

# Environmental Monitoring Report

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Semi-Annual Report  
July – December 2020  
April 2021

Cambodia: Second Greater Mekong Subregion Tourism  
Infrastructure for Inclusive Growth Project

CW 03: Kep Solid Waste Improvement Subproject (Kep Landfill  
Improvements)

CW 01a: Kep-Angkor Coastal Road Improvement

CW 02a: Koh Tunsay Passenger Pier

Prepared by Ministry of Tourism and Ministry of Public Works and Transport for the Royal Government of Cambodia and the Asian Development Bank.

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# **Semi-Annual Environmental Monitoring Report**

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**CAMBODIA**

**Ministry of Tourism**

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**49387-001**

**CAM: Second Greater Mekong Subregion Tourism  
Infrastructure for Inclusive Growth Project**

**CW 03: Kep Solid Waste Improvement Subproject (Kep  
Landfill Improvements**

**CW 01a: Kep-Angkol Coastal Road Improvement**

**CW 02a: Koh Tunsay Passenger Pier**

**Reporting Period:** *July-December 2020*

**Date:** *April 2021*

**SEMR Report Number:** *2*

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## 1 ENVIRONMENTAL SAFEGUARDS SUMMARY

1. The second Semi-annual Environment Monitoring Report (SEMR) covers the period of July - December 2020 for Second Greater Mekong Subregion Tourism Infrastructure for Inclusive Growth Project (Cambodia). The SEMR has been prepared to fulfil the safeguard policy requirement of ADB.
2. The SEMR is prepared by PMCES and checked by PMU/ Ministry of Public Works and Transport.

### 1.1 Summary of Project Progress

3. The following table gives a brief summary of the project progress for contract award, construction and key activities in this reporting period:

**Table 1 Project Progress Summary**

<b>Safeguards Category</b>	Environment	B	
<b>Reporting Period:</b>	July- December 2020	<b>Date Last Report Issued:</b>	SEMR Dec 2018 – June 2020 issued on April 2021
<b>Contracts Awarded to Date:</b>	<p>CW 03 (Kep Landfill Improvements) MTA Construction Co., Ltd, 7 May 2020</p> <p>CW 01a (Kep-Angkol Coastal Road Improvement) – pre-construction period</p> <p>CW 02a (Koh Tunsay Passenger Pier) - pre-construction period. DED was completed October 2020.</p>		
<b>Construction Progress to Date:</b>	<p>As of December 2020 the physical construction progress is as follows:</p> <p>CW 03 (Kep Landfill Improvements) – As of 31<sup>st</sup> December 2020, the contractor has achieved progress of 23.63% which is well above the planned S Curve which indicated progress of 5%.</p> <p>CW 01a (Kep-Angkol Coastal Road Improvement) – pre-construction period</p> <p>CW 02a (Koh Tunsay Passenger Pier) - pre-construction period</p>		
<b>Key Sub-project Activities in this Reporting Period:</b>	<p>CW 03 (Kep Landfill Improvements)</p> <ul style="list-style-type: none"> <li>- In July 2020 the assigned area to the subproject was modified at the request of Kep provincial government due to unresolved claims with an adjacent landowner and the discovery of a graveyard in the area of cell 4. The area lost due to the landfill perimeter change was compensated by extending the landfill into the hills located on the western side of the landfill. The Leachate Treatment Plant design included in the contract was designed to serve only landfill cell No.1.</li> <li>- PMU approved the recruitment of an International Treatment Specialist to design a complete leachate treatment plant with the capacity to treat leachate from all four landfill cells. The specialist submitted the new design in a report on 24 August 2020. This</li> </ul>		

	<p>change required revision of the landfill layout, shifting the overall design westwards to enable construction of the treatment site according to the requirements. This resulted in a significant increase of excavation works into the rocky hill slopes.</p> <ul style="list-style-type: none"> <li>- In November, the MPWT approved a contract variation (CVO-1), which included the upgrading of the access road pavement width from 6 to 7 m and concrete pavement thickness from 20 to 25 cm to make the road suitable for future extension and for integration with the interprovincial road network. The contract amount was not altered by covering the additional cost for the road improvement</li> <li>- In December 2020, the following were the construction activities: excavation and backfill of Cell 1, cell 2, cell 3 and cell 4; construction of access road from 0+000 to 0+940 (w=9m) and 0+000 to 2+560 (w=7m) casting concrete pavement; and pre casting concrete works.</li> <li>- A second variation order (CVO-2) was prepared in December to cover the cost for increased excavations on the SLF.</li> <li>- Another contract variation (CVO-3) was envisaged to cover the improvement and expansion of the leachate treatment plant (mainly the leachate ponds and wetlands), whose works were still under detailed design and are expected to be completed by Jan. 2021.</li> <li>- With regard to the changes in the Landfill the Aide Memoire of the ADB mission of 2[10 Dec.2020 reminded MPWT/PMCES to undertake the following actions:             <ul style="list-style-type: none"> <li>(i) submit a note on the SLF changes to ADB by 11 December 2020: done in December:</li> <li>(ii) liaise with MOE on changes in design/site and if updating of IEIA/ construction permit would be required; interview with member of MOE IEIA committee considered the changes minor and not requiring an update IEE and change of Env. Monitoring plan:</li> <li>(iii) clarify if any other statutory clearances/ permits are necessary due to change. MPWT excludes the need for other permits.;</li> <li>(iv) submit an updated IEE and EMP ADB which should consider all the current and anticipated changes in design, location: this updated IEE will be subsequent to the definition of the changes included in the approved VO3..</li> </ul> </li> </ul> <p>CEMP should also be updated to reflect the updated IEE</p> <p>CW 01a (Kep-Angkol Coastal Road Improvement) – pre-construction phase</p> <ul style="list-style-type: none"> <li>- The draft DED and Bid Documents for the Kep Coastal Road subproject were submitted to the PMU on 28 August 2020. PMU and MEF reviewed the drafts and made adjustments to the Bid documents which were submitted to ADB on 20 September 2020. ADB issued the NOL for PMU to advertise on 23 September 2020.</li> <li>- On 1 December 2020 ADB issued a conditional no objection to the MPWT's recommendation to award the contract with the contract price of \$10.5 million (including taxes).</li> <li>- IEE (for Subproject of Coastal Road and Passenger Pier on Koh Tonsay Island in Kep Province) was submitted to ADB for review on 25 Dec 2020.</li> </ul> <p>CW 02a (Koh Tonsay Passenger Pier) - pre-construction phase. Detailed design:</p> <ul style="list-style-type: none"> <li>- The activities for detailed design for the subproject since June 2020 were the following: (i) the topographical survey and bathymetric</li> </ul>
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	<p>survey, completed in June 2020; (ii) a meteo-marine study was completed in August to define the expected wave action and storm sea water surges for the safe design of the pier and appurtenances; (iii) the design of the pier structure the terminal building and the beach facilities (inclusive of water treatment and disposal units); (iv) the walkway designed and the related social impacts were evaluated and included in the related BRP; (v) the water supply system design was completed.</p> <ul style="list-style-type: none"> <li>- At 31 December 2020 the electrical design was nearly complete and the quantities and costs for the BOQ have been estimated and the bidding documents under preparation. The draft bidding document will be submitted to ADB in Q1 2021.</li> <li>- The IESIA study for the Koh Tonsay Pier was submitted as a draft to MOE by the end of December 2020. The report evaluation by the MOE and the discussion by the committee will be carried out in February 2021. The subsequent finalization of the IESIA and release of the Construction license is expected to be achieved in Q1 2021.</li> <li>- The procurement will be carried out using ADB's Limited Competitive Bidding (LCB) procedures for small civil construction projects. The procurement will start in Q1 2021 and the contract is expected to be awarded in May 2021 and works are expected to be completed in Q2 2022. The draft bidding document will be submitted to ADB by 15 January 2021.</li> <li>- IEE (for Subproject of Coastal Road and Passenger Pier on Koh Tonsay Island in Kep Province) was submitted to ADB for review on 25 Dec 2020.</li> </ul> <p>Permits or Consents Issued: Construction license for the Kep Landfill Subproject-CW03 issued by MOE on 10 April 2020.</p> <p>The Environmental Protection Contract between MOE and MPWT was completed and signed by two parties on 10 November 2020, thus allowing the issue of the construction license.</p>
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## 1.2 Summary of EMP Implementation

