photos in Annex 2)	Stueng Saen Wastewater and Drainage (CW01 Lot 1) - The contractor is China First Metallurgical Group Co., Ltd. - Construction start date: 27-Jul-2020 - Construction progress includes building for U-Drains, sewers, manholes, tertiary sewers incl. connections to junction boxes. Testing of tertiary sewers with CCTV. Water tightness tests of sewers and manholes have started. At WWTP building works continue. The planned progress at the end of December 2021 is 29.32%, whereas actual progress is 23.24%. - VO3 includes relocated PS1, additional gravity pipes to PS1, additional U-drain line, U-drain depth deeper than 1,5 meter and drainage outlet structures, removal of existing drains. Additional environmental impacts Battambang Wastewater (CW01 Lot 2)		

	- The contractor is M.T.A Construction Co., Ltd JV with Research Institute of Nuclear Industry. - Construction start date: 01-Oct-2020 - The construction progress includes continued construction of buildings at the WWTP and started making agreements with households for house connections. Shop drawings for sewer works are being prepared by the contractor and approved by PMC. Construction work for sewers, manholes, tertiary, and house connections have not started. The planned progress at the end of December 2021 is 23.88%, whereas actual progress is 10.20%. Serei Saophoan Wastewater and Drainage (CW02) - The contractor is Beijing Urban Construction Group Co., Ltd. - The contractor has undertaken engineering surveys and updated shop drawings. Construction works is planned to start in February 2022. The Contractor plans to start with three activities: a) pre-cast production of manholes and other underground structures, b) Sewer line in Zone 4, and c) clearing works at WWTP. Stueng Saen Solid Waste Management (CW03b) - The contractor is Heng Sambat Co., Ltd. Import Export Transportation and Construction. The construction progress includes: The contractor has finished the access road. New design of the landfill cells resulting from the higher-than-expected ground water level on the site. The contractor plans to submit shop drawings and quantity calculations as soon as possible and begin work at the landfill site. The planned progress at the end of December 2021 is 18.98%, whereas actual progress is 15.48%. Battambang Solid Waste Management (CW03c) - The contractor is Heng Sambat Co., Ltd. Import Export Transportation and Construction. - Construction start date: 12-Apr-2021 - The construction progress includes: Access road construction and construction of landfill facility building and cell-1. VO no. 3 on construction of cell-4 was prepared and is being processed. The planned progress at the end of December 2021 is 38.9%, whereas actual progress is at 95.00%. Serei Saophoan Solid Waste Management (CW03a) - The detailed engineering design is being revised due to concerns over stability of the quarry walls, and groundwater and stormwater complications. Approval was received that the landfill cells will be located inside the existing quarry pit and the buildings will be located at the old dumpsite (after remediation has taken place).
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1.3 Summary of EMP Implementation Jan-Jun 2021

1.3.1 Stueng Saen Wastewater and Drainage (CW01 Lot 1)

- The IEE and EMP have been updated in conjunction with the final detailed engineering design and cleared by ADB (see **Table 10**).
- The contractor has revised the CEMP aimed at bringing the CEMP in accordance with the updated EMP as required under the Corrective Action Plan issued by PMU/PMC on 19-Mar-2021. The status of the CEMP is indicated in **Table 12**.
- The contractor has completed an inventory of trees over 3 m high within the construction sites and reached agreement with the relevant authorities on protection of big trees.
- Fuel tank installed at the contractor's camp in accordance with safety requirements.
- The status of EMP implementation is summarised in **Table 13**.

1.3.2 Battambang Wastewater (CW01 Lot 2)

- The IEE and EMP have been updated in conjunction with the final detailed engineering design and cleared by ADB (see **Table 10**).
- The contractor has revised the CEMP aimed at bringing the CEMP in accordance with the updated EMP as required under the Corrective Action Plan issued by PMU/PMC on 19-Mar-2021. The status of the CEMP is indicated in **Table 12**.
- The status of EMP implementation is summarised in **Table 14**.

1.3.3 Serei Saophoan Wastewater and Drainage (CW02)

- The IEE and EMP have been updated in conjunction with the final detailed engineering design and cleared by ADB (see **Table 10**).
- The contractor has submitted a CEMP for review and approval. The status of the CEMP is indicated in **Table 12**.
- The construction works are planned to start in February 2022.

1.3.4 Stueng Saen Solid Waste Management (CW03b)

- The IEE and EMP have been updated in conjunction with the final detailed engineering design and cleared by ADB (see **Table 10**).
- The contractor has submitted a CEMP for review and approval. The status of the CEMP is indicated in **Table 12**.

1.3.5 Battambang Solid Waste Management (CW03c)

- The IEE and EMP have been updated in conjunction with the final detailed engineering design and cleared by ADB (see **Table 10**).
- The contractor has submitted a CEMP for review and approval. The status of the CEMP is indicated in **Table 12**.
- The status of EMP implementation is summarised in **Table 15**.

1.3.6 Serei Saophoan Solid Waste Management (CW03a)

- The detailed engineering design needs to be revised due to concerns over stability of the quarry walls, risk of groundwater pollution, uplift complications and stormwater management.
- Soil Investigations, surveys and wall stability assessment finished in December 2021.
- Start drafting the detailed engineering design in January 2022, where the landfill cells will be located inside the existing quarry pit and the buildings will be located at the old dumpsite (after remediation has taken place).

1.4 Summary of EMP Monitoring

10. Environmental quality monitoring for this period is summarized in **Table 3** and **Table 4**. Note that the “EMP” columns indicate the number of monitoring rounds that are required to be carried out during this reporting period in accordance with the EMP. For subprojects where construction work has not yet started, the relevant fields are marked with “n/a”.

Table 3: Summary of Environmental Quality Monitoring July – December 2021, Wastewater and Drainage

	Stueng Saen Wastewater and Drainage (CW01 Lot 1)		Battambang Wastewater (CW01 Lot 2)		Serei Saophoan Wastewater and Drainage (CW02)	
	EMP	Actual Jul-Dec 2021	EMP	Actual Jul-Dec 2021	EMP	Actual Jul-Dec 2021
Noise	2 stations, quarterly	none	2 stations, quarterly	none	2 stations quarterly	n/a
Air Quality	2 stations, quarterly	none	2 stations, quarterly	none	2 stations quarterly	n/a
Surface Water	2 stations, quarterly	none	2 stations, quarterly	none	2 stations quarterly	n/a

Table 4: Summary of Environmental Quality Monitoring July – December 2021, Solid Waste Management

	Stueng Saen Solid Waste Management (CW01 Lot 1)		Battambang Solid Waste Management (CW03c)		Serei Saophoan Solid Waste Management	
	EMP	Actual Jul-Dec 2021	EMP	Actual Jul-Dec 2021	EMP	Actual Jul-Dec 2021
Noise	2 stations, quarterly	none	2 stations once	none	n/a	n/a
Air Quality	2 stations, quarterly	none	2 stations once	none	n/a	n/a
Surface Water	2 stations, quarterly	none	2 stations once	none	n/a	n/a
Groundwater	4 wells, quarterly	none	4 wells, quarterly	none	n/a	n/a

11. The PMC monitoring missions to the construction sites during the reporting period are summarised in **Table 5**. The environmental monitoring mission reports are attached in **Annex 3**.

Table 5: Summary of PMC Monitoring Missions during the Reporting Period

Subproject	Time	Mission Content
Stueng Saen Wastewater and Drainage (CW01 Lot 1)	29-Jul-2021 20-Oct-2021	- Inspection of the construction of U-drain - There have not been any complaints from local people.
Battambang Wastewater (CW01 Lot 2)	30-Jul-2021 22-Oct-2021	- Site inspection of the camp site, access road and WWTP site, buildings, pumping stations and O Mony Stream - No significant environmental impacts identified
Serei Saophoan Wastewater and Drainage (CW02)	n/a	- No site inspection during the reporting period. - The contractor will start construction works in February 2022.
Stueng Saen Solid Waste Management (CW03b)	29-Jul-2021 21-Oct-2021	- The construction activities included clearing levelling and compacting of the access road from National Road No 6 to Landfill site.
Battambang Solid Waste Management (CW03c)	31-Jul-2021 22-Oct-2021	- Due to COVID-19 cases among the contractor's staff, the construction works had been temporarily suspended

1.5 Summary of Issues, Grievances and Corrective Actions

12. The issues, and grievances raised, and the corrective actions required during the reporting period are summarised in **Table 6** for each subproject.

Table 6: Summary of Issues, Grievances and Corrective Actions

Subproject	Issues	Grievances	Corrective Actions
Stueng Saen Wastewater and Drainage	None	None	CEMP revised consistent with the updated EMP, and "new" requirements have been satisfactorily implemented (Annex 5)
Battambang Wastewater	None	None	CEMP revised consistent with the updated EMP, and "new" requirements have been satisfactorily implemented (Annex 5)
Serei Saophoan Wastewater and Drainage	None	None	None
Stueng Saen Solid Waste Management	None	None	None
Battambang Solid Waste Management	None	None	None
Serei Saophoan Solid Waste Management	None	None	None

2 SAFEGUARDS STAFF, TRAINING AND DOCUMENTATION

2.1 Implementation Arrangements

13. The EMP defines the institutional arrangements including division and allocation roles and responsibilities for ensuring compliance with the Environmental Safeguards. **Table 7** provides a status of the relevant appointments at the PMU, PIU and the contractor for each subproject. The Table indicates that all currently required positions have been filled.

Table 7: Status of Environmental Safeguard Positions

Table 7: Status of Environmental Safeguard Positions				
Safeguards Role	Start of Assignment and Name of Specialist/Officer			
Project Management Consultant: International Environmental Specialist	Start Date:	March 2020	Full Time / Part Time	Part Time
	Name:	Dr Jamlong Suthin (March 2020 – October 2020) Dr Pau Prat Busquets (October 2020 – December 2020) Mr Peter Gammelgaard Jensen (January 2021)		
Project Management Consultant: National Environmental Specialist	Start Date:	July 2019	Full Time / Part Time	Part Time
	Name:	Mr. Chamnan Yin		
PMU - Environmental Control Officer	Start Date:	May 2020	Full Time / Part Time	Part Time
	Name:	Mr. Socheat Penh		
Steung Saen – Kampong Thom Province				
Safeguards Role	Start of Assignment and Name of Officer			
PIU Environmental and Social Safeguards Staff	Start Date:	September 2019	Full Time / Part Time	Full Time
	Name:	Mr. Soan Pisey		
PIU GRM Focal Point	Start Date:	September 2019	Full Time / Part Time	Full Time
	Name:	Mr. Keo Ratana		

Steung Saen – Kampong Thom Province				
Safeguards Role	Start of Assignment and Name of Officer			
CW01 Lot 1 Stueng Saen Wastewater and Drainage Contractor Environment Health & Safety Staff	Start Date:	December 2020	Full Time / Part Time	
	Name:	Mr. Orng Leang Meang		
CW01 Lot 1 Stueng Saen Wastewater and Drainage Contractor GRM Person	Start Date:	December 2020	Full Time / Part Time	
	Name:	Ms. Laing Leng Hieng		
CW03b Stueng Saen Solid Waste Management Contractor Environment Health & Safety Staff	Start Date:			Full Time
	Name:	Mr. Khut Ratha		
CW03b Stueng Saen Solid Waste Management Contractor GRM Person	Start Date:			Full Time
	Name:	Mr. Khut Ratha		

Battambang – Battambang Province				
Safeguards Role	Start of Assignment and Name of Officer			
PIU Environmental and Social Safeguards Staff	Start Date:	September 2019	Full Time / Part Time	Full Time
	Name:	Mrs. Kao Chhoun Nara		
PIU GRM Focal Point	Start Date:	September 2019	Full Time / Part Time	Full Time
	Name:	Mr. Nou Chamroeun		
CW01 Lot 2 Battambang Wastewater Contractor Environment Health & Safety Staff	Start Date:	December 2020	Full Time / Part Time	Full Time

Battambang – Battambang Province				
Safeguards Role	Start of Assignment and Name of Officer			
	Name:	Mr. Orng Leang Meang		
CW01 Lot 2 Battambang Wastewater Contractor GRM Person	Start Date:	December 2020	Full Time / Part Time	Full Time
	Name:	Mr. Orng Leang Meang		
CW03c Battambang Solid Waste Management Contractor Environment Health & Safety Staff	Start Date:			Full Time
	Name:	Mr Kong Mada		
CW03c Battambang Solid Waste Management Contractor GRM Person	Start Date:			Full Time
	Name:	Mr Kong Mada		

Serei Saophoan – Banteay Mean Chey Province				
Safeguards Role	Start of Assignment and Name of Officer			
PIU Environmental and Social Safeguards Staff	Start Date:	September 2019	Full Time / Part Time	Full Time
	Name:	Mr. Mouk Lay		
PIU GRM Focal Point	Start Date:	September 2019	Full Time / Part Time	Full Time
	Name:	Mr. Kun Sokun		
CW02 Serei Saophoan Wastewater and Drainage Contractor Environment Health & Safety Staff	Start Date:	September 2021	Full Time / Part Time	Full Time
	Name:	Mr. Kim Socheat		

Serei Saophoan – Banteay Mean Chey Province				
Safeguards Role	Start of Assignment and Name of Officer			
CW02 Serei Saophoan Wastewater and Drainage Contractor GRM Person	Start Date:	September 2021	Full Time / Part Time	Full Time
	Name:	Mr. Kim Socheat		

2.2 Training & Capacity Building

14. **Table 8** summarises the environmental safeguards training events that PMC has completed during this reporting period and the planned training events for the next six months. Environmental and social safeguards training will be implemented as soon as practicable after a construction contract has been awarded. The trainees include members of the relevant PIU, PMC site engineers, the contractor's environment, health and safety officer(s) and site engineers.
15. **Table 9** provides further information about the training delivered by PMC during the reporting period. The training reports are attached in **Annex 3**.

