

# Environmental Monitoring Report

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Semi-Annual Report no. 9  
For the period covered January to June 2021  
Project Numbers: 47381-002, 47381-005  
August 2021

## Sri Lanka: Mahaweli Water Security Investment Program – Tranches 1 and 2

North Western Province Canal Project (NWPCP)

Prepared by Ministry of Irrigation with the assistance of Program Management, Design and Supervision Consultant (Joint Venture Tractebel Engineering GmbH – GeoConsult ZT GmbH) for Democratic Socialist Republic of Sri Lanka and the Asian Development Bank.

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# Mahaweli Water Security Investment Program

## Semi Annual Environmental Monitoring Report (SAEMR) No. 09 for North-Western Province Canal Project (NWPCP) (January to June 2021)



**Ministry of Irrigation  
Sri Lanka**



August 2021  
**Final Report**

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**SAEMR No. 09 for NWPCP**

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## ABBREVIATIONS

ADB	Asian Development Bank
ABOP	Air Blast Over Pressure
BFO	Beat Forest Officer
CEA	Central Environment Authority
CSCEC	China State Construction Engineering Corporation
DWC	Department of Wildlife Conservation
EIR	Environment Incident reports
EO	Environment Officer
EPL	Environmental Protection License
FFPO	Fauna and Flora Protection Ordinance
H&S	Health and Safety
EHS	Environment, Health and Safety
EMS	Environment Monitoring Specialist
EIA	Environment Impact Assessment
E -NCR	Environment Non-conformity Record
EMP	Environment Management Plan
FD	Forest Department
GRM	Grievance Redress Mechanism
LHS	Left Hand Side
NWPCP	North Western Province Canal Project
NWS&DB	National Water Supply and Drainage Board
MS	Method Statement
O&M	Operation and Maintenance
PIU	Progress Implementation Unit

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# 1 INTRODUCTION

## 1.1 Scope of the Report

1. This Semi-Annual Environmental Monitoring Report (SAEMR) No. 9 is prepared to update reporting of the progress of North-Western Province Canal Project (NWPCP) with respect to environmental safeguard aspects for the period of January to June 2021, which fulfils Asian Development Bank (ADB) requirement to submit a SAEMR to ADB and Central Environmental Authority (CEA) for the “Category A” projects as documented in FAM<sup>1</sup> and EARF.<sup>2</sup>

2. The purpose of this report is to monitor whether the Project is implemented with due concern for environmental and social safeguards according to the ADB’s Safeguard Policy Statement (SPS) 2009, and specifically to ensure that these issues are adequately addressed in compliance with the requirements of ADB. Further, this report is to assess the progress with implementation of the program in complying with the approved Environmental Impact Assessment (EIA),<sup>3</sup> including: (i) the Addendum to the EIA: NWPCP Tranche 1 packages (May 2017) and Environmental Management Plan (EMP) as per the stipulation No. 14.3 of the EIA approval No. 08/EIA/WATER/07/2012 issued by CEA of 23 February 2016; (ii) renewed approval by CEA on 11.03.19 by letter Ref. 08/EIA/Water/07/2012 /Vol 3, which is valid until 23 February 2022; and (iii) approval for the addendum (Ref.08/EIA/Water/07/2012/Vol 2 dated 11 April 2018).

3. This SAEMR is prepared addressing the following aspects, based on the available information as at the end of the monitoring period from January to June 2021:

- (i) Background/ context of the monitoring report (information on the project, including physical progress of project activities, scope of monitoring report, reporting period, and the monitoring requirements including frequency of submission as agreed upon with ADB).
- (ii) Changes in project scope and adjusted safeguard measures.
- (iii) Environment qualitative monitoring data.
- (iv) Monitoring results compared against previously established benchmarks and compliance status (e.g., obtaining necessary approvals for establishment of certain facilities, national environmental emission, and ambient standards and/or standards set out in the World Bank’s (WB’s) Environmental Health and Safety (EHS) guidelines; timeliness and adequacy of environmental mitigation measures; and training, capacity building, etc.).
- (v) Records on disclosure of monitoring information to affected communities.
- (vi) Identification of key issues, or grievances from affected people, or recommendations for improvement.
- (vii) Proposed items of focus for the next reporting period and associated due dates.

4. There were no major gaps were identified other than the general project induced impacts in the NWPCP area, and hence there was no requirement of preparing a “Corrective Action Plan” (CAP) during the reporting. However, due to the longstanding unresolved environmental issues at the site level, Program Management Design Supervision Consultants (PMDSC) instructed the Contractor of NWPCP-ICB-2 to prepare a CAP describing the ways, responsibilities and timelines of attending required mitigations to resolve construction related key environmental issues.

5. This SAEMR No. 09 for NWPCP is prepared by the Environmental Specialist (ES) of the PMDSC based on the monthly monitoring and progress reports received from the Environmental Monitoring Specialist (EMS) of PMDSC and information extracted from the Contractors’ monthly progress reports. However, it should be noted

<sup>1</sup> Paragraph 60 of Facility Administration Manual (FAM), June 2015 prepared by MMDE.

<sup>2</sup> Paragraph 111 of Environmental Assessment Review Framework (EARF) November 2014 (updated in June 2017) by MMDE.

<sup>3</sup> Environmental Impact Assessment Report (EIAR) dated June 2015 and approved by CEA on 31.03.2016.

that the EMS for NWPCP was not involved in site monitoring after 1 April 2021, and hence the report is prepared based on the available information up to that time, and the bi-annual Environment Review carried out by the ES – PMDSC, based on the observations and records made as per the site visits attended once a month and records of the random visits that took place when significant environmental incidents were reported during the reporting period.

## 1.2 Overall Progress of NWPCP as of June 2021

6. There are three active packages where construction is ongoing, which are NWPCP-NCB-1, NWPCP-ICB-2, and the new package NWPCP-ICB-1 was commenced in March 2021. The summary of the NWPCP active packages is given in the Table 1-1.

**Table 1-1: Summary of ongoing construction packages in the NWPCP**

Item	NWPCP-NCB-1	NWPCP-ICB-1	NWPCP-ICB-2
Contract No.	MMDE/MWSIP/ADB/NWPC P/NCB-1/3267-3268-SRI/NCB/2016/001	MMDE/MWSIP/ADB/NWPC P/ICB-1/3267-3268-SRI/ICB/2017/005	MMDE/MWSIP/ADB/NWPC P/NCB-1/3267-3268-SRI/NCB/2016/001
Contractor	M/s. NEM Construction (Pvt) Ltd.	CAMCE-QMCG JV	China State Engineering Corporation Ltd
Commencement Date	29 December 2016	31 March 2021	01 November 2018
Accepted Contract Amount	LKR 926,113,863.39 (incl. VAT)	LKR 10,776,758,949.81 (incl. VAT)	LKR 7,226,621,051.00 (incl. VAT)
Original Completion Date	27 December 2018	31 March 2024	06 May 2021
Updated Completion Date (determined Extension of Time to date)	06 January 2021 which was the set date for completion as of SAEMR No. 8, and the revised completion date of 30 April 2021 (EOT granted) could not reach.	Unchanged to date	11 April 2022 (* expected to be extended to September 2022)
Engineer's Forecast Completion Date	30 August 2021	Unchanged so far	31 December 2022

### 1.2.1 NWPCP-NCB-1

7. The scope of NWPCP-NCB-1 package comprises improvements to the existing Wemedilla Left Bank Main Canal up to Nabadagahawatta (0 km to 5+250 km) and construction of a new sluice and tail canal (0 km to 0+600 km).