4. EMP implementation is summarised in the following points, for this reporting period:
  - CW 03 (Kep Landfill Improvements)
    - The MTA Construction Co., Ltd, the contractor for the construction of Kep Landfill had just mobilized in 4 June 2020, just 6 months at the end of report period of this document. The contractor records 23.63% overall actual completion of work by the end of December 2020.
    - Fuel tank area constructed
    - Provision of first aid kit, fire extinguishers, PPE and COVID-19 mitigating measure is in place.
    - Earth works and excavation works is ongoing. Dust control implemented.
    - Potential impact to the location of three graveyards contiguous to the project area were avoided in the design phase by leaving the graveyards outside of the Landfill site and preserving free access.

- CW 01a (Kep-Angkol Coastal Road Improvement) – pre-construction period
  - The National Environmental Specialist has accomplished the following activities during this reporting period: (i) prepared the IEE for the new Coastal Road and Koh Tonsay Pier based on the information in the preliminary design and the IEE approved by ADB on 11 September 2020, (ii) prepared the EMP for the Coastal Road in conformance with Cambodia environmental legislation and submitted to MOE for approval for the Environmental Protection Contract and the Construction License - completed on 05 Nov.2020; (iii) prepared the TOR for the IESIA study of the Koh Tonsay Pier which was submitted to MOE on 26 August; (iv) conducted site inspections at the Kep Landfill Improvement Construction Site to verify compliance with the subproject's EMP; (v) prepared and submitted the Semi-Annual Safeguard and Environmental Monitoring Report on 4 September. However, the report was not submitted in the format acceptable to ADB and revision was requested. The revised safeguard portion of the report was resubmitted after the SEMR reporting period.
- CW 02a (Koh Tonsay Passenger Pier) - pre-construction period (design stage in progress). The required environment related documents for CW02A were prepared and submitted in conjunction with CW 01a (Kep-Angkol Coastal Road Improvement) subproject.
- To date there are no issues affecting project environmental performance.

### 1.3 Summary of EMP Monitoring

5. EMP monitoring during the construction period is currently being established. MTA just mobilized at the project site in 4 June 2019. No sampling activity for air and water quality during the SEMR reporting period.
  6. EMP monitoring is summarised in the following points, for this reporting period:
- Number of Monitoring Visits to Construction Site and wider area:
    - Monthly visits by PMU/PIU
    - Monthly visits by PMCES. The following concerns were highlights of the following site visits
      - 23 July 2020- assessment of the potential impacts caused by the change of area assigned to SLF after the landowner claim, visit on the Contractor Camp, status of contractor equipment on site;
      - 10 September 2020: assessment of road works along access road; drainage and culverts, access to private properties, lining of side drains to prevent erosion; replace of private fences;
      - 2 October 2020: site inspection on potential impacts caused by excavation works in the landfill;
      - 24 November 2020: assessment of potential impacts of access road works on half road sections: construction of box and pipe culverts;
      - 01 December 2020: site inspection on potential impacts caused by excavation of rocky slopes in the SLF, concrete paving on the access road, side drain lining; measures to avoid slope erosion on excavated slopes.

### 1.4 Summary of Complaints, Issues and Corrective Action

No grievance case were reported in the period of July- December 2020.

## 2 SAFEGUARDS STAFF, TRAINING AND DOCUMENTATION

### 2.1 Implementation Arrangements

7. The EMP defines the Environmental Safeguards roles and responsibilities. The roles are required to be filled in order to meet the EMP requirements. The following table gives the status of the key roles for EMP implementation:

**Table 2. Status of Environmental Safeguard Roles**

Safeguards Role	Status & Comment			
PMU- Environmental Control Officer (ECO)	<b>Date Started:</b>	01-May-2020	Full Time/ Part Time	PT
	<b>Comment</b>	Mr. Pen Socheat (PMU)		
PIU Environmental And Social Safeguards Staff ]	<b>Date Started:</b>	12 March 2020	Full Time/ Part Time	PT
	<b>Comment</b>	Chhun ChanVan Thon		
PIU GRM Focal Point	<b>Date Started:</b>	12 March 2020	Full Time/ Part Time	PT
	<b>Comment</b>	Ken Sopheak		
PMCES international and national environmental specialists for the EMP	<b>Date Started:</b>	25 Aug-2019	Full Time/ Part Time	PT
	<b>Comment</b>	Dr. Almaji (IES). Not mobilized during SEMR 2 reporting period due to COVID-19 travel restrictions. A new International ENV SGs Specialist is planned to be mobilized in Q1 2021; Mr. Mao Van Cchan (NES up to 15 April 2020; replaced by Mr. Chheang You from 05- May 2020		
Environmental Monitoring Institute (EMI)	<b>Date Started:</b>	TBA	Full Time/ Part Time	TBA