Table 8: Overview of Environmental Safeguards Training Delivered and Planned

Subproject	Training Subject	Delivered Jul-Dec 2021	Planned for Jan-Jun 2022
CW01 Lot 1 Stueng Saen Wastewater and Drainage	1. EMP Implementation Overview 2. Grievance Redress Mechanism 3. Mitigation Measures and Pollution Control 4. Environmental Monitoring	1. Nov 2021 2. Nov 2021 3. - 4. -	1. 2. 3. Mar 2022 4. Mar 2022
CW01 Lot 2 Battambang Wastewater	1. EMP Implementation Overview 2. Grievance Redress Mechanism 3. Mitigation Measures and Pollution Control 4. Environmental Monitoring	1. Nov 2021 2. Nov 2021 3. - 4. -	1. 2. 3. Apr 2022 4. Apr 2022
CW02 Serei Saophoan Wastewater and Drainage	1. EMP Implementation Overview 2. Grievance Redress Mechanism 3. Mitigation Measures and Pollution Control 4. Environmental Monitoring	1. Nov 2021 2. Nov 2021 3. - 4. -	1. Apr 2022 2. Apr 2022 3. - 4. -
CW03b Stueng Saen Solid Waste Management	1. EMP Implementation Overview	1. Nov 2021	1. Mar 2022

Subproject	Training Subject	Delivered Jul-Dec 2021	Planned for Jan-Jun 2022
	2. Grievance Redress Mechanism 3. Mitigation Measures and Pollution Control 4. Environmental Monitoring	2. Nov 2021 3. - 4. -	2. Mar 2022 3. - 4. -
CW03c Battambang Solid Waste Management	1. EMP Implementation Overview 2. Grievance Redress Mechanism 3. Mitigation Measures and Pollution Control 4. Environmental Monitoring	1. Nov 2021 2. Nov 2021 3. - 4. -	1. May 2022 2. May 2022 3. - 4. -
CW03a Serei Saophoan Solid Waste Management	1. EMP Implementation Overview 2. Grievance Redress Mechanism 3. Mitigation Measures and Pollution Control 4. Environmental Monitoring	1. - 2. - 3. - 4. -	1. May 2022 2. May 2022 3. - 4. -

Table 9: Training Details

Subproject	Training Content	Date and Place	Participants
Stueng Saen Wastewater and Drainage (CW01 Lot 1)	- ADB environmental safeguards policies. - National environmental laws and regulations. - Key environmental and social impacts of the subproject, pre-construction and during construction. - GRM process - Environmental and social monitoring during the construction.	23-Nov-2021 Meeting room of the PIU/DPWT	15 (male 13 and female 02) - PIU - Site engineers, PMC - PMC Safeguard Team - Contractor
Battambang Wastewater (CW01 Lot 2)	- ADB environmental safeguards policies. - National environmental laws and regulations. - Key environmental and social impacts of the subproject pre-construction and during construction. - GRM process - Environmental and social monitoring during the construction.	03-Nov-2021 Meeting room of PIU/PDPWT	14 (male 12 and female 02) - PIU - Site engineers - PMC Safeguard Team - Contractor
Stueng Saen Solid Waste Management (CW03b)	- ADB environmental safeguards policies. - National environmental laws and regulations. - Key environmental and social impacts of the subproject pre-construction and during construction.	24-Nov-2021	11 (male 11) - PIU - Site engineers - PMC Safeguard Team

Subproject	Training Content	Date and Place	Participants
	- GRM process - Environmental and social monitoring during the construction.		- Contractor
Battambang Solid Waste Management (CW03c)	- ADB environmental safeguards policies. - National environmental laws and regulations. - Key environmental and social impacts of the subproject pre-construction and during construction. - GRM process - Environmental and social monitoring during the construction.	03-Nov-2021	12 (male 10 and female 02) - PIU - Site engineers - PMC Safeguard Team - Contractor
Serei Saophoan Wastewater and Drainage (CW02)	- ADB environmental safeguards policies. - National environmental laws and regulations. - Key environmental and social impacts of the subproject pre-construction and during construction. - GRM process - Environmental and social monitoring during the construction.	04-Nov-2022	14 (male: 11 and female: 03) - PIU - Site engineers - PMC Safeguard Team - Contractor

2.3 ADB Clearances

16. **Table 10** summarises the status of the safeguard documents. The table shows that the safeguard documents are in place as required for all subprojects for which construction contracts have been awarded.

Table 10: Status of Environmental Safeguard Documents

Safeguards Documents	Update Issued (Latest Version)	Submitted to MPWT	Submitted to ADB	Comment
IEE CW01 Lot 1 Stueng Saen Wastewater and Drainage	February 2021	18-Feb-2021	23-Feb-2021	ADB has cleared the updated DED stage IEE and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
EMP CW01 Lot 1 Stueng Saen Wastewater and Drainage	February 2021	18-Feb-2021	23-Feb-2021	ADB has cleared the updated DED stage EMP and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents

Safeguards Documents	Update Issued (Latest Version)	Submitted to MPWT	Submitted to ADB	Comment
IEE CW01 Lot 2 Battambang Wastewater	February 2021	18-Feb-2021	23-Feb-2021	ADB has cleared the updated DED stage IEE and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
EMP CW01 Lot 2 Battambang Wastewater	February 2021	18-Feb-2021	23-Feb-2021	ADB has cleared the updated DED stage EMP and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
IEE CW02 Serei Saophoan Wastewater and Drainage	March 2021	26-Feb-2021	18-Mar-2021	ADB has cleared the updated DED stage IEE and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
EMP CW02 Serei Saophoan Wastewater and drainage	March 2021	26-Feb-2021	18-Mar-2021	ADB has cleared the updated DED stage EMP and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
IEE CW03b Stueng Saen Solid Waste Management	April 2021	01-Apr-2021	07-Apr-2021	ADB has cleared the updated DED stage IEE and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
EMP CW03b Stueng Saen Solid Waste Management	April 2021	01-Apr-2021	07-Apr-2021	ADB has cleared the updated DED stage EMP and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
IEE CW03c Battambang Solid Waste Management	March 2021	10-Mar-2021	11-Mar-2021	ADB has cleared the updated DED stage IEE and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
EMP CW03c Battambang Solid Waste Management	March 2021	10-Mar-2021	11-Mar-2021	ADB has cleared the updated DED stage EMP and uploaded the report to the ADB website for disclosure on behalf of the borrower, https://www.adb.org/projects/50102-002/main#project-documents
IEE CW03a Serei Saophoan Solid Waste Management	25-05-2020	-	-	PMC has reviewed the engineering design due to concerns over quarry wall stability, risk of groundwater pollution and management of stormwater. Soil Investigations, surveys and wall stability assessment has been undertaken, and the design revisions will include waste cells inside the existing quarry pit and the buildings at the old dumpsite (after remediation has taken place)

Safeguards Documents	Update Issued (Latest Version)	Submitted to MPWT	Submitted to ADB	Comment
EMP CW03a Serei Saophoan Solid waste management	25-05-2020	-	-	As above

2.4 National Approvals

17. **Table 11** summarises the status of the Initial Environmental and Social Impact Assessments for each subproject.

Table 11: Status of Initial Environmental and Social Impact Assessment (IESIA)

Documents	Submitted to MoE	Approved By MoE	Comments
IESIA CW01 Lot 1 – Stueng Saen: Wastewater and Drainage	March 2020	May 2020	
IESIA CW01 Lot 2 – Battambang: Wastewater	March 2020	May 2020	
IESIA CW02 - Serei Saophoan: Wastewater and Drainage	Final draft 31-Dec-2020	16-Feb-2021	
IESIA CW03b – Stueng Saen: Solid Waste Management	Final draft May 2021	12-July-2021	
IESIA CW03c – Battambang: Solid Waste Management	Final draft 31-Dec-2020	10-Feb-2021	
IESIA CW03a – Serei Saophoan: Solid Waste Management	Final draft 31-Dec-2020	02-Mar-2021	Due to design changes, MOE has been approached to confirm if the IESIA needs to be updated. No response yet from MOE

2.5 Contractors' Environmental Management Plans (CEMPs)

18. **Table 12** provides an overview of the status of the Contractors' Environmental Management Plans (CEMPs).

Table 12: Status of CEMP Approvals

Civil Works Package/ Subproject	Number of Submissions	Date of Latest Submission to PMU	Status of PMU/PMC Review and Approval	Date of PMU Response
Stueng Saen: Wastewater and Drainage (CW01 Lot 1)	5	07-Sep-2021	Approved	20-Sep-2021
Battambang: Wastewater (CW01 Lot 2)	8	29-Dec-2021	Approved	29-Dec-2021
Serei Saophoan: Wastewater and Drainage (CW02)	6	04-Oct-2021	Approved	26-Oct-2021
Stueng Saen: Solid Waste Management (CW03b)	3	10-Aug-2021	Approved	11-Aug-2021
Battambang: Solid Waste Management (CW03c)	2	12-Apr-2021	Approved	17-May-2021
Serei Saophoan: Solid Waste Management (CW03a)	n/a	n/a	n/a	n/a

3 EMP IMPLEMENTATION

3.1 Environmental Performance

19. The environmental performance of the subprojects evaluated against the environmental requirements stipulated in the respective EMPs is summarized in **Table 13**, **Table 14**, **Table 15**, **Table 19** and **Table 20**. The performance evaluation concerns the subprojects for which construction contracts have been awarded and work has started.
20. The evaluation of compliance is based on a combination of document reviews, analyses of environmental monitoring data, site visit observations (see **Annex 3**), and consultations with affected people and local authorities. The evaluation of compliance has also included information from the site inspections undertaken by the Site Engineers. These inspections focus on engineering aspects and may not have fully captured environmental issues, but are, however, likely to have identified any critical environmental concerns.
21. The implementation of environmental quality monitoring by the contractors has been delayed, which in the previous reporting period to a certain extent was due to COVID-19 restrictions with periodic lockdowns affecting laboratories and restricting site access for environmental monitoring technicians. However, for this reporting period there has not been the same level of restrictions, and the contractors have been informed that these measurements must be carried out.

Table 13: CW01 Lot 1 Stueng Saen Wastewater and Drainage - Status of EMP Compliance

Environmental Requirements	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Air quality control	Yes		Contractor instructed to carry out the required environmental quality monitoring
Noise mitigation	Yes		As above

Environmental Requirements	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Flora, land clearance	Yes		
Water quality management	Yes		As above
Spoil and borrow site management and rehabilitation	Partial	The spoil and borrow site management subplan in the CEMP was incomplete	The contractor has incorporated the required spoil and borrow site management in the CEMP (see Annex 5). Case closed.
Waste management	Yes		

Table 14: CW01 Lot 2 Battambang Wastewater - Status of EMP Compliance

Environmental Requirements	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Air quality control	Yes		
Noise mitigation	Yes		
Flora, land clearance	Yes	Survey and inventory of trees higher than 3 m had not been carried out	The inventory of trees in the construction areas has been completed and documented in the CEMP (see Annex 5). Case closed.
Water quality management	Yes		
Spoil and borrow site management and rehabilitation	Partial	The spoil and borrow site management subplan in the CEMP was incomplete	The contractor has incorporated the required spoil and borrow site management in the CEMP (see Annex 5). Case closed
Waste management	Yes		

Table 15: CW02 Serei Saophoan Wastewater and Drainage Status of EMP Compliance

Environmental Requirements	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Air quality control	n/a		
Noise mitigation	n/a		
Flora, land clearance	n/a		
Water quality management	n/a		
Spoil and borrow site management and rehabilitation	n/a		
Waste management	n/a		

Table 16: CW03b Stueng Saen Solid Waste Management - Status of EMP Compliance

Environmental Requirements	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Air quality control	Yes		Contractor instructed to carry out the required environmental quality monitoring

Environmental Requirements	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Noise mitigation	Yes		As above
Flora, land clearance	Yes		
Water quality management	Yes		As above
Groundwater quality	Partly	Groundwater monitoring wells completed in September 2021, but water quality monitoring not yet started	As above
Spoil and borrow site management and rehabilitation	Yes		
Waste management	Yes		

Table 17: CW03c Battambang Solid Waste Management - Status of EMP Compliance

Environmental Requirements	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Air quality control	Yes		Contractor instructed to carry out the required environmental quality monitoring
Noise mitigation	Yes		As above
Flora, land clearance	Yes		
Water quality management	Yes		As above
Groundwater Quality	Partly	Groundwater monitoring wells completed in December 2021, but water quality monitoring not yet started	As above
Spoil and borrow site management and rehabilitation	Yes		
Waste management	Yes		

3.2 Health and Safety Performance

22. The health and safety performance of the subprojects evaluated against the applicable requirements stipulated in the respective EMPs is summarized in **Table 18, Table 19, Table 20,** and **Table 21.** Table 20: CW03b Stueng Saen Solid Waste Management - Status of Health and Safety Compliance

Health and Safety Requirement	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
COVID-19 Protection	Yes		
Safe working conditions	Yes		
Labour welfare management	Yes		

Health and Safety Requirement	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
Traffic management	Yes		
Community safety and nuisance mitigation	Yes		

23. Table 21 The performance evaluation concerns the subprojects for which construction contracts have been awarded and work has started.