8. The works sites of NWPCP-NCB-1 closed at the end of April 2021 due to the lockdown of the area under the instruction of MOH Galewela, and the accepted Extension of Time (EoT) expired on 30 April 2021. The overall construction physical progress was recorded as 96% by the end of June 2021, with pending work related to new sluice and tail canal, main canal lining, drainage crossings, turn out structures etc. Figure 1-1 shows the updated progress by end of reporting period.

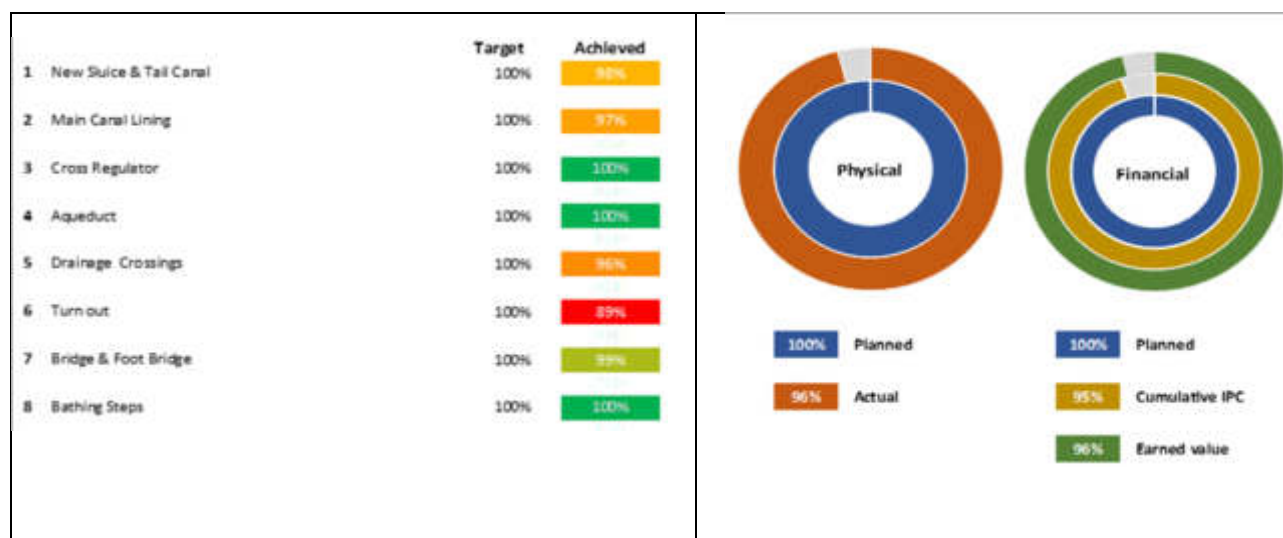


Figure 1-1: Overall package progress of NWPCP-NCB-1 as of end June 2021

### 1.2.2 NWPCP-ICB-1

9. There is no construction program approved as yet for the NWPCP-ICB-1 package, and only a temporary insurance policy document has been submitted. Construction of the Contractor's facilities commenced, and the progress recorded as 4% by end of June 2021. Figure 1-2 explains the updated progress by end of reporting period.

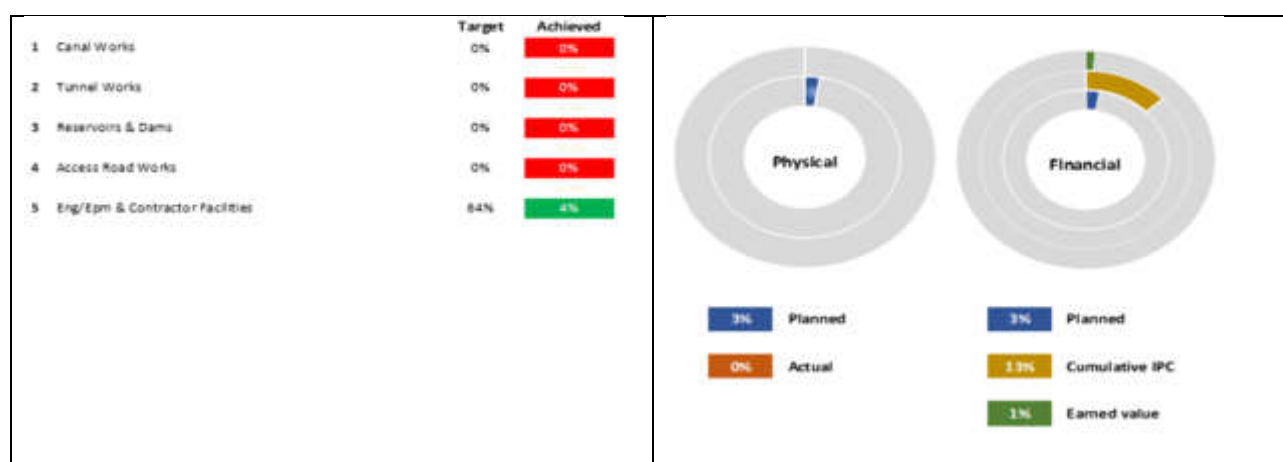


Figure 1-2: Overall package progress of NWPCP-ICB-1 as of end June 2021

10. The main reasons for the slow progress of the Contractor's activities includes their delay in mobilizing of Contractor's staff and equipment, delay on submitting the deliverables such as Method Statements, slow site establishment and preparatory works, and broad incompetence of the Contractor's Project Management team.

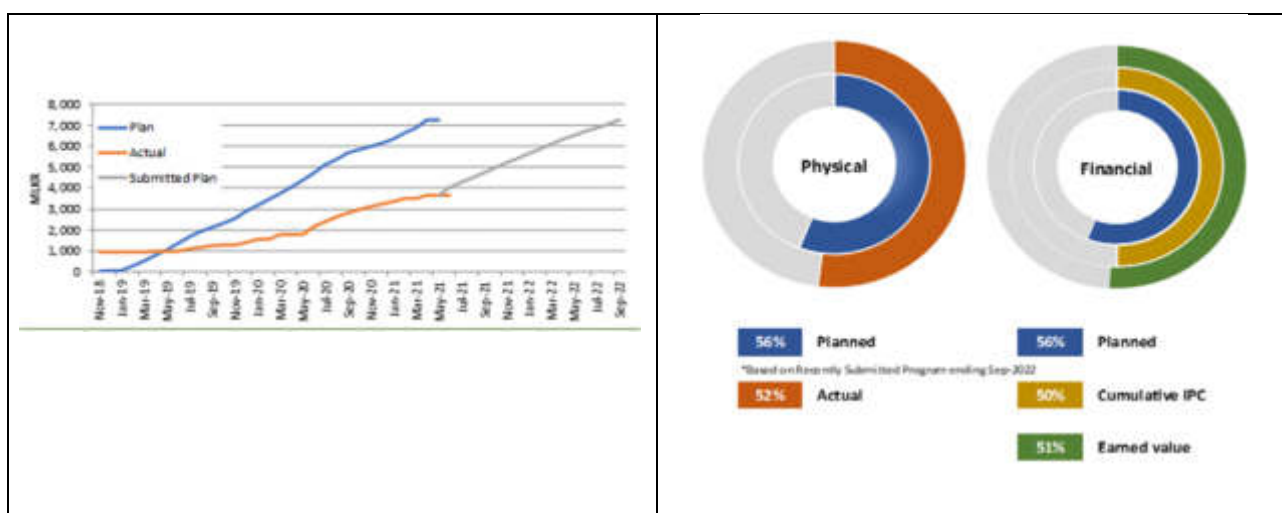
### 1.2.3 NWPCP-ICB-2

11. The NWPCP-ICB-2 package comprises the construction of the main canal from Nabadagahawatta to Mahakithula Reservoir inlet tunnel (from 5+250 km to 22+500 km), which anticipates a significant amount of ecological and social environmental impacts due to the environmental sensitivity of the project area. Two sections - 18+503 km to 19+650 km and 20+700 km to 22+300 km - fall within the Kahalla-Pallekele Wildlife Sanctuary

under the jurisdiction of Fauna and Flora Protection Ordinance (FFPO). The land ownership is with the Forest Department (FD) as the canal trace traverses through Kahalla-Pallekele Forest Reserve, and the rest of the area traverses through rural residential, agricultural areas which have acquired for the project. However, the Contractor has to manage a significant level of constructional direct and indirect impacts, as the cut and cover canal disturbs community life due to access issues, dust, noise, vibration, and other associated impacts.