	<b>Comment</b>	Not yet hired by the Consultant during the report period		
. Contractor Environment Health & safety Staff	<b>Date Started:</b>	TBA	Part Time	TBA
	<b>Comment</b>	Not yet hired by MTA for CW03 Kep Landfill Improvement Subproject. Due to travel restrictions related to COVID-19 which affected regular proceedings of the environmental activities including the absence of qualified Environment and Health and Safety Officer for MTA. The EHSO for MTA is planned to be mobilized in 2021 Q1.		
Contractor GRM Person	<b>Date Started:</b>	TBA	Full Time/ Part Time	TBA
	<b>Comment</b>	Not yet hired by the Consultant during the report period		

8. The project concludes that the environmental safeguards roles are in the process of filling up. The Environment, H& S position for MTA, the contractor for the Kep Landfill (CW03), is yet to be filled up.

## 2.2 Training & Capacity Building

9. No environmental safeguards training courses that have been completed during this reporting period due to COVID-19 restrictions. Training will be carried out as soon as Kep travel ban from Phnom Penh due to COVID-19 will be removed. Planned trainings on COVID-19 prevention to be carried out on 2021 Q1.

## 2.3 ADB Approvals

10. The following table gives information on the status of the safeguards documents. During this reporting period, only Kep Landfill Improvement Project (CW03) has available safeguard documents. The safeguard documents of other subprojects are in progress.

**Table 3. Status of Environmental Safeguard Documents**

Safeguards Documents	Update Issued (Latest Version)	Submitted to MoE	Submitted to ADB
IEE updated, Update based on the DED of Kep Solid Waste Management Improvements subproject. The updated IEE includes all details, environmental baseline data, Public	May 2020	May 2020	04 May 2020

Consultation reports and other requirements contained in the IESIA			
EMP Subproject 1 (Kep Landfill Improvements CW03)  EMP, May 2020 updated based on DED of Kep Solid Waste Management Improvements subproject ( <a href="https://www.adb.org/projects/documents/cam-49387-002-emp-1">https://www.adb.org/projects/documents/cam-49387-002-emp-1</a> )  EMP for Kep Subproject. January 2018 (draft) <a href="https://www.adb.org/projects/documents/cam-49387-002-emp-0">https://www.adb.org/projects/documents/cam-49387-002-emp-0</a>	May 2020	updated EMP is included in the updated IEE	04 May 2020
IEE Subproject of Coastal Road (CW01A) and Passenger Pier on Koh Tonsay Island in Kep Province (CW02A) – Based on Basic Design of Coastal Road and Pier in Kep Subproject ( <a href="https://www.adb.org/sites/default/files/project-documents/49387/49387-002-iee-en_5.pdf">https://www.adb.org/sites/default/files/project-documents/49387/49387-002-iee-en_5.pdf</a> )	September 2020	September 2020	September 2020
IEE Subproject of Coastal Road (CW01a) and Passenger Pier on Koh Tonsay Island in Kep Province (CW02a) – Based on DED	Review of draft version in progress. Aim to be completed/ published by January 2021	Dec 2020	25 Dec 2020

## 2.4 National Approvals

11. The following table gives an update on the necessary national approvals required for the project to proceed.

**Table 4. Status of National Approvals for Environmental Documents**

Documents	Submitted to MoE	Approved By MoE:	Status – if not approved	Comment
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CW03 IESIA (initial environmental and social impact) Report	10 January 2020	27 March 2020	Approved	
CW01a (Kep-Angkol Coastal Road Improvement) EMP	28 August 2020	10 November 2020		Project at pre-construction period (design stage in progress)
CW02a (Koh Tunsay Passenger Pier) EMP			IEE is yet to be finalized, prerequisite in drafting the EMP. EMP must updated after finalization of IEIA for ensuring conformity with MOE requirements	Project at pre-construction period (design stage in progress)
CW02a (Koh Tunsay Passenger Pier) IEIA	31 December 2020		Draft IEIA report was submitted to MOE in December 2020. An inter-ministries meeting is scheduled in 8 Feb 2021 to evaluate the project document. Issuance of Construction License is expected in Q2 2021.	

## 2.5 Construction Environmental Management Plan (CEMP) Approvals

12. The following table confirms the status of the Construction Environmental Management Plan (CEMP) for each CW package:

**Table 5. Status of CEMP Approvals**

Civil Works Package/ Subproject	CEMP Given to PMU	Approved By PMU:	Comment:
CW03 Kep landfill CEMP	Draft CEMP submitted on 25 May 2020. Revised CEMP submitted on 27 July	Revised CE approved by CEMPS on August 10 2020	
CW01a (Kep-Angkol Coastal Road Improvement) CEMP	Not yet due		Contract pending signature. To be drafted by the contractor of this package
CW02a (Koh Tunsay Passenger Pier) CEMP	Not yet due		Design stage in progress. To be drafted by the contractor of this package

## 3 EMP IMPLEMENTATION

### 3.1 Environmental Performance

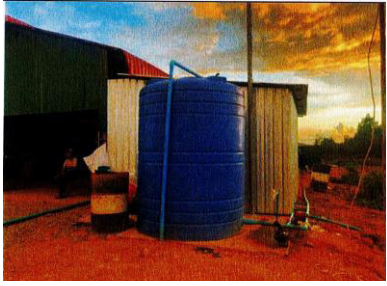


13. The following table gives the environmental impact mitigation measures in the Borrower (Project) EMP and the corresponding CEMP and how the project is progressing with implementing the mitigation measures, for each subproject.