24. The evaluation of compliance is based on a combination of document reviews, analyses of environmental monitoring data, site visit observations, and consultations with affected people and local authorities. The evaluation of compliance has also included information from the site inspections undertaken by the Site Engineers. These inspections focus on engineering aspects and may not have fully captured occupational health and safety issues, but are, however, likely to have identified any critical concerns.

Table 18: CW01 Lot 1 Stueng Saen Wastewater and Drainage - Status of Health and Safety Compliance

Health and Safety Requirement	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
COVID-19 Protection	Yes		
Safe working conditions	No	Insufficient trench excavation safety measures in the CEMP	The contractor has incorporated the required trench excavation measures in the CEMP (see Annex 4). Case closed
Labour welfare management	Yes		
Traffic management	Yes		
Community safety and nuisance mitigation	Yes		

Table 19: CW01 Lot 2 Battambang Wastewater and Drainage - Status of Health and Safety Compliance

Health and Safety Requirement	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
COVID-19 Protection	Yes		
Safe working conditions	No	Insufficient trench excavation safety measures in the CEMP Workers not wearing the prescribed personal protective equipment	The contractor has incorporated the required trench excavation measures in the CEMP. (see Annex 5). Case closed. The contractor instructed to ensure that the workers wear the prescribed personal protective equipment
Labour welfare management	Yes		
Traffic management	Yes		
Community safety and nuisance mitigation	Yes		

Table 20: CW03b Stueng Saen Solid Waste Management - Status of Health and Safety Compliance

Health and Safety Requirement	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
COVID-19 Protection	Yes		
Safe working conditions	Yes		
Labour welfare management	Yes		
Traffic management	Yes		
Community safety and nuisance mitigation	Yes		

Table 21: CW03c Battambang Solid Waste Management - Status of Health and Safety Compliance

Health and Safety Requirement	Compliance (Yes, No, Partial)	Description of Non-compliance	Corrective Actions
COVID-19 Protection	Yes		
Safe working conditions	Yes		
Labour welfare management	Yes		
Traffic management	Yes		
Community safety and nuisance mitigation	Yes		

4 EMP MONITORING

4.1 Environmental Quality Monitoring

25. The environmental quality monitoring requirements during the construction period as defined in the respective EMPs compared with the contractors' actual implementation of these monitoring requirements are summarized in **Table 22**, **Table 23**, **Table 24** and **Table 25** for the subprojects for which construction contracts have been awarded and work has started.
26. As presented in **Table 22**, **Table 23**, **Table 24** and **Table 25** none of the subproject contractors have undertaken any of the required environmental quality monitoring. For the previous reporting period, to some extent, this was due to the COVID-19 restrictions with periodic lockdowns affecting laboratories and restricting site access for environmental monitoring technicians. For this reporting period, the restrictions have been less strict and the lack of compliance with the requirements in the respective EMPs and CEMPs have been emphasized to the relevant contractors.

Table 22: CW01 Lot 1 Stueng Saen Wastewater and Drainage - EMP Environmental Quality Monitoring Requirements

Parameters	Location	Frequency	Summary of Results
Air Quality PM ₁₀ , CO ₂ , NO ₂ , SO _x	Nearest residential receptor (2 locations) WWTP site (x:485052; Y: 2403283)	1 day every 3 months	None
Noise	Nearest residential receptor (2 locations) WWTP site (x:485052; Y: 2403283)	1 day (daytime only) every 3 months	None

Parameters	Location	Frequency	Summary of Results
Water Quality	Upstream and downstream SWQ1: (X: 488413, Y: 1405335) SWQ2: (X:487079, Y:1405387)	Every 3 months	None

Table 23: CW01 Lot 2 Battambang Wastewater - EMP Environmental Quality Monitoring Requirements

Parameters	Location	Frequency	Summary of Results
Air Quality PM10, CO2, NO2, SOx	Nearest residential receptor (2 locations) WWTP site (x:485052; Y: 2403283)	1 day every 3 months	None
Noise	Nearest residential receptor (2 locations) WWTP site (x:485052; Y: 2403283)	1 day (daytime only) every 3 months	None
Water Quality	Upstream and downstream SWQ1: (X: 488413, Y: 1405335) SWQ2: (X:487079, Y:1405387)	Every 3 months	None

Table 24: CW03b Stueng Saen Solid Waste Management - EMP Environmental Quality Monitoring Requirements

Parameters	Location	Frequency	Summary of Results
Air Quality PM10, CO2, NO2, SOx	Nearest residential receptors (landfill and nearest residential house2 locations)	1 day every 3 months	None In the reporting period, construction has only included access road
Noise	Landfill and nearest residential receptor (2 locations)	1 day (daytime only) every 3 months	None In the reporting period, construction has only included access road
Water Quality pH, BOD, COD, TSS, NH4-N, Total Nitrogen, Total Phosphorus, Oil and grease, Coliform	The effluent recipient, upstream and downstream the point of discharge	Every month during the rainy season Every 3 months in the dry season	None In the reporting period, construction has only included access road
Groundwater Temp, pH, DO, TDS, hardness, chloride, sulphate, Total Organic Carbon, BOD5, ammonia, total nitrogen, total phosphorus, total petroleum hydrocarbons, monoaromatic hydrocarbons, iron, aluminium, arsenic, cadmium, chromium, cobalt, copper, lead,	4 monitoring wells	Every 3 months (Method Statement for Groundwater Monitoring Wells Installation)	None The monitoring wells were completed in September 2021 Groundwater table measurements have been carried out but monitoring of groundwater quality has not started yet.

Parameters	Location	Frequency	Summary of Results
manganese, mercury, zinc, <i>E.coli</i>			

Table 25: CW03c Battambang Solid Waste Management - EMP Environmental Quality Monitoring Requirements

Parameters	Location	Frequency	Summary of Results
Air Quality PM10, CO2, NO2, SOx	Nearest residential receptors (landfill and nearest residential house2 locations)	1 day every 3 months	None
Noise	Landfill and nearest residential receptor (2 locations)	1 day (daytime only) every 3 months	None
Water Quality pH, BOD, COD, TSS, NH4-N, Total Nitrogen, Total Phosphorus, Oil and grease, Coliform	The effluent recipient, upstream and downstream the point of discharge	Every month during the rainy season Every 3 months in the dry season	None
Groundwater Temp, pH, DO, TDS, hardness, chloride, sulphate, Total Organic Carbon, BOD5, ammonia, total nitrogen, total phosphorus, total petroleum hydrocarbons, monoaromatic hydrocarbons, iron, aluminium, arsenic, cadmium, chromium, cobalt, copper, lead, manganese, mercury, zinc, <i>E.coli</i>	4 monitoring wells	Every 3 months (Groundwater Borehole and Monitoring Specification, Aug-2021)	None The monitoring wells were completed in December 2021 Groundwater table measurements have been carried out but monitoring of groundwater quality has not started yet.

4.2 Construction Phase Consultations with Affected People

27. As indicated in **Table 26**, there have not been any consultations on environmental issues with affected people during the reporting period.

Table 26: Construction Phase Consultations with Affected People

Subproject	Consultation Date	Person Consulted / Location	Outcome / Issues	Corrective Action Needed	Action Implemented by (person/date)

5 INFORMATION DISCLOSURE COMPLAINTS ISSUES

5.1 Information Disclosure

28. As indicated in **Table 27**, ADB has disclosed the cleared DED stage updated IEEs and EMPs. No other information disclosure activities have been carried out during the reporting period.

Table 27: Information Disclosure

Subproject	Content	Disclosure Date	Method of Disclosure
CW01 Lot 1 Steung Saen Wastewater and Drainage	Updated IEE and EMP	February 2021	ADB Website
CW01 Lot 2 Battambang Wastewater	Updated IEE and EMP	February 2021	ADB Website
CW02 Serei Saophoan Wastewater and Drainage	Updated IEE and EMP	March 2021	ADB Website
CW03b Steung Saen Solid Waste Management	Updated IEE and EMP	April 2021	ADB Website
CW03c Battambang Solid Waste Management	Updated IEE and EMP	March 2021	ADB Website

5.2 Grievance Redress Mechanism

29. The Grievance Redress Mechanism (GRM) is designed to receive, evaluate and facilitate the resolution of residents' concerns, complaints and grievances during project implementation. A Provincial Grievance Redress Committees (PGRC) has been established in each of the three cities and are operational. The GRM contact details for each subproject are listed in **Annex 4**. GRC establishment was done with the following reference letters:

- **Battambang:** PGRC with reference letter 037/19 SSR and PRSC with reference letter 036/1E SSR dated on **13 March 2019**.
- **Serei Saophoan:** PGRC with reference letter 112/19 SSR and PRSC with reference letter 113/19 SSR dated on **25 February 2019**.
- **Steung Saen:** PGRC with reference letter 1051/19 SSR and PRSC with reference letter 070/19 SSR dated on **28 February 2019**.

30. **Table 28** summarises information on complaints raised about the project during this reporting period as well as unresolved issues from previous reporting periods. The table includes complaints made thorough GRM entry points, issues raised in consultations and Issues raised any other way that the PMC is aware of.

Table 28: Project Complaints or Issues

Details of Complaint / Issue Raised	Detail of Person (Date, Name, Contact Details)	Action Needed & Date	Comment / Resolved?

6 CONCLUSIONS & RECOMMENDATIONS

6.1 Conclusions

31. The corrective actions that PMU/PMC instructed the respective contractors of CW01 Lot 1 Steung Saen Wastewater and Drainage and CW01 Lot 2 Battambang Wastewater to implement in March 2021 have been fully complied with (see **Annex 5**). These corrective actions were required based on the updated EMPs for the two projects.
32. There is a significant backlog with implementation of environmental quality monitoring for all construction contractors, which in the previous reporting period to a certain extent was due to COVID-19 restrictions with periodic lockdowns affecting laboratories and restricting site access for environmental monitoring technicians. However, for this reporting period there has not been the same level of restrictions, and the contractors have been informed that these measurements must be carried out.

33. All CEMPs submitted by the contractors for review have now been approved after lengthy review processes with several revisions before reasonably satisfactory plans were produced by the contractors.
34. The environmental site inspection and supervision by PMC has not been carried out with the intended frequency, and PMC recognises that additional efforts are needed to build the capacity of the environmental officers/consultants/site engineers of the PMU, PMC and PIUs. To that end, PMC has developed a guideline on environmental inspection (planning, preparation, execution, reporting) and training on the guideline is expected to be carried out in Q1 2022.
35. Community and occupational health and safety, especially for the construction of drainage lines, sewers and pump stations, remain high priority requiring special attention to ensure that the contractors diligently and effectively implement all necessary safety precautions and that they carry out their own inspections by qualified geotechnical engineers.

6.2 Recommendations

36. It is recommended to put additional efforts into building the capacity of the PMU/PMC/PIU in undertaking effective compliance assurance. The capacity building should include:
 - On-the-job training of designated environmental officers, consultants and site engineers of the PMU, PMC and PIUs based on the inspection guideline developed by PMC
 - Development and application of compliance assurance procedures (non-compliance reporting, imposing sanctions).
37. The PMC will strengthen the efforts to inspect community and occupational health and safety issues, in particular with respect to trench excavations for sewers, drainpipes and pump stations.

Annex 1 Environmental Quality Monitoring Results

None

Annex 2 Photo Record

Stueng Saen Wastewater and Drainage, December 2021

WWTP captured by drone



WWTP captured by drone



Casting slab concrete of admin building, Workshop at WWTP



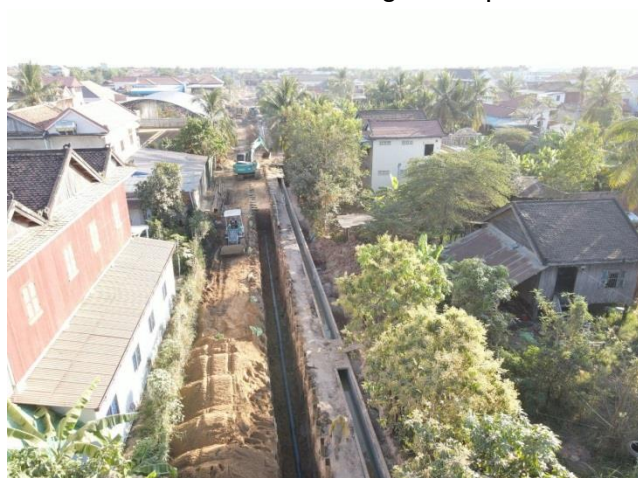
Fixed rebar's and prepare form work at Inlet Chamber and Screening



U-drain line captured by drone



Sewer line construction using sheet piles



Battambang Wastewater Treatment Plant, December 2021



Overview of Wastewater Treatment Plant.