12. The original contractual Completion Date was set as 06 May 2021, but it is now revised as 06 April 2022 due to the slow progress of construction work. The key issues faced by the Contractor include (i) delay of land acquisition and handing over process by the Employer where about 14 land plots near 18 km chainage are still pending, (ii) slow progress work of backfilling work, (iii) major collapse at Ranwediya Tunnel outlet (9+532 km), and (iv) Nilagama Tunnel outlet portal work has been suspended since 01 April 2021 due to public unrest and protest against unsafe, and unmanaged blasting work.

13. The key construction activities and the progress achieved up to June 2021 includes canal construction, concreting and backfilling (54%), tunnel works (50%), canal structures (20%), and construction of transitions (13%). Figure 1-3 shows the graphical representation of the overall progress of the NWPCP-ICB-2 package by end June 2021.

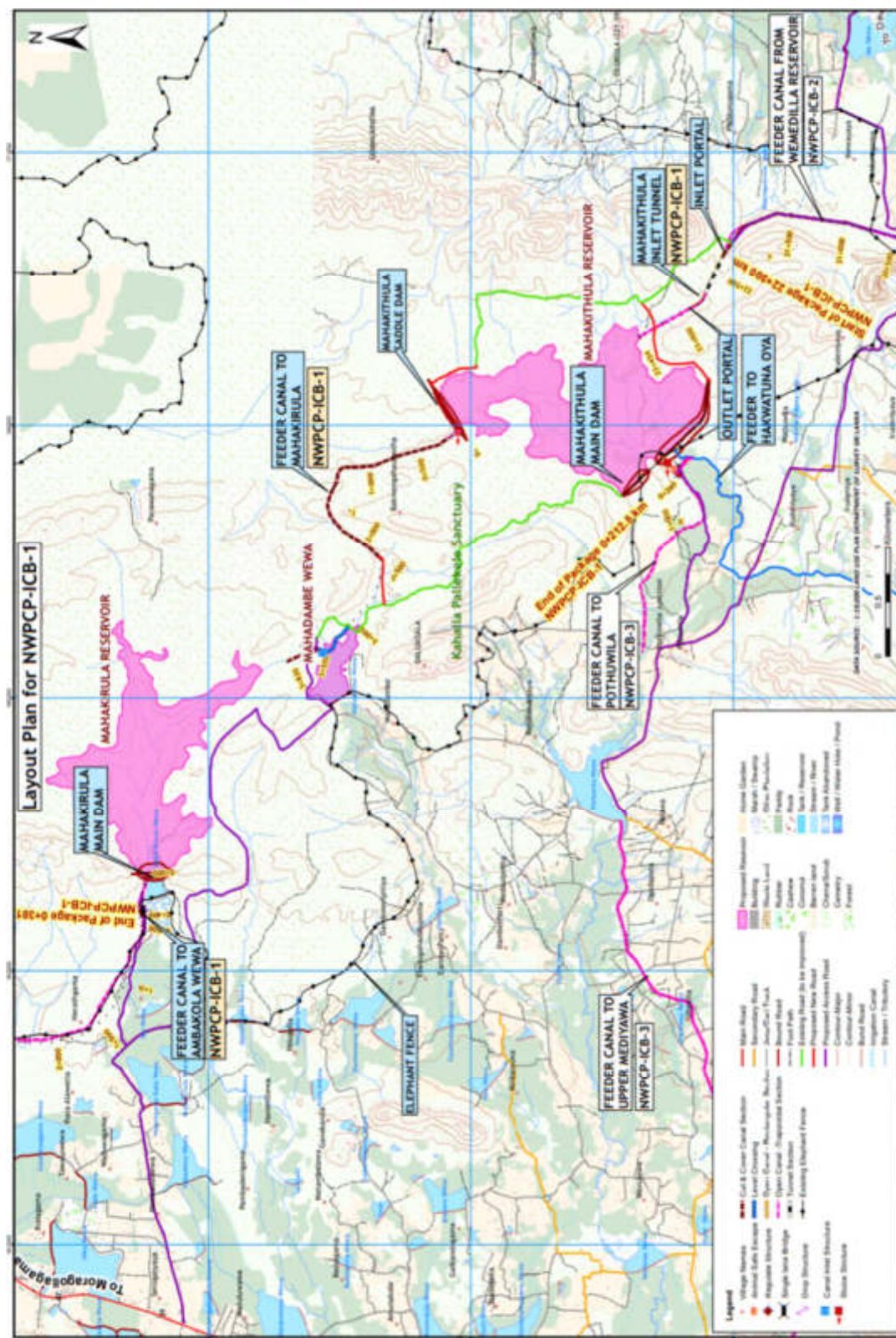


**Figure 1-3: Overall package progress of NWPCP-ICB-2 as of end June 2021**

14. Layout maps of the NWPCP-NCB-1, ICB-1 and ICB-2 project areas are shown in Figure 1-4, Figure 1-5, and Figure 1-6, respectively.