14. The evidence for the compliance is through a combination of:



- Site visits to observe site practices;
- Consultation with affected people;
- Regular environmental reporting from MTA Construction Co., Ltd, the contractor for the construction of Kep Landfill CW03; and PMCES

Table 6. Status of EMP Compliance Kep Landfill Improvements (CW03)


EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
1. Work camps	compliant	<p>Camp is established.</p>  <p>MTA Construction Co., Ltd mobilized in 4 June 2020 commencing with installation of work camp with the associated facilities:</p>	


EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
		<p>Water tank for domestic and drinking water</p>  <ul style="list-style-type: none"> <li>• Separate water closet (toilet) with septic for male and female workers</li> <li>• Wash/ bathing area</li> </ul> <ul style="list-style-type: none"> <li>• Trash bins, fire extinguishers provided</li> </ul>  	


EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed		Reasons for Not Full Compliance
				
		<ul style="list-style-type: none"> <li>• H&amp;S signages are being set up</li> </ul>	 	




EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
		<ul style="list-style-type: none"> <li>• First aid kit</li> </ul> 	
<p>2. Construction materials acquisition, transport and storage subplan</p>	<p>partial</p>	<p>Fuel tank area constructed. H&amp;S signages and warning signs were installed in the fuel tank area. Provincial Fire Department contact number is made available to workers in case of fire.</p> 	<p>Improvement at the Fuel tank area may include oil drip pans, installation of the fire extinguisher should be at least 4 inches above floor; installation of oil traps or collectors such as rock filed bags, block and gravel on drainage outfalls</p>


<b>EMP Requirement (Mitigation Measure)</b>	<b>Compliance &amp; Description (Yes, No, Partial)</b>	<b>Comment or Further Explanation if Needed</b>	<b>Reasons for Not Full Compliance</b>
3. Excavated spoil management sub-plan	Compliant	<p>On 20 June 2020, the surveyors hired by PMCES completed the topographic survey needed to provide updated information on the actual site morphology as the basis for the DED of the 4 landfill cells. The reason for the resurvey was the impact of substantial borrow pit excavations made by other privates after the initial design and survey made by Norconsult. This problem was highlighted by PMCES CTL the inception report completed in August 2019, but the borrow pit excavations by private authorized by Kep Governor continued up until the end of May. In June 24 The Governor requested the Project to continue to receive the waste collected in Kep in the SLF area because no other dumping site is available in the province. This new waste volumes will increase the amount of the solid waste already dumped in the site before June 2020, thus increasing the volume of the waste volumes to be removed and handled by the contractor. The existing and new waste material will be temporarily deposited in the present dumping site up to the moment that the Cell no 1 is ready and lined.</p>	


<b>EMP Requirement (Mitigation Measure)</b>	<b>Compliance &amp; Description (Yes, No, Partial)</b>	<b>Comment or Further Explanation if Needed</b>	<b>Reasons for Not Full Compliance</b>
			

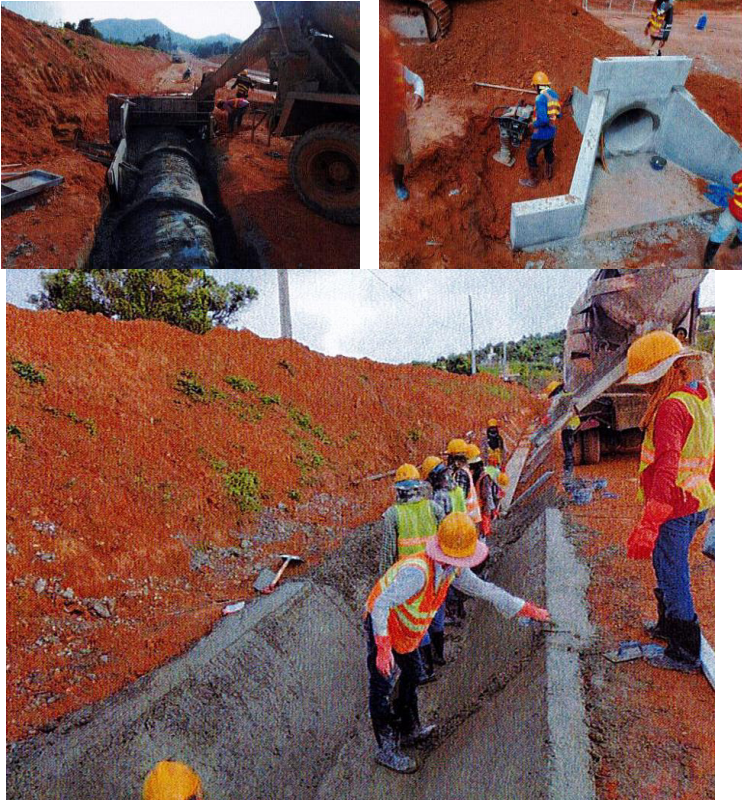
EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
		 <p data-bbox="824 981 1294 1013"><i>Soil excavation and backfill activity at Cell 1</i></p>	
4. Solid and liquid construction waste sub-plan	Compliant	Toilet with standard septic tank of adequate design and size installed at the work camps. Waste bins for solid wastes are provided in the construction area.	
5. Noise and dust sub-plan	Compliant	Implemented.	

EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
		 <p><i>Dust control by watering</i></p>	
6. Implement utility and power disruption sub-plan	Compliant	Considered in the CEMP. . Implementation of such mitigation measure by MTA to be reported when such measures are necessary. There is no foreseen utility and power disruption which may be caused by the project construction activities of CW03 Kep Landfill Improvement Subproject.	
7. Tree and vegetation removal, and site restoration sub-plan	compliant	Considered in the CEMP. Implementation of such mitigation measure by MTA to be reported during any vegetation clearing activity at the construction site. No tree cut during this reporting period.	
8. Erosion control sub-plan	compliant	Considered in the CEMP. Implementation to be reported if there is any applicable erosion measure in the area.	

EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
9. Implement worker and public safety sub-plan	Compliant	<p>H&amp;S signages, workers' PPE and uniforms, trash bins provided. Please see details in the Monthly Environmental Monitoring Report for June 2020.</p>  <p><i>Provision of workers' PPE and uniforms</i></p>  	

EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
		 <p><i>Various signages at the construction site</i></p> <p>Provision of first aid kits for workers and staff at the project site installed in June 2020.</p> <p>COVID information and temperature monitoring given currently to all workers.</p> <p>Training on PPE and Environment, health and safety concerns were carried out by MTA (Mr Tith Tykea) to all workers.</p> <p>All laborers/ workers who have reported at the construction site were issued PPEs, face masks, alcohol and have temperature checked.</p> <p>To date, there is no recorder accident or incident at the construction of CW03 Kep Landfill Subproject.</p>	
10. Civil works	Compliant	Earth works and excavation activities done during the wet season. Mitigation measures are implementation as necessary.	
11. Cultural chance finds sub-plan	compliant	Two graveyards within the SLF site were already known and considered in the Due Diligence Resettlement Plan in Dec 2919. on 23 July 2020, Kep	

EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
		<p>Land management revealed a 3<sup>rd</sup> small graveyard near cell 4 to be preserved. The design of Cell no. 4 was only slightly modified to keep the small graveyard outside of the project fenced perimeter. The access to the graveyard will be maintained outside the area of the landfill as it is at present.</p> <p>PMCES confirmed that the design has no impact on the graveyards as well as on its free access by potential visitors. Therefore, the graveyard are not impacted by the project and by the ongoing works.</p>	
12. Construction and urban traffic sub-plan	Compliant	 <p><i>Provision of traffic signages and barricades</i></p>	

EMP Requirement (Mitigation Measure)	Compliance & Description (Yes, No, Partial)	Comment or Further Explanation if Needed	Reasons for Not Full Compliance
13. Construction drainage sub-plan	Compliant	 <p style="text-align: center;"><i>Construction of drainage system</i></p>	

15. Most of the EMP subplans are assessed 'Compliant' as the measures are currently implemented. For item assessed as 'Partial', measures are implemented however some minor improvement has to be made.

16. Health and Safety Performance. The following table gives the Health and Safety impact mitigation measures in the Borrower EMP and how the project is progressing with implementing the mitigation measures, for all subprojects.
17. Anti COVID measures were implemented by contractor of CW 03 (Kep Landfill Subproject) such as temperature taken any morning to all workers; information on precautions to be taken for reducing possible contamination on COVID symptoms, disinfection of common places as mess, bathrooms among others. More formal training will be carried out in February 2021 and will be report in SEMR #3.

**Table 7. Status of Health and Safety Compliance – Kep Landfill Improvement (CW03)**

	<b>Health and Safety Requirement</b>	<b>Compliance &amp; Description (Yes, No, Partial)</b>	<b>Comment or Further Explanation if Needed</b>	<b>Reasons for Not Full Compliance</b>
1	Workers Need to wear protective clothing	<b>Yes</b>	<b>Subproject: Kep Landfill Improvement (CWO3)</b> Workers are provided with uniform and applicable PPEs. Facemasks are provide at the project sites	None
2	First Aid kit needed on site	<b>Yes</b>	<b>Subproject: Kep Landfill Improvement (CWO3)</b> First Aid Kit available in site offices	None
3	Fire extinguishers needed on site	<b>Yes</b>	<b>Subproject: Kep Landfill Improvement (CWO3)</b> Fire extinguishers available in site offices and project site	None

## 4 EMP MONITORING

### 4.1 Environmental Quality Monitoring

18. Environmental quality monitoring requirements are defined in the Monitoring Plan section of the EMP. The following table gives a summary of the environmental quality monitoring requirements for each subproject

**Table 8. EMP Environmental Quality Monitoring Requirements**

Subproject	Environmental Issue Monitored	Location	Parameters	Responsible Organisation	Frequency
Kep Landfill Improvement - CW03	Qualitative Air, dust and noise levels, and ground and surface water; Qualitative turbidity levels	Along access road and on SLF boundary and nearest residential receptors. All construction sites. And Entrance road to the landfill	Air and noise Noise level Carbon monoxide Nitrogen Dioxide Sulfur Dioxide Total Suspended Particle (TSP) Ozone (O <sub>3</sub> )	Supervision: PMCES/PIU  Implementation: Contractor	Continuously daily observations recorded in site diary
Kep Landfill Improvement - CW03	Qualitative Air, dust and noise levels, and ground and surface water; Qualitative turbidity levels	Along access road and on SLF boundary and nearest residential receptors. All construction sites. And Entrance road to the landfill	Groundwater parameters  pH Electrode Conductivity (EC) Total Dissolved Solids (TDS) Dissolved Oxygen (DO) Chemical Oxygen Demand(COD) Oil & Grease Ammonia (NH <sub>3</sub> ) Ammonium(NH <sub>4</sub> )	Supervision: PMCES/PIU  Implementation: Contractor	Continuously daily observations recorded in site diary

Subproject	Environmental Issue Monitored	Location	Parameters	Responsible Organisation	Frequency
			Detergents(MBAS) Nitrite(NO2) Nitrate (NO3) Phosphate(PO4) Total Nitrogen Total Phosphorus(TP) Arsenic(As) Cadmium (Cd) Copper (Cu) Iron (Fe, total) Lead(Pb) Zinc (Zn)		
Kep Landfill Improvement - CW03	Qualitative Air, dust and noise levels, and ground and surface water; Qualitative turbidity levels	Along access road and on SLF boundary and nearest residential receptors. All construction sites. And Entrance road to the landfill	Surface water parameters  pH Temperature TDS DO TSS Chloride (Cl) Nitrate Phosphate Sulphate Ammonium BOD5 COD Total Nitrogen Total phosphorus Arsenic (As) Iron (Fe) Lead	Supervision: PMCES/PIU  Implementation: Contractor	Continuously daily observations recorded in site diary

Subproject	Environmental Issue Monitored	Location	Parameters	Responsible Organisation	Frequency
			Mercury Total Coliform E-Coli Detergent Oil and Grease		
Kep Landfill Improvement - CW03	Operational health and Safety (OHS)	From all project-affected community areas, from hotline telephone number placed along access road and at gate to SLF.	Incidence of worker or public accident or injury	Supervision: PMCES/PIU Implementation: Contractor	Continuously daily observations recorded in site diary
Kep Landfill Improvement - CW03	Qualitative level of unmanaged and uncontained worker (domestic) and construction solid waste	At all construction areas	Public complaint, grievance case	Supervision: EA/PIU Implementation: PIU/ Contractor	Continuously daily observations recorded in site diary
Kep-Angkol Coastal Road Improvement - CW01A	To be established				
Koh Tunsay Passenger Pier - CW02A	To be established				

19. The above table gives information on the environmental quality monitoring to be implemented by MTA Construction Co., Ltd for the construction of Kep Landfill (CW03). MTA mobilized at the project on 4 June 2020. MTA has yet to hire a suitable HSE Staff. The implementation of the above will be reported in the next SEMR reporting period, 2021 Jan-June, once samples have been collected and results becomes available. Detailed laboratory results will be presented into the SEMR #3 and will be compared to relevant national / international standards. The national standard is presented in the Annex Section of this report.

20. **Summary of Results – Noise.** Nothing to report during this reporting period.

21. **Summary of Results – Surface Water quality.** Nothing to report for this reporting period.

22. **Summary of Results – Groundwater quality.** Nothing to report during this reporting period.

23. **Summary of Results – Air quality.** Nothing to report during this reporting period.