Overview of Administration building at WWTP.



Overview of Workshop building at WWTP.

Stueng Saen Solid Waste Management

Stueng Saen Solid Waste Management: Landfill



Area

Stueng Saen Solid Waste Management: Access



Road

Battambang Solid Waste Management: Overview of Landfill Progress





Annex 3 Environmental Monitoring Mission Reports and Training Reports

Field Monitoring Report

I. Introduction

II. Field Monitoring

On 29-31 July 2021 the safeguards team (national environmental specialist and national social safeguards specialist) conducted site monitoring on the construction activities of the TS2 subprojects: Wastewater and Drainage subproject, and Landfill subproject in Stung Saen Town, Kampong Thom Province and Wastewater subproject, and Landfill subproject in Battambang Town, Battambang Province.

The filed environmental monitoring focuses on the environmental issues, and proposed mitigation measure of local environmental and social receptors, during construction activities:

- The results of environmental monitoring and EMP implementation by contractors, and environmental-social reports from January to June 2021.
- The results of monthly progress reports of all the packages from the contractors and resident engineers/assistant engineers/inspectors;
- Site investigate and observe of the road construction activities, that can be affected/impacted to environmental and social receptors in, near and surround the project sites.
- The site visit/monitoring and investigations of the construction sites is included discussion with site engineers, inspectors, contractors, local authorities, and affected communities.

III. Summary of the Monitoring and Construction Pictures

1. Wastewater and Drainage Subproject in Stung Saen Town, on 29 July 2021

This subproject will improve, collect, and construct the drainage and sewage system in some areas in Stung Saen town and construct the WWTP.

- The contractor for this subproject is China First Metallurgical Group Co., Ltd.
- The constructions are under clearing, excavation, and installation culverts/pipes.
- The drainage/culvert system construction sites are located on the ROW of the road in the town.
- Some roads are narrow, can be affected to local traffic movement.
- Campsite is located in village area. Separating from resident and fencing campsite.



	
The oil tank store in the campsite	some female workers work for project in the campsite
	
The installation culvert and drainage system on the ROW of road in the Stueng Saen town. The public safety and traffic safety control on the construction site.	
	
Discussion with site manager and engineers of stable provide the public safety sign boards on construction sites	Access road to WWTP will be improved to concrete road
	
The progress of construction WWTP site for Stueng Saen Town	

2. Landfill Subproject in Stueng Saen Town, on 29 July 2021

- The construction of this subproject is Heng Sambat Co., Ltd. Import Export Transportation and Construction.
- The landfill site is located in the rural area.
- The construction is just mobilized in July 2021 and started clearing the access road from National Road No 6. to the landfill site.
- There are no impacts on structures or properties along the road.
- The campsite is under preparation.
- The campsite is far from residents and outside village area.



The clearing access road from NR No6 to landfill site. The access road will improve follow to existing road and will improve to concrete road



The campsite is under preparation far from residential areas



The oil tank store in Landfill campsite



The own contractor's water supply in landfill campsite

3. Wastewater Subproject in Battambang Town, on 30 July 2021

- The M.T.A Construction Co., Ltd JV with Research Institute of Nuclear Industry is contractor for this subproject.
- The campsite is far from town and residential areas, near the WWTP site. The campsite is fenced.
- The construction works include clearing and excavations at the WWTP site and access road.
- The construction of sewage system has not started yet.

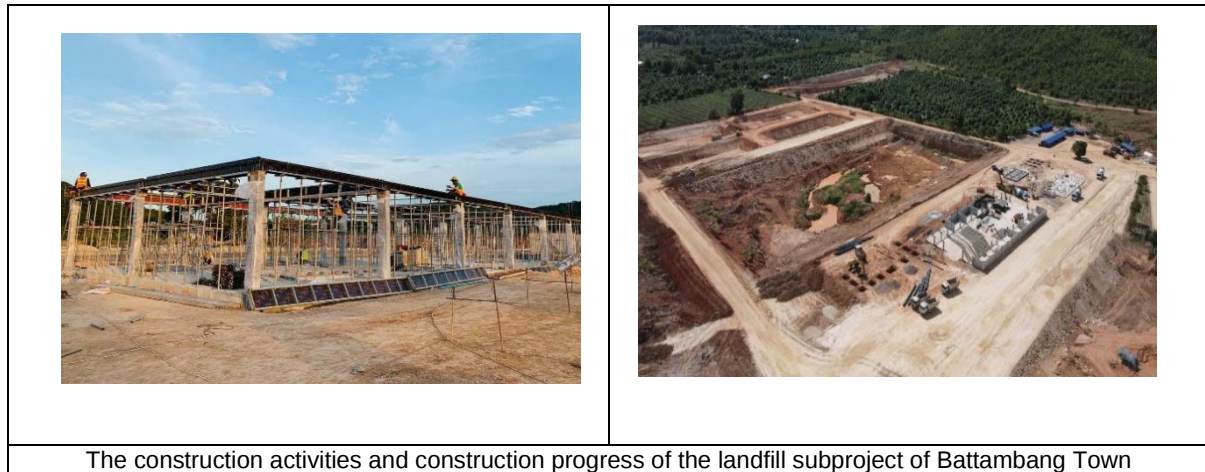




4. Landfill Subproject of Battambang Town on 31 July 2021

- The contractor for this subproject is **Heng Sambat Co., Ltd. Import Export Transportation and Construction.**
- The landfill site is located far from residential and village areas. No sensitive receptors and no traffic movement in this area.
- The landfill is being constructed in hilly, upland area in an existing borrow site for rock and laterite sources
- The campsite is near the landfill and far from village area.





IV. Conclusion

Based on reviewing project reports, conducting site visits and monitoring of the construction activities, and discussion with site engineers, site manager and contractors, it is concluded that the current construction activities have not caused any significant local environmental and social impacts. A few minor impacts are anticipated such as: increasing air, dust, noise, and disturbing/interrupting local traffic movements. However, when implementing the following mitigation measures, the contractor will be able to mitigate such impacts:

- Inform and work closely with local authorities, and affected households of construction schedule, removing or installation the obstruction structures or utility services from construction sites.
- Provide safety signs, traffic safety control and regular monitoring the public safety or traffic safety management, on construction sites.
- Provide PPE to site construction workers and construction staffs.
- Try to provide jobs for local people, especially women and members of poor families.
- Limit the driving speed of construction vehicles in village/urban areas and other sensitive areas, especially access road to borrow pit sites.
- Provide watering to reduce dust pollution in village and urban areas.
- Improve or speed up the construction activities as soon as possible in market or urban areas for reduce the affected on local business activities.
- The campsites should be provided with fencing, safety sign, and sanitation campsites
- Separate non-hazardous and hazardous waste and store waste in safety containers and give to local licensed waste collectors to transport and dispose. Don't dispose/dump the solid waste into water sources and public areas.
- Provide septic tank for store wastewater from campsites. Don't discharge wastewater into water sources and public areas.

Field Monitoring Report

II. Field Monitoring

On the 20-22 October 2021, the safeguards team of PMC, TS2. National Environmental Specialist, National Social Safeguards Specialist, and National Landfill Engineer conducted site inspection of subproject construction for Wastewater and Drainage and Landfill subprojects in Stueng Saen town, Kampong Thom Province and Battambang town, Battambang province.

The filed environmental monitoring/inspection focuses on the environmental safeguards management by contractors, and proposed mitigation measure for environmental and social safeguards management, during construction activities:

- The results of environmental monitoring and EMP implementation by contractors, and environmental-social reports from January to June 2021.
- Reviewing the monthly progress reports of the construction activities for sung Sen and Battambang subprojects
- The site visit/monitoring and investigations of the construction sites is included discussion with site engineers, site managers.
- Site investigate and observe of the construction activities, that can be affected/impacted to environmental and social receptors in, near and surround the project sites.

The keys of the field inspection/field monitoring notes are summarized below.

II. Summary of the Monitoring and Construction Pictures

1. Wastewater, drainage, sewers, and WWTP subproject in Stueng Saen Town

This subproject will improve, collect, and construct the drainage and sewage system in some areas in Stueng Saen town and construct the WWTP.

- The contractor for this subproject is China First Metallurgical Group Co., Ltd.
- There are no more construction activities in this month, due of raining season.
- There some U-Drainage (open drainage) lines are constructing on the downstream side of the town. There are 25 U-Drainage lines have been finished.
- The construction site is located on the ROW of the road in the town. So during construction can be disturbed to local traffic, especially on some narrow road sections.
- There are few traffic movements on these roads, so impact on local traffic is small and temporary.
- There are no complained from local people, they are happy with project, because this are almost every year floods by raining water during heavy rains.
- There are no construction activities for WWTP during this Month.



	
The condition of existing roads and U-Drainage constructed/installed on the ROW	
	
Safety management on drainage construction sites	
	
Safety management on drainage construction sites	
	
The progress of construction WWTP site for Stueng Saen Town	

2. Landfill subproject in Stueng Saen Town

- The construction of this subproject is Heng Sambat Co., Ltd. Import Export Transportation and Construction.

- The landfill site is located far from town in the rural area. The campsite is far from resident and outside of village area, in front of landfill site. So during construction the impacts on social receptors are very small.
- Now the construction activities only for improving access road from National Road No6 to Landfill site is under clearing levelling and compacting.
- There are no impacts on structures or properties are along the road.
- The construction is closed in October 2021, due to heavy rains and national holidays, the construction plan to mobilize on 1st November 2021.



The access road will improve follow to existing road and the progress of access road in October 2021



The progress of access road in October 2021



The social safety sign boards are awareness in the campsite



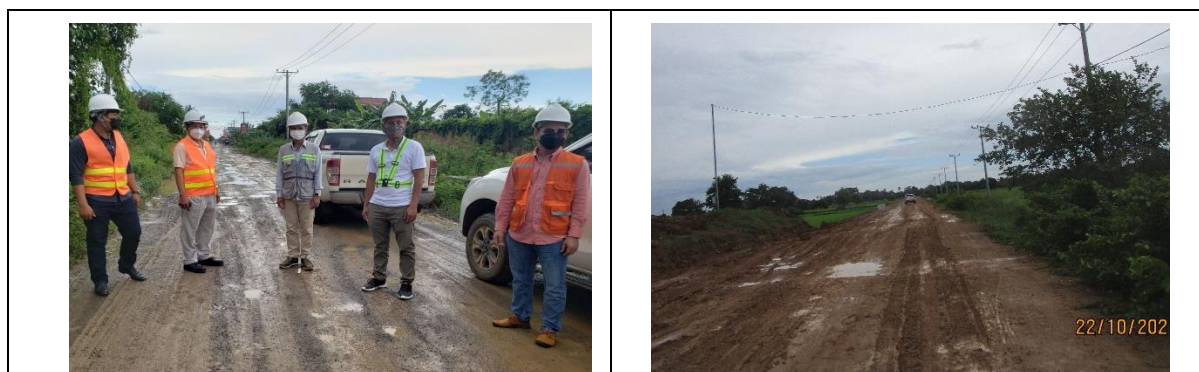
The construction equipment are stored in contractor's campsite	

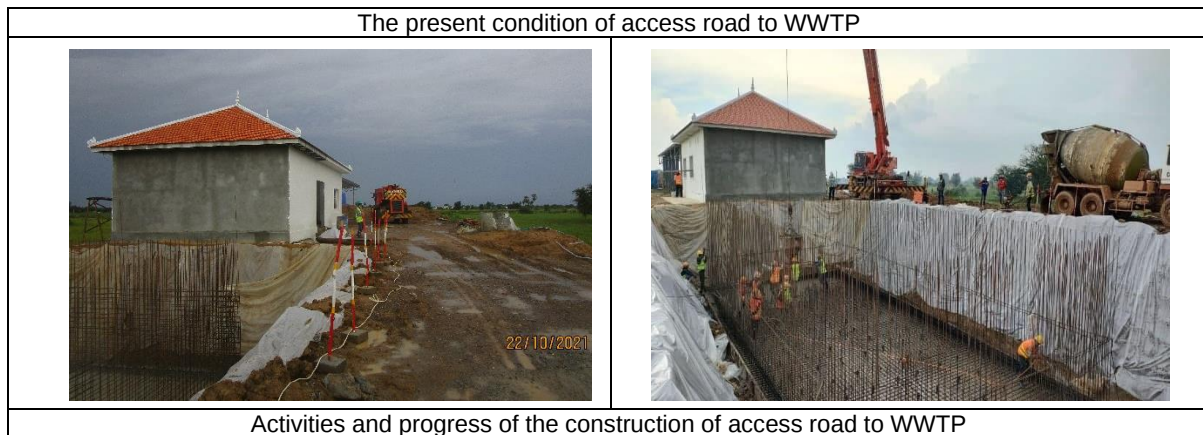
Site visits and discussion for Stueng Saen subprojects

No	Name	Sex	Institution	Position	Phone
1	Chan Narith	M	PMC	Social Safeguards	
2	Yim Chamnan	M	PMC	Environmental Safeguards	
3	Yin Somean	M	PMC	Landfill Engineer	
4	Saing Soveasna	M	PMC	Site Engineer	012 763 350
5	Harm Laychheng	M	PMC	Site Engineer	017 792 882
6	Tep Rothanak	M	WW Contractor	Construction Manager	012 884 968
7	Hem Chheut	M	WW Contractor	Site Manager	078 881 819
8	Seng Heoun	M	WW Contractor	ES Safeguards	012 629 212
9	Mai Khann	M	Landfill Contractor	Site Engineer	077 328 110

3. Wastewater and WWTP Subproject in Battambang Town

- The M.T.A Construction Co., Ltd JV with Research Institute of Nuclear Industry is contractor for this subproject.
- The campsite is far from town and residential areas, near the WWTP site. is fencing campsite.
- There are few construction activities in this due of raining season such as: WWTP structures, buildings, pumping stations, and access road clearing, leveling and road structures. During site visits was raining, the site inspection is hard to walk.
- The WWTP site is located in the rural area and far from residential/village areas. surrounding the WWTP site are rice fields. The impact of subproject construction on social receptors are not significant.
- The sewage system sites are located in Battambang town is populated area along of the roads. Now the construction of the sewage system is not started yet, the contractor plan to start in December 2021 or January 2022.