Figure 1-4: Map of NWPCP-NCB-1 Project area



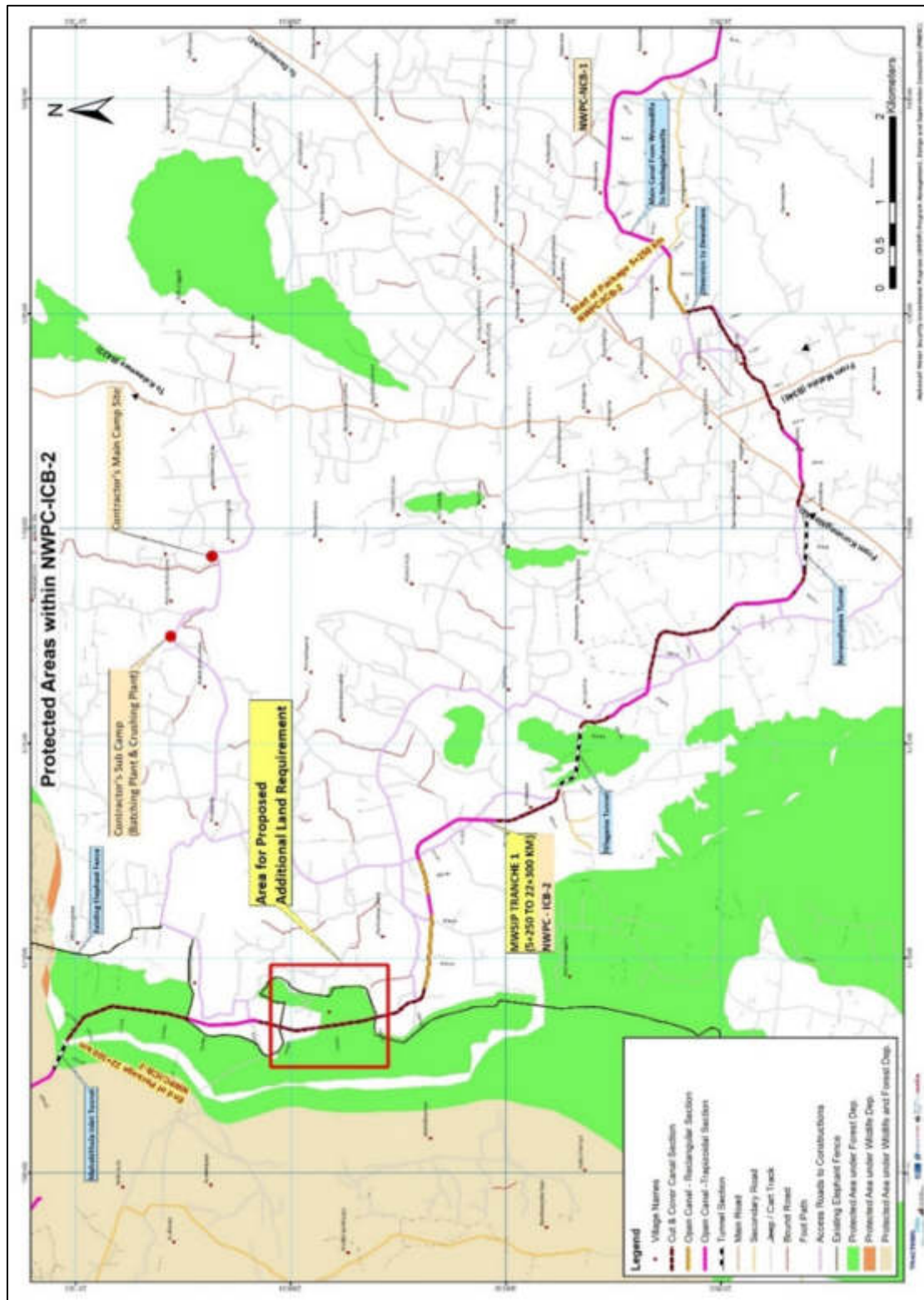


Figure 1-6: Map of NWPCP-ICB-2 Project area

## 1.2.4 Pipeline packages under NWPCP Tranche 3

15. Table 1-2 summarizes the progress of rest of remaining packages pipeline under the NWPCP.

**Table 1-2: Status of other packages pipeline under NWPCP**

Package	Description	Progress by end June 2021
NWPCP-3 (Earlier abbreviated name was NWPCP-ICB-3)	Construction of Feeder Canal from Mahakirula to Kaduruwewa (20.9 km)	<ul style="list-style-type: none"> <li>Updated EMP completed and submitted to PMU along with the bidding documents under previous contract package named as NWPCP ICB 3 on 11 April 2019</li> </ul>
NWPCP-4 (Earlier abbreviated name was NWPCP-ICB-4)	Feeder Canal from Mahakithula to Pothuwila (2.0 km), Upper Mediyawa (19.9 km) and Yapahuwa (8.9 km)	<ul style="list-style-type: none"> <li>Bidding documents and EMP for the new package list of works is under preparation</li> </ul>
NWPCP-6	Construction of North - Western Province Canal from Dambulu Oya to Wemedilla LBMC (0+000 km to 8+575 km) and Diversion Structure	<ul style="list-style-type: none"> <li>Link canal from Dambulla Oya to NWPC is replaced by Bowatenna Tunnel 2 (BT2)</li> <li>Technical meeting was held in Feb 2021 by Central Environment Authority (CEA) on the BIQ submitted and the Terms of Reference (ToR) was issued to carry out Supplementary Environment Impact Assessment (SEIA) issued by CEA in April 2021. <b>Annex 1</b> included the ToR</li> <li>Updated EMP was prepared and submitted with bidding documents in April 2021, until EIA is completed</li> </ul>

## 2 CHANGES IN PROJECT SCOPE AND ADJUSTED SAFEGUARD MEASURES

16. In the two packages where construction is ongoing – NWPCP-NCB-1 and NWPCP-ICB-2 - there are indications of significant scope changes due to Contractor's delays of completing construction work in the given time period, as well as due to deficient technical capacities to perform the construction activities in full compliance with their CEMPs. An update of the identified scope changes and the corresponding actions taken during reporting period is presented in Table 2-1.

**Table 2-1: Identified scope changes related to NWPCP-NCB 1 and NWPCP-ICB 2 packages**

Package	Scope change	Proposed safeguard measures
NWPCP-NCB-1	<ul style="list-style-type: none"> <li>The accepted Extension of Time expired on 30 April 2021. Until pending tasks are completed, safeguard completion report is unable to complete.</li> <li>Since there is no EO for the contractor, no safeguard compliance monitoring, reporting continues</li> <li>Long term RE completed his time by end April 2021, and the EMS resigned end June 2021. Hence the link between contractor and the PMDSC is weaker.</li> </ul>	<ul style="list-style-type: none"> <li>Employer and the new EMS assigned for NWPCP were made aware on following adjusted safeguard measures &amp; requirements to avoid negative environmental impacts:</li> <li>Site restoration plans to get updated as per site status of the project completion stage, including new sluice access path</li> <li>New access to the new sluice area arranged by cutting the hilly terrain and felling trees. Contractor and Employer was made aware from the beginning to understand the restoration plan for this access, discussing with the landowner, but so far not received a plan</li> <li>Close monitoring is required for the land scraping the damping yards and close the cutting section of the Sluice approach road by the Contractor.</li> <li>Employer to involve with release of reservation lands for the Drainage Canals at DUCs; 2+158km &amp; 5+129km within the construction period to construct the Drainage Canals to discharge the drainage of these DUCs. Otherwise, this will create negative environmental / social impacts due to siltation these structures not draining catchment water, as a result, the flood will occur during the rain.</li> <li>Employer to intervene with a habitat enrichment plan to compensate the trees (about 500) fell down for the construction work. There is no budget allocation to get this done under Contractor's PSO for NWPCP-NCB-1 package.</li> </ul>
NWPCP-ICB-2	Extended ROW requested by CSCEC in Second Sanctuary Area from 20+700 km to 22+300 km	<ul style="list-style-type: none"> <li>Additional land requirement was submitted by CSCEC. Comments given by PMDSC and CSCEC has to re-submit accordingly.</li> </ul>

Package	Scope change	Proposed safeguard measures
	Major collapse at Ranwediya outlet section at 9+532 km	<ul style="list-style-type: none"> <li>▪ Though this issue appears to be a technical fault, the collapse of tunnel indicates potentially major environmental and social risks to the surrounding area.</li> <li>▪ Hence, it is suggested the contractor to carry out a comprehensive assessment in environmental point of view including a Risk Assessment and prepare a safeguard Corrective Action Plan (SCAP) including a sound community awareness to avoid further issues and a social unrest on the project activities.</li> </ul>
	Due to a protest of villagers, blasting work of Nilagama tunnel outlet area was suspended since 01 April 2021	<ul style="list-style-type: none"> <li>▪ As per the observations and records maintained by the Environment Safeguard team of PMDSC, this incident happened due to long term negligence of Contractor, and insufficient attention to the grievances of the villagers / affected parties.</li> <li>▪ Blasting Tunnelling matters are purely technical matters to be handled by the Geologist, Mining and Tunnel engineers and the environmental consequences are the after-effects of not handling such work using sound techniques and proper planning. Employer stopped EMS from site monitoring on above incident of social unrest, and hence PMDSC Environment Team prepared a Root Cause Analysis (RCA) to understand the root causes on the CSCEC blasting/ tunnelling issues and the summary is given under <b>Figure 2-1</b>.</li> </ul>