## 4.2 Construction Phase Affected People Consultation

24. Consultation with local people were not conducted during the SEMR reporting Period. The PIU is constantly in contact with local district governors and people representatives. No grievances were reported either verbally or recorded in the GRM records during this SEMR reporting period.

## 5 COMPLAINTS, ISSUES, CORRECTIVE ACTION

### 5.1 Information Disclosure

25. The following table gives information on any information disclosure activities undertaken. The subproject components were introduced to the public and key stakeholders during initial consultation meetings for the FS designs of all three subprojects, and then again for the DED for Kep subproject which included verbal and visual presentations of all subproject components.

26. The second series of consultative meetings for environment for the DED of the solid waste management improvements were conducted in Town/City (Sangkat Kep), Sangkat Prey Thum and Sangkat Ou Krasa. The meetings were conducted in Kep with local authorities and villagers on 22-24 October 2018. Different provincial departments (Environment, Tourism, Agriculture and Public Works & Transport) and households / villages affected by the subproject components were invited. The 2<sup>nd</sup> stakeholder consultations in Kep again revealed overall positive support for the subproject. Table 9 summarizes the comments and concerns raised. The environmental issues and concerns identified by the consultations were similar to the issues and concerns identified by the consultations for FS designs, and similarly, are addressed by the Mitigation and Monitoring Plans (see below).