4. Landfill Subproject of Battambang Town

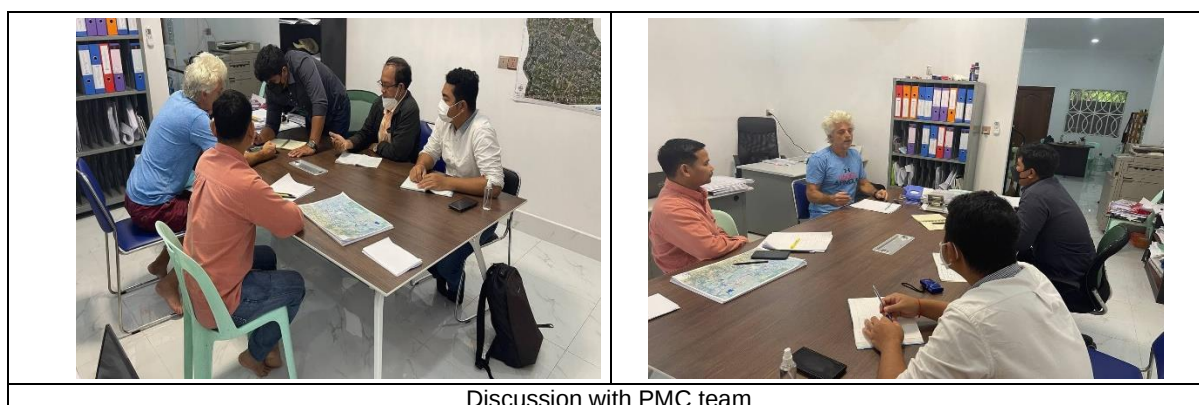
- The contractor for this subproject is **Heng Sambat Co., Ltd. Import Export Transportation and Construction.**
- The landfill site is located far from residential and village areas. No sensitive receptors and no traffic movement in this area. surrounding landfill site are borrow-pit and quarry sites
- The construction landfill is in on the hilly areas of Takream Mounting, is upland area.
- The contractor's campsite is located near the landfill site, large campsite and far from village area.
- During site inspection on 22 October 2021, there were not construction activities, caused of a few contractor engineers and staffs were positive of COVID-19. So landfill site construction is closed within 2-3 weeks.





Site visits and discussion for Battambang subprojects

No	Name	Sex	Institution	Position	Phone
	Lars Orio	M	PMC	DTL	
1	Chan Narith	M	PMC	Social Safeguards	
2	Yim Chamnan	M	PMC	Environmental Safeguards	
3	Yin Somean	M	PMC	Landfill Engineer	081 919 027
4	Sem Chanda	M	PMC	Site Engineer	086 804 007
5	Choun Sok Chhak	M	PMC	Site Engineer	
6	Ly Heng	M	WW Contractor	Site Manager	096 663 6552



IV. Conclusion

During subprojects construction, there are not sensitive impacts from construction activities on local environmental and social resources in this period. A few minor impacts will be anticipated such as: increasing air, dust, noise, and disturbing/interrupting local traffic movements. However, the contractor should be provided the mitigation measures of these negative impacts:

- Inform and work closely with local authorities, and affected households of construction schedule, removing or installation the obstruction structures or utility services from construction sites.
- Provide safety signs, traffic safety control and regular monitoring the public safety or traffic safety management, on construction sites.
- Provide PPE to site construction workers and construction staffs, when they work at sites.
- Try to provide jobs or un-skill construction workers to local people, especially woman heard of families and poor families.
- Limited the driving speed of construction vehicles in village/urban areas and other sensitive areas, especially access road to borrow pit sites.
- Provide watering to reduce dust pollution in village and urban areas, where is dusty.
- Improve or speed up the construction activities as soon as possible in market or urban areas for reduce the affected on local business activities.
- The campsites should be provided fencing, safety sign, and sanitation campsites
- Separated by non-hazardous and hazardous wastes stored in safety container and give to local license waste collectors to transport and dump to local dumping site. Don't dispose/dump the solid waste into water sources and public areas.
- Provide septic tank for store wastewater in campsites. Don't discharge wastewater into water sources and public areas.

The Environmental and Social Safeguards Training Battambang and Serei Saophoan Town Subprojects

03-04 November 2021

The Training on Environmental and Social Safeguards (ESS) Training/Awareness is conducted by the Environmental and Social Safeguards Specialist of PMC. The ESS training is collaborated and in partnership with the PMU and PIUs.

General Objective:

To improve and aware the environmental and social safeguards management mechanisms or measures is included: roles and responsible by contractor and relevant agencies of project construction.

To increase the level of knowledge and skills of the participants (PIU and contractor) in implementing and monitoring the EMP/CEMP, and other social safeguards activities to ensure quality project implementation and monitoring during project construction.

The ESS training conducted and organized by PMC. The participants came from PMU, PIU, and Contractors. In the end of the training, the participants will be able to:

- Explain the importance/ purpose of implementing safeguard policies (environmental, resettlement and IPs/ Ethnic groups) and key activities
 - Explain the activities in the EMP/ CEMP.
 - Appreciate the purpose and use of a Grievance Redress Mechanism (GRM);
 - Identify key issues and concerns, and timely implementation of corrective measures
38. to mitigate adverse impacts during construction stage;
- Familiarize basic safeguard monitoring tools relevant to EMP/ CEMP, RAP, and other Social related activities.
 - Prepared the resources for mitigation or response the negative impacts.
 - Define the roles and responsibilities of persons/ agencies tasked to implement and monitor.

1. Battambang WW and Sewage System Subproject

- The ESS Training conducted on 03 November 2021 (in morning section) at meeting room of PDPWT Office in Battambang town, Battambang province.
- There were 14 participants came from PMC, PMU, PIU, and MTA Contractor

2. Battambang Landfill Subproject

- The ESS Training conducted on 03 November 2021 (in Afternoon section) at meeting room of PDPWT Office in Battambang town, Battambang province.
- There were 12 participants came from PMC, PIU, and Heng Sambat Contractor.

3. Serei Saophoan WW, Sewage, and Drainage System Subproject

- The ESS Training conducted on 04 November 2021 at Meeting Room of PDPWT Office in Serei Saophoan town, Banteay Meanchey province.
- There were 15 participants came from PMC, PIU, and BUCG Contractor.



The training pictures for WW and Sewage subproject in Battambang Town



The training pictures for Landfill subproject in Battambang Town



The training pictures for WW, Sewage, and Drainage subproject in Serei Saophoan Town

Participants for WW subproject in Battambang Town

N o	Name	Se x	Institution	Position	Phone
1	Kem Sokuntheary	F	PDPWT/PIU	Director of PIU	092 818 017
2	Song Soeung	M	PIU staff	Social Safeguards	012 975 250
3	Noa Chhunnara	F	PIU staff	Environmental Safeguards	092 751 504
4	Meas Chanserei Odam	M	MTA Contractor	Staff	096 467 431
5	Sorn Pysei	M	--	Staff	010 894 493
6	Chuon Sokcheak	M	PMC	Site supervisor	011 566 256
7	Sem Chanda	M	--	Site engineer	099 566 577
8	Ly Nara	M	--	DTL, TS2	012 823 767
9	Yim Chamnan	M	--	Environmental Safeguards	
10	Heang Lyhong	M	MTA Contractor	Site Manager	061 828 203
11	Thy Phong Keang	M	--	Surveyor	096 574 7474
12	Thy Theanun	M	--	Surveyor	086 818 327
13	Dep Kimny	M	PIU	Member	077 374 446
14	Chan Narith	M	PMC	Social Safeguards	089 566 998

Participants for Landfill subproject in Battambang Town

N o	Name	Se x	Institution	Position	Phone
1	Kem Sokuntheary	F	PDPWT/PIU	Director of PIU	092 818 017
2	Chuon Sokcheak	M	PMC	Site supervisor	011 566 256
3	Sem Chanda	M	--	Site engineer	099 566 577
4	Yim Chamnan	M	--	Environmental Safeguards	
5	Ly Nara	M	--	DTL, TS2	012 823 767
6	Chhun Hath	M	HS Contractor	Site Engineer	096 866 8098
7	Hong Menghout	M	--	Assistant	
8	Veoun Minea	M	--	Site Engineer	070 890 558
9	Noa Chhunnara	F	PIU	Environmental Safeguards	092 751 504
10	Song Soeung	M	--	Social Safeguards	012 975 250
11	Dep Kimny	M	--	Member	077 374 446
12	Chan Narith	M	PMC	Social Safeguards	089 566 998

Participants for WW and Drainage subproject in Serei Saophoan Town

N o	Name	Se x	Institution	Position	Phone
1	Ly Nara	M	PMC	DTL, TS2	012 823 767
2	Tit Sophal	M	--	Site Engineer	089 612 196
3	Yim Chamnan	M	--	Environmental Safeguards	
4	Chan Narith	M	--	Social Safeguards	089 566 998
5	Muth Lay	M	PIU	PIU staff	017 538 802
6	Chan Saroeun	M	--	PIU staff	089 500 568
7	Kkem Pich Rasmey	M	--	PIU staff	092 760 350
8	Ou Synith	M	--	PIU staff	070 545 475
9	Chhay Vanny	F	--	PIU staff	010 995 686
10	Poa Srey Pheak	F	--	PIU staff	092 905 248
11	Chhum Chanrasmey	M	BUCG Contractor	ES staff	098 663 663
12	Kong Theara	M	--	ES staff	089 553 670
13	Pu Chun Yu	M	--	Site engineer	010 790 715
14	Chan Vongrasmey	F	--	Interpreter	078 833 719
14	Oi Fei	M	--	Project Manager	099 779 721

The Environmental and Social Safeguards Training Stung Saen Town Subprojects, Kampong Thom Province (23-24 November 2021)

The Training on Environmental and Social Safeguards (ESS) Training/Awareness is conducted by the Environmental and Social Safeguards Specialist of PMC. The ESS training is collaborated and in partnership with the PMU and PIUs.

General Objective:

To improve and aware the environmental and social safeguards management mechanisms or measures is included: roles and responsible by contractor and relevant agencies of project construction.

To increase the level of knowledge and skills of the participants (PIU and contractor) in implementing and monitoring the EMP/CEMP, and other social safeguards activities to ensure quality project implementation and monitoring during project construction.

The ESS training conducted and organized by PMC. The participants came from PMU, PIU, and Contractors. In the end of the training, the participants will be able to:

- Explain the importance/ purpose of implementing safeguard policies (environmental, resettlement and IPs/ Ethnic groups) and key activities
 - Explain the activities in the EMP/ CEMP.
 - Appreciate the purpose and use of a Grievance Redress Mechanism (GRM);
 - Familiarize basic safeguard monitoring tools relevant to EMP/ CEMP, RAP, and other Social related activities.
 - Present and identify key issues and concerns, and timely implementation of corrective measures
 - 39. to mitigate adverse impacts during construction stage;
 - Prepared the resources for mitigation or response the negative impacts.
 - Define the roles and responsibilities of persons, contractors to implement EMP or monitoring the subproject activities.
 - Present the roles and responsibilities PMU, PIU, PMC, and relevant agencies tasked to implement and monitor.
- 4. Stung Saen WW and Sewage System Subproject**
- The ESS Training conducted on 23 November 2021 at meeting room of PDPWT Office in Stung Saen town, Kampong Thom province.
 - There were 15 participants came from PMC, PMU, PIU, and MCC Contractor staffs
- 5. Stung Saen Landfill Subproject**
- The ESS Training conducted on 24 November 2021 at meeting room of PDPWT Office in Stung Saen town, Kampong Thom province.
 - There were 11 participants came from PMC, PIU, and Heng Sambat Contractor staffs.