## Root Cause Analysis (RCA) Summary - Public Unrest on Blasting Activities

### ○ *Unplanned open blasting and tunnelling work without attending required environment mitigation measures;*

- (i) PMDSC instructions to CSCEC (Ref. PMDSC-NWP-Site/ICB-2/CSCEC/510 on 23.10.2019) prior to & during blasting activities were to avoid disturbances to the people and the environment, in addition to the guidance provided in the EMP and relevant contract clauses (Refer **Annex 2**). But throughout the period since 2019, technical competency and monitoring of mining, tunnelling and geology team was unsatisfactory
- (ii) Resistance to the tunnelling by villagers living close to 15+050 km happened due to rock blasting (Ref. PMDSC-NWP-Site/ ICB2/PIU/0133 on 20.03.2020; Ref. PMDSC-NWP-Site/ ICB2/CSCE /PIU/1664 on 07.10.2020 etc.). Based on this the EMS followed-up monitoring of similar issues and attended monitoring blasting work. As a result, it was noted that the Air Blast Over Pressure (ABOP) was exceeded the standard limits in 2 blasts out of 4 blasts made. According to the CEA standards, the maximum allowable limit for an area with type 3 buildings (single/ 2 story houses made of lighter construction / not designed to resist earthquakes) is 120 (for multi-bore holes) and the ABOP recorded in 2 blasts were around 135 and 121. Considering that, it was informed to RE to obtain contractor's previous records of ABOP and ground vibration during the blasts together with software generated result sheet, instrument calibration etc. as a proof. Also noted that blasting works were not up to the standards and not done following the MS, hence fly-rocks were observed during the blasts that aroused social unrest.
- (iii) In addition to blasting issues, tunnel areas experienced poor housekeeping, lack of sanitary facilities, drainage issues due to lack of proper sedimentation tanks etc. which was clearly communicated to the CSCEC by ES/EMS through RE NWPCP-ICB 2 on several occasions by letter (Ref. PMDSC-NWP-Site/ ICB2/CSCEC /1964 on 08.02.2021 given as **Annex 3**) and at the meetings etc. Some improvements made, but some issues were still unattended.

### ○ *Unplanned public awareness and local level political interference*

- (i) Public awareness is handled by the PIU and PMU, and no involvement of PMDSC and Contractor unless PMU/PIU invited to attend GRC/ public meeting. Contractor maintains the Grievance Record, and is responsible for attending site level construction related mitigations.
- (ii) CSCEC appointed a Public Relation Officer (PRO) who is a current political member in the Local Government (Pradeshiya Sabha) which contributed to public unrest out of concerns over various misconduct and involvement in politically-influential activities.

### ○ *Not having adequate responses on Public Grievances*

- (i) Referring to **Annex 4** (Grievance Log) maintained by the CSCEC, and submitted in monthly Environment Progress Reports, there are 5 blasting (cracks/fly rocks) related grievances unattended since 29.10.2020.
- (ii) Requirement of attending grievances immediately by the mining/ tunnelling technical team has been repeatedly informed to all responsible parties at the discussions, but not happened adequately for the previous 2 years which resulted in aggravating the social unrest.

**Figure 2-1: Summary of RCA on NWPCP-ICB 2 blasting / Tunnelling issues**

### 3 ENVIRONMENTAL MONITORING

#### 3.1 Organizational set up for NWPCP Environmental Monitoring & Reporting

17. The Resident Engineer (RE) appointed for each NWPCP contract package under the PMDSC assumes primary responsibility for ensuring the implementation of Contractor's Environmental Management Plan (CEMP) through the respective contractor. The relevant required actions are guided by the ES and EMS of PMDSC.

18. The environmental monitoring of the all NWPCP packages, including review of Method Statements (MSs), attending relevant meetings, and all package-specific additional surveys on active and future packages under NWPCP are handled by the EMS of PMDSC located in the CRE office in Dambulla. In addition, overall guidance for the contractor's Environmental Officer (EO) to identify issues through self-monitoring, attending to required mitigation measures, obtaining required license and approvals, awareness and training for the environmental related aspects are handled by the EMS under the coordination and assistance by the ES- PMDSC.

19. Any environmental issues, especially non-compliance events observed by EMS during routine site monitoring, as well as through the public complaints, are duly informed to the RE for appropriate communication to the Contractor to attend required corrective actions with the guidance of EMS and ES of PMDSC.

20. The Contractor is guided to implement required mitigation measures in the updated EMP for the generic environmental issues, and for the site-specific issues comments are made on the submitted MSs, Environmental Incident Reports (EIRs), Non-Compliance Report (NCRs), and through letters. In addition, periodical environment meetings, joint inspections are being used to deliver verbal instructions where necessary by PMDSC, PIU and PMU.

21. From 01 April to June 2021, the site level environmental compliance monitoring by the PMDSC was suspended by the Employer, and hence no regular monitoring happened for the given period by the EMS. With this incident, the following changes happened in the Environmental Safeguard Management Organization under PMDSC:

- (i) Former EMS was stopped by Employer from attending site monitoring from 1 April 2021 due to public unrest happened by people on NWPCP-ICB-2 blasting, tunnelling activities. Hence there was no compliance monitoring attended by the PMDSC – EMS, and this EMS was resigned from the project with effect from 30 June 2021 after completing his 3 and half year's continuous inputs to PMDSC of MWSIP.
- (ii) The EMS who assigned to oversee Minipe and UECP-ICB-2A environment safeguard compliance, transferred to NWPCP-ICB-1 RE office with the responsibility of looking after NWPCP area from 15 June 2021, and UECP-ICB-2A is looked after by the second EMS with UEC-ICB-1 and UEC-ICB-2B packages.
- (iii) Environment Specialist (ES) of PMDSC also handed over her resignation with effect from end July 2021, completing her 5 and half year's continuous inputs to PMDSC of MWSIP. Hence, PMDSC now in the process of recruiting one new EMS and ES.

22. The key meetings, inspections and surveys carried out by the EMS and ES PMDSC related to NWPCP are summarized in the Table 3-1.

**Table 3-1: Key meetings, stakeholder consultations and joint inspections attended by the environmental team of PMDSC, PIU and PMU related to NWPCP**

Month of 2021	Dates			Remarks
	ICB 1	ICB 2	NCB 1	
Site Monitoring				
January		1, 2, 6, 8, 15, 16, 19, 21, 22, 23, 25, 26, 27, 30 January 2021.	2, 16, 23, 30 January 2021.	
February	11 February 2021.	1, 3, 5, 8, 9, 10, 11, 15, 17, 23, 24, 27 February 2021.	1, 6, 19, 23, 27 February 2021.	
March	1, 22, 17, 22 March	3, 4, 6, 8, 9, 12, 13, 15, 16, 18, 20, 24, 25 March	3, 13, 16 March	
June		30 June 2021		Site monitoring with new EMS to make him familiar of the site and review attending key corrective actions on NCRs and CAP prepared by CSCEC under PMDSC instructions
Joint Site Inspections		19 January; 5 March 2021		With ACRE, RE, PM & EO (CSCEC)
Grievance Meetings				
Site Meetings		5 February 2021.		
Special meetings other than progress/ site meetings	28 January 2021			With RE, ARE, HSO-FP, HSO, PM CAMCE & other staff regarding mobilization. Also participated PD, TL, ACRE, ES, of PMDSC via online
	29 January 2021			PD-PIU NWPCP, WMP implementation officer NWPCP, HSO NWPCP PMDSC, STC officer regarding tree removal of ICB 1 area.
	17 March			Meeting with DTL & GIS Specialist - PMDSC, RE & Staff-ICB 1 NWPCP, ES & WMP officer-PMU
	29 March			Meeting with ES PMU regarding tree planting
	30 March			Env workshop NWPCP ICB 1
		31 March 2021		Meeting with PD-PIU regarding planned meeting with DS Galewela
		31 March 2021		Meeting with PD-PIU regarding planned meeting with DS Galewela
Other Works	6, 8, 11 January 2021.			Species translocation program with IUCN.
	8 February 2021.			Tree survey along access roads with PIU.
		24 February 2021.		Environment baseline data collection at proposed crusher plant location.
		12 March 2021		Tree survey 5+250 to 6+250 with SEO - NWPCP

## 3.2 Monitoring Records in NWPCP-NCB-1 and ICB-2

23. The following sections summarize the Contractor's environmental safeguard compliance status as per the monitoring records of the PMDSC during EMS/ES monitoring visits, and meetings held with the Contractor's representatives.