**Table 9. Information Disclosure**

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
DED of Solid waste management improvement in Kep (CW03)	22-24 October 2018	consultative meeting (Sangkat Kep)	<ul style="list-style-type: none"> <li>Current practice is villagers burn and bury their dry waste on their property</li> </ul>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
			<ul style="list-style-type: none"> <li>• Smell is a problem from garbage trucks during collection</li> <li>• Provide adequate waste bins for villages</li> <li>• Must prevent villagers from dumping garbage along the road and near the sea</li> <li>• Request extension activities for local people on waste management</li> <li>• The service price is 10,000 Riel/month</li> <li>• Request low price for waste collection service and free for poor people (poor level 1 &amp;2)</li> </ul>
DED of Solid waste management improvement in Kep (CW03)	22-24 October 2018	consultative meeting (Sangkat Prey Thum)	<ul style="list-style-type: none"> <li>• During raining season the common dumping of waste access road to dump site must stop</li> <li>• Don't pollute local environment with leachate from landfill</li> <li>• There are many flies from dumpsite due to marine wastes (shrimp, crab, etc...)</li> <li>• Want the access road to landfill to wider to be able to eventually become another road to Phnom Penh</li> <li>• Enlarge width of access road to 8m wide</li> <li>• Improve waste collection in the Kep city/town to prevent aesthetic garbage problems for tourists and tourism especially from waste plastic bags</li> </ul>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
			<ul style="list-style-type: none"> <li>• Agree with the DED of landfill, and support the project</li> <li>• Request closed drain pipes along access road in front of houses so households can easily cross to access their houses</li> <li>• Dust is currently is a big problem along access road</li> <li>• Soil trucks that use existing borrow pit must drive slowly and be covered to prevent dust, and reduce risk of accidents</li> <li>• There are many flies from the dumpsite</li> <li>• Compensation should be provided for all lost as trees and land from access road upgrades</li> <li>• Adequate drainage on both side of the access road is required to prevent rainy season flooding over the road</li> </ul>
DED of Solid waste management improvement in Kep (CW03)	22-24 October 2018	consultative meeting (Sangkat Ou Krasar)	<ul style="list-style-type: none"> <li>• Request that garbage trucks enter villages to collect garbage, just collect along major roads.</li> <li>• Provide sufficient waste bins for villages</li> <li>• Don't pollute local environment with leachate from landfill</li> <li>• Request low price for waste collection service, and free service for poor people (poor level 1 &amp;2)</li> </ul>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
			<ul style="list-style-type: none"> <li>• Request training and awareness for village on proper solid waste management</li> <li>• Service provider for waste collection must collect waste regularly as needed</li> <li>• Village agrees with separation of waste at source</li> <li>• Must stop current practice of septic vacuum trucks dumping on the road side</li> <li>• Must educated and prevent villagers from throw waste to streams.</li> </ul>
DED of Solid waste management improvement in Kep (CW03)	22 October 2018	consultative meeting with the following <ul style="list-style-type: none"> <li>• Governor of Kep</li> <li>• DPWT-3</li> <li>• DOT-2</li> <li>• DOE-2</li> <li>• DOLM-1</li> <li>• Kep Municipality-1</li> <li>• Dept of Land Management, Planning and Urban Construction-1</li> </ul>	<ul style="list-style-type: none"> <li>• All agree with, and support detailed design of upgraded landfill and solid waste collection</li> <li>• Questioned next steps after landfill is full after projected 20yr lifespan</li> <li>• Request that width of the access road increased from 6m to 7m</li> <li>• Initially unsure of location at landfill where waste would separated. MRF identified and explained including MRF requirement that wet waste must be separated at source before arrival at MRF</li> <li>• Request a place along access road be established where newly married couples can go to go to plant a trees, and not be negatively affected by garbage trucks.</li> </ul>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
			<ul style="list-style-type: none"> <li>• Adequate side drains are needed along access road</li> <li>• Open drains along road must be 1m - 2 m wide</li> <li>• Training is required on solid waste management and operation of landfill for Kep municipality staff, and Sangkat and village personal as per SWN sub-decree 113</li> <li>• Provide traffic signage at intersection of access road and NR 33 to indicate location landfill.</li> <li>• Does the administration building in landfill have a medical services for employees?</li> <li>• Request for finished landfill to become tourist site with garden area for</li> <li>• Tourists to visit and relax.</li> <li>• Will landfill have a place for composting wet waste for production of good soil for agriculture? Or only for dumping waste into cells?</li> <li>• Must provide construction schedule to DLMUPC prior to construction of the landfill cells</li> <li>• Construction company must inform local community of schedule of construction of access road upgrade, and landfill</li> </ul>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
IEE of Coastal Road (CW01A) and Passenger Pier on Koh Tonsay Island (CW02A) in Kep Province	28 May 2020	Consultation meeting with Provincial Department of Tourism, Kep.	<p>Leaded the meeting by H.E Sok Sokun, undersecretary of state of Tourism Ministry.</p> <ul style="list-style-type: none"> <li>• There are 15 participants for this meeting</li> <li>• All agree and support these two subprojects (Pier and Costal Road);</li> <li>• The meeting just wants to consider for another pier in Angkol village for fisherfolk;</li> <li>• The alignment of the road is not affected to the mangrove.</li> <li>• The location of proposed pier is in the former pier, but it was damaged. There are filled by rock already. No mangrove and other concern marine there.</li> <li>• They suggested to expand the width of walkway on island.</li> </ul>
IEE of Coastal Road (CW01A) and Passenger Pier on Koh Tonsay Island (CW02A) in Kep Province	29 May 2020	Public consultation with Community of Koh Tonsay	<p>In general, the following are the concerns of the community:</p> <ul style="list-style-type: none"> <li>• Community has positive support to the project</li> <li>• Potential disturbance to property and business</li> <li>• Influx of workers from other places</li> <li>• Security of water supply</li> <li>• Location of contractor work camp</li> </ul>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
			<ul style="list-style-type: none"> <li>• Transportation of materials and goods might affect tourist</li> </ul> <p>The following were the reactions of Koh Tonsay community members during the public consultation:</p> <p>Ms. Chea Am, 76 years old</p> <ul style="list-style-type: none"> <li>- Pier structure is not much concern, I worry to disturb tourist in my business.</li> <li>- The project shall inform us on the actual schedule of working hours.</li> </ul> <p>Ms. Chun Rim, 63 years old</p> <ul style="list-style-type: none"> <li>- My bungalow and yard of food shop will be affected by walkway.</li> <li>- But for environment, it not much concern because it is only walkway and pier for tourism.</li> </ul> <p>Ms. Khem Vouchleang, 51 years old (Community chief)</p> <ul style="list-style-type: none"> <li>- I support the project;</li> <li>- But, we don't have workers here, so many of workers from different area to live here in the construction shall be not allowed to disturb our guests after their work at night time.</li> <li>- Water is not enough due to the real condition here. A solution should found to ensure security;</li> </ul>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
			<ul style="list-style-type: none"> <li>- Contractor camp location shall be discussed before settling;</li> <li>- Vehicles for transporting goods and materials should be discussed with PIU for avoiding matter with tourists</li> </ul> <p>Mr. Hem Sin, 56 years old</p> <ul style="list-style-type: none"> <li>- I will agree with project;</li> <li>- Happy with the project, but concerned on the sea water quality.</li> </ul>
<p>IEE of Coastal Road (CW01A) and Passenger Pier on Koh Tonsay Island (CW02A) in Kep Province</p>	<p>14 July 2020</p>	<p>Public Consultation with Angkol Commune</p> <ul style="list-style-type: none"> <li>• H.E Vao Sokha, Provincial Deputy Governor and Chairman of PRSC</li> <li>• PMU/MPWT representative</li> <li>• PIU Members</li> <li>• PMCES consultants</li> <li>• Commune Authorities</li> <li>• Communities</li> </ul>	<p>H.E Vao Sokha, Deputy Governor of Kep province, gave the opening remark and welcomed the participants of the meeting. At that moment, he gave a speech on the project that the Cambodia government loaned money more than 10 million dollars from ADB to develop tourist infrastructures, which Kep province is one of the lucky provinces.</p> <p>Mr. Soch Pich, 52 years old raised his concerns as the following: "I am coming to attend the PCM today as representative of other landowner. I am speaking on their behalf. Previously this road was not road, but with the contribution of landowners by 3m each of both side it could built a road with 6m width under support of Damnak Chang'oeu district's budget as you can see it now. Now existing road is 6m width. However, some section can be measured up to 7m or more.</p> <p>Mrs. Ke Reth, 48 years old from Angkol village, mentioned that "my land is small, if they will acquire 3 meters more road widening, then I may</p>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
			<p>not have any land to live, so my house will be next to the road because my land is 30m width x 15m length from the 6 m-road today.</p> <p>H.E Vao Sokha' responded to her worry, "we cannot say anything now let's check the real situation and wait for GDR conducting the DMS when the DED completed with the actual CIO agreed officially.</p> <p>Mrs. Kim Channy, district governor: first, she gave her respect to all participants and thankful to the people who donated their land to build the road. Because there is an existing road here, so she requested to ADB project to expand that road up to 12 meters width. Hence, the project shall compensate the landowners for the additional 3 meters on both sizes at commercial land price, considering that the land owners already donated 3m each for constructing the existing rural road.</p>
<p>IEE of Coastal Road (CW01A) and Passenger Pier on Koh Tonsay Island (CW02A) in Kep Province</p>	<p>14 July 2020</p>	<p>Public Consultation with Kep Sangkat</p> <ul style="list-style-type: none"> <li>• Vice Mayor of Kep</li> <li>• PMU/MPWT representative</li> <li>• PIU Members</li> <li>• PMCES consultants</li> <li>• Commune Authorities</li> </ul>	<p>Mr. Chan Song, Vice Chief of Sangkat Kep, welcomed the vice mayor of Kep, consultants and representative from PMU and PIU on behalf of Sangkat chief. He explained the purpose of the meeting today is for those who were not invited for previous PCM conducted on June 30, 2020.</p> <p>Mr. Khorn Vuthy, Vice Mayor of Kep, opened his remark about the project with a brief on project background. He told participants that Koh Tonsay pier and coastal road which we held meeting today was just a project which</p>

Topic / Reason for Information	Disclosure Date	Method of Disclosure	Outcome / Results
		<ul style="list-style-type: none"> <li>Communities</li> </ul>	<p>transferred from Sihanouk Ville. The request his people and local authorities to cooperate and participate in this project together. Then gave floor to technical engineer to present the project design.</p> <p>Mr. Tob Pisey: Before Road Construction, please inform us the schedule and detail alignment.</p> <p>Mr. Danh Sophat (33 years old) from Kep village. He said if the project road design within the road RoW preserved by Provincial Department of Land Management, he agrees 100%.</p> <p>Mrs. Duong Sann, 54 years old from Kep village, asked “Does the road alignment will have big impact on to shoreline side?”</p> <p>Mr. Hou Phallaravy, PIU Chairman, added to Mr. Nimol “there are also drainage systems along that side. The road construction might only reach to the people’s houses stairs. The road branch coming from Angkol is one-way road of limited width.</p> <p>Mr. Hou Phallaravy, mentioned that, based on the land management system, the road RoW is 9m, but project will require only 8m for building this one way road.</p>

## 5.2 Grievance Redress Mechanism

27. Letter for the establishment of GRM for environment in Kep is not in place as PMU is requesting and coordinating with Provincial Governor to establish another GRM committee for environment. No grievance case related to environment was reported in the period of July-December 2020.