Pictures



The training pictures for WW and drainage subproject in Stueng Saen Town (23-11-2021)



The training pictures for landfill subproject in Stueng Saen Town (24-11-2021)

Participants for WW and Drainage subproject in Stung Saen Town

N o	Name	Sex	Institution	Position	Phone
1	Yin Ngok	M	PDPWT/PIU	Deputy director department	012 610 279
2	Chhouy Kosal	M	Stun Sen town	Deputy governor	012 860 103
3	Li Xiugas	M	MCC Contractor	Project Manager	093 311 560
4	Chutoma Pmochigat	F	--	Assistant PM	097 946 0501
5	Soun Vicheat	M	PDAFF/PIU	Chief of culvert office	092 675 936
6	Hem Chanrith	M	MCC Contractor	Site Manager	078 881 819
7	Yoeun Samnang	M	--	E Safeguards	070 444 678
8	Thett Longdy	M	--	Safety	096 277 7733
9	Tep Ratanak	M	--	Contraction Manager	012 884 968
10	Saing Soveasna	M	PMC	Site Engineer	012 763 350
11	Ham Laycheang	M	--	Site Supervisor	017 792 882
12	Yim Chamnan	M	--	Environmental safeguards	012 945 546
13	Chan Narith	M	--	Social safeguards	089 566 998
14	Khon Khanya	F	PDPWT	PIU staff	077 373 724
15	Keo Soksamnang	M	MCC Contractor	Site Engineer	061 846 688

The participants: 15 persons (Male: 13 and Female: 2)

Participants for Landfill subproject in Stung Saen Town

N o	Name	Sex	Institution	Position	Phone
1	Yin Ngok	M	PDPWT/PIU	Deputy director department	012 610 279
2	Chhouy Kosal	M	Stun Sen town	Deputy governor	012 860 103
3	Soun Vicheat	M	PDAFF/PIU	Chief of culvert office	092 675 936
4	Saing Soveasna	M	PMC	Site Engineer	012 763 350
5	Ham Laycheang	M	--	Site Supervisor	017 792 882
6	Yim Chamnan	M	--	Environmental safeguards	012 945 546
7	Chan Narith	M	--	Social safeguards	089 566 998
8	Khut Ratha	M	HSB Contractor	Deputy Project Manager	077 572 255
9	Miy Khann	M	--	Card operator	077 328 110
10	Soth Sok	M	--	Surveyor	011 514 203
11	Moa Vathvichea	M	--	Lab.	093 425 856

The participants: 11 persons (all male)

Annex 4 Grievance Redress Mechanism

GRIEVANCE REDRESS MECHANISM

GRM Objective

A grievance redress mechanism (GRM), consistent with the requirements of the ADB Safeguard Policy Statement (2009) will be established to prevent and address community concerns, reduce risks, and assist the project to maximize environmental and social benefits. In addition to serving as a platform to resolve grievances, the GRM has been designed to help achieve the following objectives: (i) open channels for effective communication, including the identification of new environmental issues of concern arising from the project; (ii) demonstrate concerns about community members and their environmental well-being; and (iii) prevent and mitigate any adverse environmental impacts on communities caused by project implementation and operations. The GRM is accessible to all members of the community.

The GRM contact details for each Subproject are listed in table below.

Contact Details for GRM (to be updated as contacts are decided)

Province	Subproject	Contact person for GRM			
		Commune	Province	PIU	Contractor
BTB	SWM	-Mr. Im Bunyou, Commune Chief, Ta Kream commune, Tel: 097 200 4679, 012 609 956 -Mr. Boe Sarane, Poy Svay Village Chief, Ta Kream commune, Tel: 097 214 5666 -Mr. Yeut Yeang, Commune Council of Ta Kream commune, Tel: 068 421 575	-Lieutenant Tes Bunthoeun, Police Post Ta Kream- Call in Emergency: 097 910 6625	Kem Sokuntheary, PIU Chief (PDPWT) 092 818 017 Mr. Nou Chamroeun, Resettlement Officer (PDPWT) : 017 339 986	•Mr. Rim Phearun Project Manager Tel: 010 425 225 •Mr. Chea Chamroeun Environmentalist Tel: 081 430 059 •Mr. Khem KhanHealth and Safety Manager Tel: 012 556 380 •Mr. Chhan Dona Health and Safety Officer Tel: 068 455 557
BTB	WWTP	Ratanak Mr.Yuos Yern Tel: 092 330181 Preak Prah Sdac Mr. Tao Horn Tel: 012 365279	Battambang city Peng Sithy Sang Kae District Lum Sorm Ek Phnom District Mel Sophal Kim Vannak City Tep Horn	Keum Sokuntheary Tel: 092 818 017	Tith Tikea Project manager Tel: 077 258 224
SPH	SWM				
SPH	WWTP	Sangkat Kampong Roteh Leang Chuon Tel: 017 366 028 Sangkat Dmorei Choan Khla Heng Sochenda Tel: 011 889 222 Sangkat Kampong Thom Trork Luem Tel: 092 907 355 Sangkat Oukunthou Chiv Kem Un	Excellency, Sok Lou Provincial Governor Tel: 012 658 668	Chou Kulla Director of KTH DPWT Tel: 012 971317	Kim Socheat Environmental Specialist Tel: 061 860 001

		Tel: 012 214 628 Sangkat Trapaeng Russey Uk Vannary Tel: 092 911 664			
STS	SWM	Sangkat Dmorei Choan Khla Heng Sochenda Tel: 011 889 222	Excellency, Sok Lou Provincial Governor Tel: 012 658 668	Sourn Pisey, Social and Environmental Officer Tel: 070 730 198	Pov Rathana Safety Engineer for Environmental and Health and Safety Tel: 096 980 0532
STS	WWTP	Sangkat Oukunthou Chiv Kem Un Tel: 012 214 628	Excellency, Sok Lou Provincial Governor Tel: 012 658 668	Sourn Pisey, Social and Environmental Officer Tel: 070 730 198	Laing Leng Hieng Social Specialist Tel: 098 213575 Mr. Heng Thaimean Tel: 069 994 405

Proposed GRM System

In Cambodia, there is currently no existing legally established system to resolve environmental concerns and complaints. The MPWT, as the EA of the Tonle Sap II will establish the GRM. The setup shall be made before commencement of site works and have members from the PMU, district authority and commune councils. Grievances can be filed in writing or verbally with any entry point of the GRM. The committee will have 15 days to respond with a resolution. The PMU's Environment Safeguards Officer (PMU-ESO) will oversee the implementation/observance of the mechanism and will be responsible for keeping the PMU informed. The PIU Safeguards Focal Point (PIU-SFP) will be responsible for ensuring GRM implementation at the subproject level.

The GRM will accommodate both informally and formally lodged eligible, grievances. Informally lodged grievances are those received by the contractor during construction. Formally lodged grievances are those received at District and Commune Council offices or direct to the PIU. Commune Councils evaluate complaints for eligibility and then report to PDPWT. The PDPWT and PMU maintain record of all grievances, informally and formally lodged, eligible and ineligible. The PMU will inform the MPWT, as necessary, and report on the observance/implementation of the GRM in the monthly progress reports and in the periodic Environmental Monitoring Report that will be submitted to the MPWT.

Access to the Mechanism

Any person who has environmental issues pertaining to the subproject during detailed design, construction and operation phases will have access to the mechanism free of charge. The PMU, through its Environment Safeguards Officer (PMU-ESO) and staff in the MPWT, will ensure that:

- (i) The public and all stakeholders are aware of their rights to access, and will have access to, the GRM free of administrative and legal charges; and
- (ii) The GRM is fully disclosed prior to construction: (a) in public consultations, (b) through posters displayed in the commune office (posters to include names and contact details of the PIU-SFP)

The Access Points to the GRM are critical for ensuring it is useable for affected people (APs). The GRM Access points for this project, as set out in this GRM Mechanism will be:

- ▶ The Contractors
- ▶ District and Commune Councils
- ▶ The PIU office
- ▶ The Provincial Department of Public Works and Transport (PDWT).

GRM Steps and Timeframe

Grievances raised on environmental impacts are critical to the health and safety of APs. Hence, the proposed mechanism intends to be easily accessible and promptly responsive to APs' complaints.

Informal Approach

Informally, APs can lodge complaints directly to the contractor during construction. PMU to provide contractor with GRM contact details which the contractor will use to print 'GRM Contact Cards' for its

staff to hand to complainants and will keep cards with all vehicles, machinery and site managers/foremen.

Contractor to raise awareness of all workers on how to respond when an AP or member of the public has a complaint i.e., direct the person to the most senior site manager present at the time and/or Contractor GRM focal point and prepare a 'GRM Contact Card'.

The contractor shall document and assess the complaint immediately. If assessment validates the complaint as within the scope of the GRM/eligible, the contractor shall act on the complaint within three days from receipt of complaint. MPWT shall obtain a written confirmation of satisfaction from the AP after 7 days from completion of resolution by the contractor

If assessment invalidates the complaint (i.e., reveals the complaint as ineligible or not associated with the project's environmental performance), the contractor shall direct the AP to the Commune Council and shall report the complaint to MPWT within 2 days from receipt of complaint, stating reasons for ineligibility.

Formal Approach

If complaint is eligible but is not acted on within three days from receipt of complaint, or if AP is not satisfied with the resolution undertaken by the contractor, he/she can access the formal mechanism, as shown in **Error! Reference source not found.**:

GRM Steps

Step	Action
Step 1: Lodging a Complaint (Day 1)	AP lodges complaint, by him/herself or with assistance from the village chief or district council, at the access point with the Commune Council. The complaint may also be lodged with the PIU or PDPWT,
Step 2: Documentation & Registration of Complaint (Day 1)	Commune Council, PIU/PMU or PDPWT documents/registers lodged complaint, makes sure these are referenced and provides AP with a copy of referenced complaint. The commune forwards complaint document to the MPWT. A copy of a proposed GRM Complaint Form is in Annex 3.
Step 3: Assessment and Discussion (Day 1 to 3)	AP shall be informed if the grievance is eligible or ineligible. If it is ineligible, AP shall be directed to the district. If complaint is eligible, AP shall be informed of the expected action timelines as set out in the established mechanism If both of the AP and contractor/operator are available, the complaint shall be immediately reviewed, investigated and discussed. If not, both parties should agree to undertake the review, investigation and discussion within 3 days. The discussion will centre on the cause and action/measure to implement and will engage the PIU/PMU. After review and investigation, agreement on actions and measures and time involved shall be made with the AP. Agreement shall be properly documented and filed; MPWT, PIU/PMU, Commune Council and AP shall have copies
Step 4: Implementing the Agreed Resolution	(Day 3 to Day 4) If complaint is minor, i.e., not requiring further investigation and would be easy to resolve, the contractor/operator shall immediately implement agreed on action/resolution. (To be implemented by Day 8) If further investigation and/or procurement of supplies/parts would be necessary, the contractor/operator shall: (i) immediately provide the most suitable interim measure to reduce the magnitude of the impact; and (ii) start work on the final measure within 15 days from the day the complaint is lodged.
Step 5: Acceptance of Resolution (1 week after completion of action/measure taken)	If, according to the AP, the impact has been resolved satisfactorily, MPWT shall obtain a written confirmation of satisfaction from the AP. This confirmation will signify closure of grievance and will form part of the grievance documentation. The PIU, Commune Council and AP shall retain their copies of the confirmation.

Step	Action
Step 6: Monitoring and Evaluation (for 1 week after closure of grievance)	The MPWT shall monitor the effectiveness of the resolution for at least a week after closure of grievance (that is, when action implemented has been satisfactorily confirmed in writing by the complainant). Monitoring and evaluation shall be properly documented and included in the Environmental Monitoring Report.
Step 7: Appeal for Dissatisfied AP	When dissatisfied (or, in the event the issue/impact persists despite actions undertaken), AP can appeal for assistance from the district in the elevation of his/her complaint to the provincial authority. The provincial authority shall call all parties concerned to review the history of the grievance and resolution process taken and assess the validity of the appeal.

Appeals. If appeal is found not valid, the provincial authority shall write the AP and declare the grievance closed. In the event of an appeal, the MPWT shall immediately report to the PMU. The PMU shall ensure that the ADB is immediately informed.

If appeal is assessed to be valid, provincial authority and the parties discuss and agree on the quick resolution of the issue. The PMU requires the contractor and operator to implement the agreed resolution. Should the issue continue to persist despite the second action, or the AP remain dissatisfied, the following steps will be taken:

Special Mission or Judicial System. If the complainant is still unsatisfied, the PMU/EA will inform ADB to convene a special mission to attempt a resolution prior to use of the Cambodian judicial system.

Accountability Mechanism of the ADB. In addition, affected people may always contact the Complaints Receiving Officer of the ADB via the following addresses which will be included in the subproject signboard:

Complaints Receiving Officer, Accountability Mechanism
Asian Development Bank
ADB Headquarters, 6 ADB Avenue, Mandaluyong City 1550, Metro Manila, Philippines
(+632) 632-4444 loc. 70309
(+632) 636 2086
amcro@adb.org

1. Instructions available here: <http://www.adb.org/site/accountability-mechanism/how-file-complaint>.

Sufficient communication on the GRM including signs containing contact details of the GRM access points will be displayed at strategic locations to sustain the effective implementation of the mechanism.