### 3.2.1 NWPCP-NCB-1

24. Main concerns include soil erosion in the exposed canal banks, stockpile areas, and cofferdam area at new sluice. The Contractor had been instructed to attend corrective actions, but due to no Environment Officer (EO) at the site, no continuous follow up and reporting take places from the contractor side on environment safeguard aspects.

25. For the improvements of existing canal to discharge more water to the project area, more than 500 no. trees had been removed during the construction period and after completion of the improvement works it was observed that ample space is available as the reservation lands. These lands are ideal for the tree planting as a compensation of removed trees; otherwise, these lands will be probably encroached by people in future. PMDSC is unable to plan this activity through the contractor similar to the work done under MLBCRP due to lack of financial provisions under contract for additional environment mitigation work. Hence, PMDSC recommended to the Employer to implement such a program using funds allocated to implement WMP. Planting of some *Areca catechu* (Puwak) trees was done along the canal by the PIU, but due to lack of maintenance the trees did not survive.

26. The works sites of the contract have been closed temporarily during April 2021 due to the lockdown of the area under the instruction of MOH Galewela, and the accepted Extension of Time was expired on 30 April 2021, with the physical progress of 96%.

27. A Completion Report on environment safeguard aspects is pending until project completion, but the key concerns to at the project completion are as follows:

- (i) Action needs to be undertaken to stabilize the dumping locations by backfilling of excavated sections at the Sluice Approach Road.
- (ii) Access to the new sluice area arranged by cutting the hilly terrain and felling trees. Contractor and Employer were made aware from the beginning to understand the restoration plan for this access, discussing with the landowner, but so far not received a plan.
- (iii) Employer to involve with release of reservation lands for the Drainage Canals at DUCs; 2+158km and 5+129km within the construction period to construct the Drainage Canals to discharge the drainage of these DUCs. Otherwise, this will create negative environmental / social impacts due to siltation these structures not draining catchment water, as a result, the flood will occur during the rain.
- (iv) Close monitoring is required for the land scraping the damping yards and close the cutting section of the Sluice approach road by the Contractor.
- (v) Employer to intervene a habitat enrichment plan to compensate the trees (about 500) fell down for the construction work. There is no budget allocation to get this done under Contractor's PSO for NWPCP-NCB-1 package.

28. In Figure 3-1 some photographic evidence of the NWPCP-NCB-1 area as of June 2021 is provided.



**Figure 3-1: Photographic records of the NWP-NCB-1 area**

### 3.2.2 NWPCP-ICB-2

29. Overall commitment by the Contractor (CSCEC) on environmental safeguard aspects was not satisfactory during the reporting period though there were few improvements recorded in attending to longstanding environmental issues.

30. The main reasons for the repeated environmental issues in the NWPCP-ICB-2 site were assessed jointly by EMS and ES of PMDSC, and following causes were identified.

- (i) CSCEC does not have previous experience of implementing environmental safeguard measures as per ADB SPS (2009) .
- (ii) Since the bidding price is low, CSCEC tries to manage their CEMP with minimal expenses .
- (iii) Most of the environmental issues experienced were due to a lack of experienced Key staff, as well as no Planning Engineer to plan the construction work cost effectively and environmentally friendly way.

31. Due to longstanding environmental issues, the Engineer informed CSCEC to submit Corrective Action Plan (CAP) as per the format provided by Engineer through letter Ref PMDSC-NWP-Site/ICB 2/CSCEC/1925 on 26.01.2021. The plan submitted by CSCEC on 10 February 2021 through letter Ref. CSCEC-ICB2-PMDSC-2059 was not up to the required level, and hence comments to improve the CAP was issued by the Engineer through letter Ref PMDSC-NWP-Site/ICB 2/CSCEC/1991 on 19.02.2021, and reminders made through a special meeting held on 04 March 2021.

32. As per the CAP received on 15 July 2021 (Ref. CSCEC-ICB 2-PMDSC-2381 given in **Annex 2**), detail site monitoring was carried out by the ES-PMDSC on 30 June 2021. Further, ES-PMDSC carried out a document review, and assess the progress of attending environmental safeguard compliance site level as well as through reporting for the period of January to June 2021, and the findings were shared with CSCEC through RE on 15 July 2021 (Ref. PMDSC-NWP-Site-ICB 2/ICB-2/CSCEC/2355 given in **Annex 3**) under the title "Semi-Annual Environment Review for NWPCP-ICB 2 (Jan to June 2021)."

33. The main findings of this review include:

- (i) Poor performance of approved Environment Officer (EO) of completing key deliverables such as CEMP, Waste Management Plan, Dust Management Plan and Site Restoration Plan
- (ii) Poor implementation of the agreed actions as per the PMDSC initiative by preparing a Corrective Action Plan (CAP)
- (iii) Lack of proper safeguard management and monitoring plan in site level which result weak environment management at the site level
- (iv) In adequate training/ awareness and follow-ups to the site staff and workers by the Environment Key staff of CSCEC

34. Environment safeguard documentation progress of CSCEC (NWPCP-ICB 2 contractor) is summarized in Table 3-2.

**Table 3-2: Environment Safeguard Documentation Progress of NWPCP-ICB 2**

No.	Safeguard instrument/ tool	Improvement required on the lapses	Rating
(i)	Contractor's Environment Management Plan (CEMP)	<ul style="list-style-type: none"> <li>▪ The approved EO was trained and informed to submit the updated version considering all scope changes of the NWPCP-ICB-2 package, but not yet attended.</li> <li>▪ Repeated reminders made in writing as well at progress meetings.</li> <li>▪ Rev 02 of CEMP was submitted by CSCEC on 04 March 2019, and comments submitted by PMDSC. No revised version submitted addressing comments and scope changes.</li> </ul>	"Poor & Non-compliant"
(ii)	Monthly Environment Progress Reports	<ul style="list-style-type: none"> <li>▪ As indicated in the Contract agreement (Vol II – NWPCP ICB 2, Section 1.15.4 "Progress reporting) Monthly progress report shall be submitted within 4 days after each calendar month to use the particular details / findings to report to employer/ ADB.</li> <li>▪ But the reporting not received on time (i.e., Jan 2021 Report received on 27/02/2021; Feb 2021 received on 24/03/2021; April 2021 and May 2021 on 14/06/ 2021 and 15th June 2021 respectively)</li> <li>▪ No March 2021 report received till end June 2021</li> <li>▪ Content wise, the report lacks EO's self-monitoring checklist, or status update to explain monthly environment safeguard status compared with the EMP/CEMP. The self-diary indicates that EO just visit the site without proper monitoring</li> </ul>	"Poor reporting"