## 6 CONCLUSION & RECOMMENDATION

28. Conclusion: In general, the implementation of environmental management measures during pre-construction and construction phases of CW03 Kep Landfill Improvement Project as implicated in the EMPs, IEEs are currently taken into account and assessed to be compliant. The Kep-Angkol Coastal Road Improvement - CW01a and Koh Tunsay Passenger Pier - CW02a are still at pre-construction stage. Environmental Safeguard document such as the IEE of CW01a and CW02a has been revised based on the DED documents and review by ADB is in progress. The CEMP to be drafted by the contractors of these packages and are not yet due. The DED of Koh Tunsay Passenger Pier - CW02a is still in progress and aimed to be submitted in 2021 Q1.
29. Due to travel restrictions related to COVID-19 which affected regular proceedings of the environmental activities including long period of no participation of the IES to the PMCES team and the absence of qualified Environment and Health and Safety Officer in the Contractor Team. The IES is planned to be mobilized in 2021 Q1.
30. COVID-19 measures implemented in the project site of Kep Landfill subproject. Planned formal training on COVID-19 will be carried out in 2021 Q1.
31. Recommendations: Monitoring to various environmental parameters will be reported in detail in the next reporting period of SEMR. The report will include laboratory results of these environmental parameters. The results will be compared to national standards reflected in Annex 1.

## Annex 1 Environmental Quality Monitoring Results

- For Ambient Air:

#	Parameter	Unir	Standard (MoE)
1	CO	mg/m <sup>3</sup>	20
2	NO <sub>2</sub>	mg/m <sup>3</sup>	0.1
3	SO <sub>2</sub>	mg/m <sup>3</sup>	0.3
4	O <sub>3</sub>	mg/m <sup>3</sup>	0.5
5	TSP	mg/m <sup>3</sup>	0.33
6	Pb	mg/m <sup>3</sup>	0.005
7	CH <sub>4</sub>	mg/m <sup>3</sup>	-
8	PM10	mg/m <sup>3</sup>	0.05
9	PM2.5	mg/m <sup>3</sup>	0.025

- For Noise Level:

Survey Period		Noise Level dB(A)				Remarks
		LAeq	Standard(Leq)	Lmax	Lmin	
Day	6:00 - 7:00					
	7:00 - 8:00					
	8:00 - 9:00					
	9:00 - 10:00					
	10:00 - 11:00					
	11:00 - 12:00					
	12:00 - 13:00					
	13:00 - 14:00		70			
	14:00 - 15:00					
	15:00 - 16:00					
16:00 - 17:00						
17:00 - 18:00						
Evening	18:00 - 19:00					
	19:00 - 20:00					
	20:00 - 21:00		65			
21:00 - 22:00						
Night	22:00 - 23:00					
	23:00 - 00:00					
	00:00 - 1:00					
	1:00 - 2:00					
	2:00 - 3:00		50			
	3:00 - 4:00					
	4:00 - 5:00					
5:00 - 6:00						
24 hours Average				48.6	33.7	

- For Vibration:

Time	Survey Period	Vibration Level dB				Remarks
		Leq	Standard(Leq)	Lmax	Lmin	
Day	6:00 - 7:00		65			
	7:00 - 8:00					
	8:00 - 9:00					
	9:00 - 10:00					
	10:00 - 11:00					
	11:00 - 12:00					
	12:00 - 13:00					
	13:00 - 14:00					
	14:00 - 15:00					
	15:00 - 16:00					
	16:00 - 17:00					
Night	17:00 - 18:00		60			
	18:00 - 19:00					
	19:00 - 20:00					
	20:00 - 21:00					
	21:00 - 22:00					
	22:00 - 23:00					
	23:00 - 00:00					
	00:00 - 1:00					
	1:00 - 2:00					
	2:00 - 3:00					
	3:00 - 4:00					
4:00 - 5:00						
5:00 - 6:00						
24 hours Average						

- For Surface Water

#	Parameter	Unit	Standard for lake and reservoir
1	pH	-	6.5-8.5
2	Total Dissolved Solid (TDS)	mg/l	<1000
3	Total Suspended Solid (TSS)	mg/l	1-15
4	Dissolved Oxygen (DO)	mg/l	7.5-2.0
5	Biochemical Oxygen Demand (BOD <sub>5</sub> )	mg/l	<30
6	Chemical Oxygen Demand (COD)	mg/l	1-8
7	Oil and Grease	mg/l	<5.0
8	Detergent	mg/l	<5.0
9	Sulphate (SO <sub>4</sub> )	mg/l	<300
10	Total Nitrogen (TN)	mg/l	0.1-0.6
11	Total Phosphorus (TP)	mg/l	0.005-0.05
12	Lead (Pb)	mg/l	<0.01
13	Arsenic (AS)	mg/l	<0.01
14	(Cd)	mg/l	<0.001
15	Iron (Fe)	mg/l	<1
16	Mercury (Hg)	mg/l	<0.0005
17	Total Coliform	-	<1000

Noted: this the parameters that MoE approved on IESIA for some pond nearby the project

- For Ground water quality

#	Parameter	Unit	Standard
1	pH	-	6.5-8.5
2	Turbidity	NTU	5
3	Electrode Conductivity (EC)	NTU	500-1500
4	Total Dissolved Solid (TDS)	mg/l	800
5	Total Hardness (as CaCO <sub>3</sub> )	mg/l	300
6	Chloride (Cl)	mg/l	250
7	Fluoride (F)	mg/l	1.5
8	Nitrate (NO <sub>3</sub> )	mg/l	50
9	Sulfate (SO <sub>4</sub> )	mg/l	250
10	Iron (Fe)	mg/l	0.3
11	Arsenic (As)	mg/l	0.05
12	Mercury (Hg)	mg/l	0.001
13	Chromium (Cr)	mg/l	0.05
14	Manganese (Mn)	mg/l	0.1
15	Aluminum (Al)	mg/l	0.2
16	Benzene (C <sub>6</sub> H <sub>6</sub> )	mg/l	0.01
17	Dichloromethane (CH <sub>2</sub> Cl <sub>2</sub> )	mg/l	-
18	Cadmium (Cd)	mg/l	0.003
19	Total Coliform	MPN/100ml	0
20	E-coli	MPN/100ml	0

Noted: this the parameters that MoE approved on IESIA for well nearby the project