Annex 5 Corrective Action Plans

CW01 Lot 1, Stueng Saen Wastewater and Drainage, EMP Corrective Action Plan (Showing only the sections and clauses with revisions)

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
Pre-construction Phase					
Design	Effluent Discharge	1. Final design ensures that the effluent will meet the criteria in Sub-decree, No. 27 ANRK.BK on Water Pollution Control, MoE, 1999 (c water area and sewer).	Clause edited with specific standards referenced. No action required.	NA	
Unexploded Ordnance (UXO) survey, & removal	Injured worker or public	7. Ensure national military is consulted to confirm all relevant areas are clear from UXO. This includes: a. All land to which is used for resettlement purposes (for people/businesses/ farmland) b. All construction sites including 50 m either side of any access roads c. All associated areas including borrow sites. 8. Cambodian Mine Action Centre (CMAC) to clear areas where necessary and provide evidence of clearance to PMU in advance of construction. 9. As evidence, submit a certificate of UXO clearance and attach it as annex to the subsequent monitoring report to ADB once the certificate of clearance has been awarded.	CMAC rather than national military. No action required.	NA	
Flora survey for protection or cutting	Impacts to flora and fauna habitat	10. Survey for trees higher than 3 m within the construction area for protection or removal. Ensure DWPT and local authority have	New clause.	9th April 2021	Corrective Actions Completed (Jun-2021)

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
		been informed and obtain the permit for tree cutting. Addition replantation shall be sought upon completion of the work	Action required: Contractor to undertake necessary surveys and submit proposal for replanting.		2. Tree survey and proposal for replanting included in attachments I and II to the CEMP
Construction Phase					
Civil works	Air quality	- Asphalt and concrete batching facilities will be located at least 500 m downwind from the nearest dwellings in order to reduce the impact of fumes on humans and to be fitted with necessary equipment such as bag house filters to reduce fugitive dust emissions. - Water will be sprayed for construction sites, material handling areas, and borrow pits where fugitive dust is generated. - Trucks carrying dry and loose construction materials such as earth will be covered with tarpaulins or other suitable cover. - Construction vehicles and machinery will be maintained to a high standard to minimize emissions. - Areas in which road excavations are required for sewage and drainage pipe works will be notified adequately 1 month in advance of works starting.	New clause added (no.5). Action required: Contractor to be informed of need to notify communities in advance.	25th March 2021	Corrective Actions Completed (Jun-2021) Requirement to inform residents about upcoming work added in the CEMP (Para 22)
Civil Works	Flora or vegetation	13. All trees over 3 m in construction sites to be protected from construction activities if they are	Additional clause (no.14).	Monthly	Corrective Actions Completed (Jun-2021)

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
		not required to be removed. The cutting trees shall inform and get permit from DPWT and local authority. 14. An inventory shall be held of trees to be cut and addition replantation shall be sought upon completion of the work. 15. Where possible, material from existing licensed borrow and quarry sites will be used. If new sites are needed, they will be subject to due diligence and approval by ADB and the relevant PDoE to ensure that sensitive habitats are avoided and that an appropriate restoration plan using native species is agreed following re-contouring	Action required: Contractor to undertake and maintain inventories of trees to be cut during constructions works. Action required: Contractor to be reminded of the need to get approval for new borrow areas.		4. Tree inventory activity added in the CEMP (Para 32) 5. Tree inventory has been carried out and the results included in Attachments I and II to the CEMP 6. Agreement with PIU, and the Municipal Authorities on protection of big trees added in Attachment II 7. The requirement to have new borrow areas approved has been added.
Implementation of Materials Spoil and Borrow Site Management	Soil and land resources	28. Site specific materials, spoil and borrow site management plan will be developed and approved by the relevant Municipal authority; 29. A map of all borrow sites will be developed and maintained with copies held by the Contractor and PIU; 30. Safety measures, if required, will be implemented to prevent access by members of the public and livestock. 31. Measures to rehabilitate the borrow sites include contouring of the slopes within each site and replanting sites with native species.	Clauses rewritten but with largely same provisions, except nos. 30 and 34 are new to revised version. Actions required: Contractor to submit management plan (some extraction has already commenced). Safety measures and demarcations to be implemented at all borrow sites.	April 30th	Corrective Actions Completed (Sep-2021) 8. The required Borrow Pit / Spoil Disposal Site Measures have been added in the relevant Attachments to the CEMP. 9. The site selection assessment table (Proposed Site Conditions”) for the proposed spoil disposal sites and borrow has been filled-in correctly.

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
		32. Topsoil present on construction sites will be removed and stockpiled in a labelled area for use on rehabilitation of the site post-construction or rehabilitation of borrow sites 33. No disposal of spoil or dredged material on agriculturally productive land or within 50 m of a water course. 34. Construction working areas will be clearly demarcated and encroachment onto adjacent areas avoided.			
Implementation of Solid and Liquid Waste Management	Resource use and natural resource contamination	35. Preparation of a Waste Management Plan before construction which applies the waste hierarchy to ensure efficient use and management of resources with a priority to prevent waste at source as much as possible; 36. Effective management of materials on site through good housekeeping and work planning. 37. Clear arrangements for storage and transportation of all hazardous and non-hazardous waste to an authorised and approved disposal point as set out in the Waste Management Plan. 38. The wastes, especially hazardous waste shall be collected and stored in safety tanks and provide to license sub-	Section rewritten but no significant change in effect. Action required: None	NA	

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
		contractor to dispose in local license dumping site. 39. Prohibit burning of waste (anytime and anywhere). 40. Provide all vehicles/drivers with plastic bags for waste collection and prevent any unauthorized waste disposal with particular attention paid to prevention of waste entering water ways including irrigation canals.			
Implementation of Community and Occupational Health and Safety and Emergency Response	Human health and safety	41. Appropriate fencing, protective barriers, and buffer zones will be provided around all construction sites including barriers where needed on access roads and populated. 42. The construction campsites should be located outside and distance from residential area and fencing campsites with safety barriers and safety zones. 43. Sufficient signage giving health and safety warnings and information disclosure at all sites 44. Worker education and awareness seminars for construction hazards will be given. A construction site safety program will be developed and distributed to workers. 45. Conduct daily toolbox meetings (safety briefings) 46. An accident record book will be maintained where all major or minor accidents and incidents are recorded with actions taken.	This section completely revised, and several new clauses added. Actions required: Clause 42 – Map of workers' camp locations to be submitted Clause 52 – Carry out and submit details of HIV/Aids training Clauses 54 to 70 (Covid) – Contractor to submit evidence of Covid precautions in place in workers' camp(s) and works sites.	March 31st 2021	Corrective Actions Completed (Jun-2021) 10. Map of worker's camp III and the contractor's offices included in Attachment V and VI of the CEMP 11. Clause 52: HIV/AIDS training programme included in the CEMP 12. Clauses 54 to 70: COVID-19 prevention plan included in the CEMP with pictures of posters and monitoring activities

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
		47. Ensure that all workers are equipped with and use Personal Protective Equipment (PEE). 48. Develop Traffic Management Plan together with provision of safety signs, traffic safety control and regular monitoring the public safety or traffic safety management on construction sites on the streets in urban area. 49. Limited the driving speed in village/urban areas and other sensitive areas. Provide watering to reduce dust pollution in village and urban areas, when and where is dusty. 50. Each Contractor shall appoint an Environment, Health and Safety Officer who is qualified engineer. Adequate first aid equipment will be made available on site 51. Provision will be made for safety precautions when using 220 to 240 V Electric Power tools if the workers are likely to be working within wet or flooded environments. 52. Provide the training or awareness on safety management and HIV-AIDs to construction staffs, workers and local people. 53. Warning signs will be set up if mud is likely on public roads. Mud will be removed at the end of each day. Other spillages on public roads will be removed immediately. 54. COVID-19 prevention measures:			

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
		55. Dissemination about COVID-19 prevention and mitigation measures to staff and workers through orientation or distributing leaflet/poster at information/safety board at each construction and camp site; 56. Daily checking temperature of staff and workers prior starting the works; 57. Staff and workers have to wear masks all the time and properly; 58. Do not share personal items or supplies such as phones, pens, notebooks, tools, etc.; 59. Avoid common physical greetings, such as handshakes; 60. Maintain a minimum physical distance of one metre from others if possible; 61. Wash hands often with soap and water for at least 20 seconds after using the washroom, before handling food, after blowing nose, coughing, or sneezing, and before smoking. If hands are not visibly soiled, and soap and water are unavailable, alcohol-based hand sanitizer can be used; 62. All offices and jobsites implement additional cleaning measures of common areas. All door handles, railings, ladders, switches, controls, eating surfaces, shared tools and equipment, taps, toilets, and personal workstation areas are wiped down at least twice a day with a disinfectant, such as			

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		disinfectant wipes. Individuals are responsible for cleaning and disinfecting their workstations; 63. Commonly touched surfaces on vehicles and equipment are thoroughly cleaned and disinfected at the end of shifts and between users; 64. Coughing or sneezing into a tissue or the bend of your arm, not your hand; And dispose of any tissues you have used as soon as possible in a lined waste basket and wash your hands afterwards; 65. Complying with any instructions announced by Ministry of Health accordingly; 66. Responding measures if there is a COVID-19 case: 67. Individuals who have been potentially exposed to the virus, or who are exhibiting flu-like symptoms such as fever, tiredness, coughing, or congestion are instructed to: Not come to work; Contact their supervisor and/or human resources department; Stay at home and self-isolate; and Contact local health authorities for further direction. 68. Such individuals are required to follow the directions of the local health authority and may not return to work until given approval by the proper health authorities;			

Subproject Activity	Environmental Impact / Issue	Revised Mitigation measures	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status Update 17 October 2021
		69. Individual who begin to display flu-like symptoms on site are instructed to avoid touching anything, take extra care to contain coughs and sneezes, and return home immediately to undergo self-isolation as directed by the local health authority; 70. All areas on site potentially infected by a confirmed or probable case are barricaded to keep individuals two meters away until the area is properly cleaned and disinfected; 71. The Emergency Response Plan will set out detailed Preventative Measures for all types of incidents covered in the Emergency Plan. This will include: 72. Prevention of Injury and Accidents – to include Personal Protective Equipment requirements for construction workers, training requirements 73. Prevention of Spillage - All construction fluids such as oils, and fuels will be stored on hard standing with sealed drainage with a capacity of 110% of the largest fuel container, will include procedures on refuelling and maintaining vehicles. 74. Prevention of Fire – to include measures for Ignition Sources including prevention of smoking on construction site,			

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		management of flammable materials and liquid. 75. Other Incidents – prevention measures relevant to other issues considered relevant by the contractor 76. The Contractor will develop Emergency Response Procedures prior to construction. The procedures will cover actions to be taken in case of: 77. Worker injury (e.g. construction or traffic accident) 78. Spillage (e.g. fuel spillage) 79. Fire (e.g. fuel or chemicals storage area); and 80. Any other incidents anticipated by the contractor.			
Implementation of Construction Workers Camp Management	Contamination of water, soil, waste production and social issues	81. If a camp for construction workers is required the contractor will set out a management plan which includes a map showing camp lay out, adequate accommodation and sanitation for male and female workers, relevant training and a plan of how camp areas will be restored to original condition after construction completed. 82. If a construction camp is not required, the contractor will set out a management plan which includes: Provision of adequate waste disposal facilities, welfare facilities, and sanitation for both male and female workers 83. Priority will be given to employ local labor and retain evidence of	Section rewritten. Actions required: Contractor to submit all documentation regarding existing and proposed workers' camp(s)	March 31st 2021	Corrective Actions Completed (Jun-2021) 13. Camp management plan added in the CEMP

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		how local labor recruitment efforts were undertaken.			
Pipe Network Installation	Socio-Economic (Accessibility)	84. Warning given to residents 4 weeks in advance of any excavations 85. Implement traffic management procedures to ensure smooth traffic. Provide traffic signs, control vehicle speeds and be able to warn drivers in advance for any changes to road surface or traffic direction 86. Provide adequate and safe pedestrian and vehicular (motorbike) access to enter and exit buildings across any open trenches 87. Temporary restoring/rebuilding the impacted assets or relocation of shops and stalls through cooperation, between construction contractor, HHs and PIU 88. Define and adjust suitable working hours in urban areas or at sensitive sites. Open access road for entry and exit for business sites. Remove the unsuitable soil and materials(spoils) from construction sites which are in front of houses and shops 89. Restoration or compensation of any damage to properties at an expense of the contractor	Section rewritten with some new clauses, in particular nos. 88 to 91. Required action: Contractor to submit methodology for trenching including specific safety measures and measures to minimise impacts on nearby households	April 30th 2021	Corrective Actions Completed (Sep-2021) 14. The Contractor has added safety measures for trench excavations and deep excavations in the CEMP

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		90. Consideration and management of potential localized flood impacts.			