No.	Safeguard instrument/ tool	Improvement required on the lapses	Rating
		<p>schedule/plan which displays her inadequate planning on environment safeguard compliance monitoring.</p> <ul style="list-style-type: none"> <li>Environment Quality Monitoring (Section 2.1.3) had not attended for last 6 months, which is a mandatory for a project in this nature (as per EMP/EIA).</li> <li>No records of stakeholder engagement / grievance meeting details for past 6 months</li> <li>Under approval status some approvals are outdated/ expired.</li> <li>Critical environmental concerns not addressed – There has been many critical issues reported each month (i.e., Tunnel failure at Ranwediya), but no indication of such, or corrective measures adopted.</li> </ul>	
(iii)	Other key documents as supplements to CEMP	<p>Since CSCEC was failed to submit a complete CEMP, following key plans were requested to prepare and submit since July 2020 (Ref. PMDSC-NWP-Site/ICB-2/CSCEC/1354 on 15/07/2021) and reminded repeatedly (Ref. PMDSC-NWP-Site/ICB 2/CSCEC/1925 on 26.01.2021; PMDSC-NWP-Site/ICB 2/CSCEC/1991 on 19.02.2021):</p> <ul style="list-style-type: none"> <li>(i) Dust Management/ Watering plan indicating areas for dust barricades, watering schedule etc. including maintenance plan;</li> <li>(ii) Waste Management Plan (including domestic waste and construction related waste)</li> <li>(iii) Site restoration plans for Stockpiles and other areas for backfilled sections</li> </ul> <p>Above plans were expected from EO-CSCEC, but so far, not received.</p>	Non-compliant

35. One Environmental Non-Conformance Report (E-NCR No. 16) had to be issued on 21.01.2021 for the reporting period from January 2021 regarding the poor condition of access roads due to lack of routine maintenance by the Contractor (to the Olcott Buddhist School at 8+700 km). The required corrective measures attended within few days, and the NCR was closed.

36. Out of 16 Environment Non-Conformance Reports (ENCRs) issued up to end June 2021, 7 E-NCRs (ENCR 5, 7, 9, 11, 12, 14, 15) are still not closed due to CSCEC not attending the corrective actions to a satisfactory level. Table 3-3 summarizes the progress of attending required corrective measures related to the pending NCRs in NWPCP-ICB-2 area.

**Table 3-3: Progress of attending corrective actions for the open of E- NCR in NWPCP-ICB 2**




	NCR issues / Date of issue	Progress as of end June 2021
(a)	PMDSC-ICB2-NCR No. 5 was issued on 01.10.2019 due to washing off the stockpiles	<ul style="list-style-type: none"> <li>Reminder was made to CSCEC pay immediate attention to attend corrective actions recommended on NCR 05 to compensate damaged wells by Engineer on 23.10.19 through Ref. CSCEC-ICB2-PMDSC-516-2019</li> <li>Further corrective actions implemented on (i) damaged wells rectification/ purification, (ii) reinstatement of agriculture fields damaged due to washing off stockpiles, (iii) reinstatement natural streams blocked by stockpile erosion, failures, and (iv) corrective</li> </ul>





	NCR issues / Date of issue	Progress as of end June 2021
		<p>measures attended to manage existing stockpiles were informed by CSCEC on 31.10.2019 (Ref. CSCEC-ICB 2-PMDSC-709-2019)</p> <ul style="list-style-type: none"> <li>The monitoring observation on stockpile maintenance and operations as of Jan 2021 indicated that (i) Toe and silt traps of most of the stockpiles are not maintaining properly, (ii) No adequate mitigatory measures are taken as per the ENCR 5, (iii) Due to stockpile located RHS at 18+300km, the Dehigaha Ela and few water wells located adjacent to the Dehigaha Ela completely silted and there are public complains, (iv) Unauthorized stockpile operation observed at RHS of 12+350km and Kandabodayaya and paddy land near outlet portal of the Nilagama tunnel etc.</li> <li>Hence, EO of CSCEC was repeatedly asked to update the present status of stockpiles, disposal areas linked to the detail Waste/spoil management Plan as agreed with the Engineer at the Special meetings, but not attended till June 30, 2021.</li> <li>As per site observation by 30 June 2021, most of the stockpiles are now used for backfilling work, but still in May Progress report there is a list of 26 stockpiles and no restoration details submitted. Hence, CECEC to submit those details to close NCR No. 5.</li> </ul>
(b)	NCR No. 7 issued on 25 Oct 2019 related to the issues in the batching plant area mainly due to lack of proper wastewater and solid waste treatment and disposal arrangement, noise, dust issues and complaints from the neighbourhood	<ul style="list-style-type: none"> <li>MS was submitted by CSCEC to rectify the highlighted issues on 02.11.19 (Ref. CSCEC-ICB2-PMDSC-719-2019) and MS was returned for resubmission by the RE on 29.11.19 considering the comments raised by EMS.</li> <li>Corrective actions taken by CSCEC was informed to RE on 27.12.19 (Ref. CSCEC-ICB2-PMDSC-907-2019) but as per site monitoring it was noted that the actions taken are not satisfactory and hence NCR keep opened till end of monitoring period</li> <li>Revised MS incorporating Engineer's comments was submitted by CSCEC on 28.12.19 (Ref. CSCEC-ICB2-PMDSC-908-2019)</li> <li>Several follow ups were attended by the Engineer, including Notice to temporary suspend batching plant operations due to causing public nuisance, repeated violation of CEA regulatory and EPL conditions, HS manual (Ref. PMDSC-CRE -NWP/ICB 2-CSCEC/010 on 08.02.2020)</li> <li>CSCEC informed Engineer through letter Ref. CSCEC-ICB2-PMDSC-1117 on 22.02.2020 about the corrective actions taken for the Environmental Non-Compliance Report (Env -NCR) -007, but the actions had not been implemented as per the required level, and NCR No. 10 was issued upon the release of polluted water</li> <li>After continuous follow-ups made, CSCEC attended progressive improvements to solve the issues during Jan – March 2021 period.</li> <li>Still some lapses there as per 30 June 2021 visit which are described in <b>Annex 3</b>. CSCEC to attend those as well as to make a request to close NCR</li> </ul>
(c)	E- NCR No. 009 (Ref. Ref. PMDSC-NWP-Site/ICB 2/CSCEC/783 on 08.01.2020): Cement waste dumping in the site at 12+200 km area, 16+600 km area, 17+600 km area, 20+200 km area	<ul style="list-style-type: none"> <li>Although the contractor's letter Ref. CSCEC-ICB 2-PMDSC-1881 on 24.09.2020, the problem was not solved site level, and this has been notified in several letters, meetings etc. including Letter Ref. PMDSC-NWP-Site/ICB-2/CSCEC-1925 on 26.01.2021 and follow</li> </ul>