CWO1 Lot 2, Battambang Wastewater, EMP Corrective Action Plan (Showing only the sections and clauses with revisions)**Second Urban Environmental Management in the Tonle Sap Basin Project**

ADB Loan 3684 CAM, Grant 0591 CAM

Subproject Activity	Environmental Impact / Issue	Mitigation measures – Revised Clauses in Disclosed EMP	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status and Updated Corrective Actions 17 October 2021	Status and Updated Corrective Actions 24 November 2021	Status and Updated Corrective Actions 17 December 2021	Status and Updated Corrective Actions 29 December 2021
Pre-construction Phase								
Flora survey for protection or cutting	Impacts to flora and fauna habitat	6. Survey for trees higher than 3 m within the construction area for protection or removal. Ensure DWPT and local authority have been informed and obtain the permit	New clause. Action required: Contractor to undertake necessary surveys and submit	9 th April 2021	Corrective Actions Completed (Sep-2021): 15. The contractor has added tree surveys in the CEMP and the	Re Item No. 2: The inventory of trees in the construction areas has been completed and documented in the CEMP. All of tree owners	Corrective Actions Completed (Dec-2021): • A plan for compensatory replanting of trees has	

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		for tree cutting. Addition replantation shall be sought upon completion of the work	proposal for replanting.		requirement to obtain approval for removal of trees 3 m or higher. Required Corrective Actions (Sep-2021): 16. The contractor is required to provide proper field survey documentation to verify which trees will be removed – if any. And based on the results submit a plan for compensatory replanting. 17. The contractor shall obtain approval of	agreed to have the trees removed and the Sangkat authorities and PIU chief approved the removal on 22 November 2021. Required Corrective Actions (Nov-2021): • Add a plan for compensatory replanting of trees, • Translate Appendix 5 into English	been added in Para 29 • Appendix 5 has been translated into English	

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					any necessary tree removal			
Construction Phase								
Civil Works	Flora or vegetation	13. All trees over 3m in construction sites to be protected from construction activities if they are not required to be removed. The cutting trees shall inform and get permit from DPWT and local authority. 14. An inventory shall be held of trees to be cut and addition replantation shall be sought upon completion of the work. 15. Where possible, material from existing licensed borrow and quarry sites will be used.	Additional clause (no.2). Action required: Contractor to undertake and maintain inventories of trees to be cut during constructions works.		Corrective Actions Completed (Sep-2021): 18. The CEMP includes maintaining an inventory of trees that have been removed and plans for compensatory replanting.			

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		If new sites are needed, they will be subject to due diligence and approval by ADB and the relevant PDoE to ensure that sensitive habitats are avoided and that an appropriate restoration plan using native species is agreed following re-contouring						
Implementation of Materials Spoil and Borrow Site Management	Soil and land resources	Site specific materials, spoil and borrow site management plan will be developed and approved by the relevant Municipal authority; 40. . 27. A map of all borrow sites will be developed and maintained with copies held by the	Clauses rewritten but with largely same provisions, except nos. 28 and 32 are new to revised version. Actions required:	April 30, 2021	19. The revised CEMP includes a borrow site and disposal site subplan (Para 28 and 29). 20. CEMP, Appendix 3 "Agreement with the	Re Item No 7: Table 2 comparing site conditions with the site selection criteria for the spoil disposal site has been added. Required Corrective	Map added in Figure 3 indicating location of the borrow pit and the spoil disposal site sites Required Corrective Actions (Dec-2021):	Corrective Actions Completed (Sep-2021): Table 3 and 4 have been corrected indicating the correct current land use (unproductive

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		Contractor and PIU; 28. Safety measures, if required, will be implemented to prevent access by members of the public and livestock. 29. Measures to rehabilitate the borrow sites include contouring of the slopes within each site and replanting sites with native species. 30. Topsoil present on construction sites will be removed and stockpiled in a labelled area for use on rehabilitation of the site post-construction or rehabilitation of borrow sites	Contractor to submit management plan (some extraction has already commenced). Safety measures and demarcations to be implemented at all borrow sites.		borrow pit landowner” has been translated into English Required Corrective Actions (Sep-2021): 21. The Contractor shall fill-in the site selection assessment table (Proposed Site Conditions”) and add that to the CEMP, Para 28. 22. The Contractor shall include approval of borrow pits and spoils	Actions (Nov-2021): • Add a map showing the location of the selected spoil disposal site. • Add a table comparing borrow pit conditions with the selection criteria. • Link the landowner documents in Appendix 4 with the location maps and tables with site information • Add letters of approval from the local authorities.	• Table 3 and 4 added, but the tables note that the sites are in populated area although the map in figure 3 clearly shows that the sites are in agricultural area. Please correct the tables. • Add letters of approval by the local authorities. Appendices 3 and 4 are agreements with the landowners witnessed by the commune and village chiefs, but a	previous farmland) • Approval of borrow pit/spoil disposal site by Chief of Commune obtained and documented

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		31. No disposal of spoil or dredged material on agriculturally productive land or within 50 m of a water course. 32. Construction working areas will be clearly demarcated and encroachment onto adjacent areas avoided.			disposal sites by the relevant authorities		witness signature is not an approval	
Implementation of Community and Occupational Health and Safety and Emergency Response	Human health and safety	39. Appropriate fencing, protective barriers, and buffer zones will be provided around all construction sites including barriers where needed on access roads and populated. 40. The construction campsites should be located outside and distance from residential area	This section completely revised, and several new clauses added. Actions required: Clause 40 – Map of workers' camp locations to be submitted	31 March 2021	Corrective Actions Completed (Jun-2021): 23. Clause 40: Maps of workers' camp have been added in Figure No.7 24. Clause 50: HIV/AIDS training programme			

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		and fencing campsites with safety barriers and safety zones. 41. Sufficient signage giving health and safety warnings and information disclosure at all sites. 42. Worker education and awareness seminars for construction hazards will be given. A construction site safety program will be developed and distributed to workers. 43. Conduct daily toolbox meetings (safety briefings) 44. An accident record book will be maintained where all major or minor accidents and	Clause 50 – Carry out and submit details of HIV/Aids training Clauses 52 to 68 (Covid) – Contractor to submit evidence of Covid precautions in place in workers' camp(s) and works sites.		has been added in Table 4 of the CEMP 25. Clauses 52-68: The CEMP includes documentation on COVID-19 prevention measures			

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		incidents are recorded with actions taken. 45. Ensure that all workers are equipped with and use Personal Protective Equipment (PEE). 46. Develop Traffic Management Plan together with provision of safety signs, traffic safety control and regular monitoring the public safety or traffic safety management on construction sites on the streets in urban area. 47. Limited the driving speed in village/urban areas and other sensitive areas. Provide watering to reduce dust pollution in						

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		village and urban areas, when and where is dusty. 48. Each Contractor shall appoint an Environment, Health and Safety Officer who is qualified engineer. Adequate first aid equipment will be made available on site 49. Provision will be made for safety precautions when using 220 to 240V Electric Power tools if the workers are likely to be working within wet or flooded environments. 50. Provide the training or awareness on safety management and HIV-AIDs to						

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		construction staffs, workers and local people. 51. Warning signs will be set up if mud is likely on public roads. Mud will be removed at the end of each day. Other spillages on public roads will be removed immediately. 52. COVID-19 prevention measures: 53. Dissemination about COVID-19 prevention and mitigation measures to staff and workers through orientation or distributing leaflet/poster at information/safety board at each construction and camp site;						

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		54. Daily checking temperature of staff and workers prior starting the works; 55. Staff and workers have to wear masks all the time and properly; 56. Do not share personal items or supplies such as phones, pens, notebooks, tools, etc.; 57. Avoid common physical greetings, such as handshakes; 58. Maintain a minimum physical distance of one metre from others if possible; 59. Wash hands often with soap and water for at least 20 seconds after using the						

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		washroom, before handling food, after blowing nose, coughing, or sneezing, and before smoking. If hands are not visibly soiled, and soap and water are unavailable, alcohol-based hand sanitizer can be used; 60. All offices and jobsites implement additional cleaning measures of common areas. All door handles, railings, ladders, switches, controls, eating surfaces, shared tools and equipment, taps, toilets, and personal workstation areas are wiped down at least twice a day						

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		with a disinfectant, such as disinfectant wipes. Individuals are responsible for cleaning and disinfecting their workstations; 61. Commonly touched surfaces on vehicles and equipment are thoroughly cleaned and disinfected at the end of shifts and between users; 62. Coughing or sneezing into a tissue or the bend of your arm, not your hand; And dispose of any tissues you have used as soon as possible in a lined waste basket and wash your hands afterwards;						

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		63. Complying with any instructions announced by Ministry of Health accordingly; 64. Responding measures if there is a COVID-19 case: 65. Individuals who have been potentially exposed to the virus, or who are exhibiting flu-like symptoms such as fever, tiredness, coughing, or congestion are instructed to: Not come to work; Contact their supervisor and/or human resources department; Stay at home and self-isolate; and Contact local health authorities						

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		for further direction. 66. Such individuals are required to follow the directions of the local health authority and may not return to work until given approval by the proper health authorities; 67. Individual who begin to display flu-like symptoms on site are instructed to avoid touching anything, take extra care to contain coughs and sneezes, and return home immediately to undergo self-isolation as directed by the local health authority;						

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		68. All areas on site potentially infected by a confirmed or probable case are barricaded to keep individuals two meters away until the area is properly cleaned and disinfected 69. The Emergency Response Plan will set out detailed Preventative Measures for all types of incidents covered in the Emergency Plan. This will include: 70. Prevention of Injury and Accidents – to include Personal Protective Equipment requirements for construction workers, training requirements						

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		71. Prevention of Spillage - All construction fluids such as oils, and fuels will be stored on hard standing with sealed drainage with a capacity of 110% of the largest fuel container, will include procedures on refuelling and maintaining vehicles. 72. Prevention of Fire – to include measures for Ignition Sources including prevention of smoking on construction site, management of flammable materials and liquid. 73. Other Incidents – prevention						

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		measures relevant to other issues considered relevant by the contractor 74. The Contractor will develop Emergency Response Procedures prior to construction. The procedures will cover actions to be taken in case of: 75. Worker injury (e.g. construction or traffic accident) 76. Spillage (e.g. fuel spillage) 77. Fire (e.g. fuel or chemicals storage area); and Any other incidents anticipated by the contractor.						
Pipe Network Installation	Socio-Economic (Accessibility)	82. Warning given to residents 4 weeks in advance of any excavations	Section rewritten with some new clauses, in	30 April 2021	Required Corrective	Corrective Actions		

Subproject Activity	Environmental Impact / Issue	Mitigation measures – Revised Clauses in Disclosed EMP	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status and Updated Corrective Actions 17 October 2021	Status and Updated Corrective Actions 24 November 2021	Status and Updated Corrective Actions 17 December 2021	Status and Updated Corrective Actions 29 December 2021
		83. Implement traffic management procedures to ensure smooth traffic. Provide traffic signs, control vehicle speeds and be able to warn drivers in advance for any changes to road surface or traffic direction 84. Provide adequate and safe pedestrian and vehicular (motorbike) access to enter and exit buildings across any open trenches. 85. Complete work on a segment according to a progressive sequence of activity. Provide	particular nos. 86 to 89. Required action: Contractor to submit methodology for trenching including specific safety measures and measures to minimise impacts on nearby households.		Actions (Sep-2021): 26. CEMP, Para 31 and Para 32: The added measures on health and safety for trenching are insufficient and do not incorporate the measures that PMC advised in the previous document check. 27. The Contractor is required to make the necessary corrections and make sure to incorporate	Completed (Nov-2021): Re Item 12 and 13: Specific safety measures for trench excavations have been added.		

Subproject Activity	Environmental Impact / Issue	Mitigation measures – Revised Clauses in Disclosed EMP	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status and Updated Corrective Actions 17 October 2021	Status and Updated Corrective Actions 24 November 2021	Status and Updated Corrective Actions 17 December 2021	Status and Updated Corrective Actions 29 December 2021
		access by bridging trenches. 86. Avoid trenching in locations where damage might occur. If needed, provide shoring to assure no subsidence occurs. 87. Excavations should be barricaded and marked. Workers should not be allowed to enter deep trenches unless they are properly shored. 88. Temporary restoring/rebuilding the impacted assets or relocation of shops and stalls through cooperation, between construction			the advised measures.			

Subproject Activity	Environmental Impact / Issue	Mitigation measures – Revised Clauses in Disclosed EMP	Change from Previous Version and Corrective Action Arising from Revisions (Note: All changes require contractor to be informed and CEMP to be updated)	Target Date for Corrective Action	Status and Updated Corrective Actions 17 October 2021	Status and Updated Corrective Actions 24 November 2021	Status and Updated Corrective Actions 17 December 2021	Status and Updated Corrective Actions 29 December 2021
		contractor, HHS and PIU 89. Define and adjust suitable working hours in urban areas or at sensitive sites. Open access road for entry and exit for business sites. Remove the unsuitable soil and materials(spoils) from construction sites which are in front of houses and shops 90. Restoration or compensation of any damage to properties at an expense of the contractor 78. Consideration and management of potential localized flood impacts.						