	NCR issues / Date of issue	Progress as of end June 2021
		up meeting held on 04.03.2021. Hence, NCR No. 09, 11 and 12 are still open.
(d)	E- NCR No. 011 (Ref. PMDSC-NWP-Site/ ICB2/CSCEC/967 on 02.03.2020) – Cement waste at the site, not follow E-NCR 09 and Engineer recommendations,	<ul style="list-style-type: none"> <li>However, as per the site observations, and referring to the letters (CSCEC-ICB 2-PMDSC-2357 on 04.06.2021 and CSCEC-ICB 2-PMDSC-2357 on 04.06.2381 on 15.06.2021) E-NCR 09 and E-NCR-11 can be closed.</li> <li>Since, there is no arranged solution for other areas where construction work take place, especially in wildlife areas NCR No. 11 shall be closed upon establishing temporary washing pits to wash shooter of truck mixers as indicated in the recent CAP submitted on 15.06.2021</li> </ul>
(e)	E-NCR No. 12 (Ref. PMDSC-NWP-Site/ICB 2/CSCEC/0968 on 02.03.2020) Spilled cements on Moragolla main road in Aluthwewa area from truck mixers used by CSCEC leading dust generation and risk of slipping motor-bicycle, foot-bicycle, etc.	
(f)	E-NCR No. 15 for instalment of 2 Water Tanks and the Pipeline on the Top of Rock at Nilagama Outlet Portal (Beyond the Approved Area for Construction) without Relevant Approvals (Ref. PMDSC-NWP-Site/ ICB2/CSCEC 11528 on 19.08.2020)	<ul style="list-style-type: none"> <li>Respond with relevant approvals from FD to establish such tanks on the rock and damaging the rock to install such tanks.</li> </ul>
(g)	E-NCR 14 on non-compliance issues in DWC Area 1 related to construction activities and not attending required mitigation measures (Ref. PMDSC-NWP-Site/ ICB2/CSCEC 1423 on 24.07.2020)	<ul style="list-style-type: none"> <li>Issues include non-functioning electric fence, not establishing small mesh fence, inappropriate waste disposal, erosion, natural stream blocking, no required notices established as per DWC conditions etc.</li> <li>Most of issues still prevailing in section 1 as well as other sections of DWC area, which contractor need to update the Engineer with the corrective measures attended</li> </ul>





37. Examples of photographic evidence recorded during the reporting period are shown in Table 3-4 to show site conditions and environmental compliance status associated with NWPCP-ICB 2 area.




**Table 3-4: Environmental compliance monitoring records in NWPCP-ICB-2**


(i)	<b>Boundary demarcation of the construction areas</b> RoW is not clearly demarcated in most of the parts. No visible construction area / boundary demarcation most of the places along the canal, including DWC area (other than electric fence)	As per Conditions of the contract under Sub-clause 1.3.5 “Right of Way” - Section 1 of the Conditions of the Contract Vol II and ADB requirements, all boundaries to be clearly marked to avoid trespassing, disturbances to surrounding habitats, community, or agriculture fields
(ii)	<b>Access road maintenance</b> E- NCR # 16 was issued due to the poor condition of access roads which are used by contractor as well as the public which is located in front of Olcott Buddhist School at Ranwediya (at 8+700 km of NWP ICB 2 canal) on 21 Jan 2021. Due to heavy construction related vehicle traveling, the road had damaged with lots of potholes and the principal complained to the Engineer	This was rectified within few days and the NCR was closed in Feb 2021 
(iii)	<b>Waste Management</b>	
a.	Cement waste still not managed properly which is related to NCR 09 and 11, which violates <ul style="list-style-type: none"> <li>Sub-clause 1.6.7 and 1.17.4.3 under the Section 1 of the Conditions of the Contract Vol II</li> <li>Sub-clause 9.1 of the Conditional Environment Approval issued by CEA on 23.02.2016 (Ref. 08/EIA/Water/07/2012 given under Vol IV – part B EMP)</li> <li>Table 6.1 of the EMP in the contract document Vol IV – Part B, highlighting the National standards to be followed to protect environment from hazardous waste like cement</li> </ul>	 <i>Observation at Approx. Chainage 8+000 km</i>
b.	<ul style="list-style-type: none"> <li>Sludge waste is just dumped openly inside the batching plant area without proper arrangement for sludge disposal which violates EPL/CEA conditions. The sludge is just dumped mixed with other waste material, which makes the site untidy and polluted.</li> <li>CSCEC was advised repeatedly to identify a recycling solution of this sludge waste, which can be used for cement/ concrete products</li> </ul>	 <i>Photo at Batching plant – Moragolla on 30.06.2021</i>

c.	<ul style="list-style-type: none"> <li>Other waste disposal also has no proper arrangement in the site, and no designated places for waste collection.</li> <li>In batching plant premises, all types of waste including e-waste, asbestos waste (which are hazardous and needs special disposal arrangements as per CEA regulations) is just dumped outside. No dust bins placed.</li> <li>CSCEC and EO was repeatedly asked to submit the waste management plan, but not yet submitted for Engineer's approval which is a CEA requirement.</li> </ul>	 <p><b>Photo at Batching plant – Moragolla on 30.06.21</b></p>
d.	<ul style="list-style-type: none"> <li>Disposal of oil filter of a heavy vehicle with oil negligently at the edge of construction access road close to the paddy field at approx. chainage 5+450 km.</li> </ul>	
e.	<ul style="list-style-type: none"> <li>Burning waste inside the batching plant area which violates CEA and EPL conditions (recorded on 30.06.21).</li> </ul>	
f.	<ul style="list-style-type: none"> <li>Due to unplanned disposal of tunnel waste at Ran-wediyawa tunnel portal area (9+850 km), coconut trees belong to National Livestock Development Board (NLDB) have died.</li> </ul>	
g.	<ul style="list-style-type: none"> <li>Standard housekeeping and sanitation practices are not followed.</li> </ul>	<p>This was recorded in January 2021, and considerable level of improvement shown by the contractor in March 2021 preparing</p>

	<ul style="list-style-type: none"> <li>Toilet in most of the areas (Ranwediya outlet tunnel portal, batching plant, etc.) are not up to the required hygienic conditions. Not clean. There are many complains by workers that they cannot use because not clean and hygienic.</li> <li>Many dogs can be observed within the ROW, especially in the DWC 2 area and threatening to the wildlife</li> </ul>	toilets in Ranwediya area, but maintenance is not upto the required level. At present this area is closed for construction due to tunnel collapse
(iv)	<b>Wastewater management in the site</b>	
d.	<ul style="list-style-type: none"> <li>Wastewater management in batching plant area is not clear, as the sedimentation tanks seems to be not functioning properly as the channels in between the compartments are blocked with cement waste.</li> <li>Wastewater, sewage, and other domestic wastewater management in the tunnel portals needs to be explained in the waste management plan as there is no approved document covering such aspects related to NWPCP-ICB-2</li> </ul>	 <p><i>Photo at Batching plant – Moragolla on 30.06.21</i></p>
(v)	<b>Drainage management/ erosion</b>	
a.	<p>Stream diversion done without any erosion protection measures, and just directed to the natural streams without silt traps or other mitigation measures which violates:</p> <ul style="list-style-type: none"> <li>Employers' requirements – Specification Section 2 of Vol II; Section 5.3.7 – "Control of Water" under Conditions of the Contract Vol II</li> <li>Sub-clause 2.5 of CEA Environment Conditional Approval (Ref. 08/EIA/Water/07/2012 on 23.02.2016) – "Hydrological Aspects"</li> </ul>	
b.	<p>Release of silt-laden water to natural streams resulted from dewatering at the canal trace around chainage 8+000 km</p> 	

		
(vi)	<b>Stockpile management / Restoration</b>	
	<ul style="list-style-type: none"> <li>There is a list of 26 stockpiles included in the monthly progress report, which is repeated each month without any status update by EO-CSCEC. But in the site, most of these stockpiles has been used for backfilling and some stockpile areas are now changed its land use as cultivated lands.</li> <li>EO needs to submit an updated list of existing stockpiles with their approval status, and the site restoration plans for the stockpiles, including handing over documents which is important to keep records for ADB/CEA post-monitoring and as evidence for grievances which can be raised in latter part of the project.</li> <li>At chainage 7+430 km and 7+960 km, excavated soil from the canal is dumped in adjacent private lands out of the construction boundaries. It is to be confirmed whether these are approved stockpiles.</li> </ul>	 <b>Stockpiles approx. at 7+450 km</b>  <b>Stockpiles approx. at 7+960 km</b>
(vii)	<b>Environment issues in Wildlife Area</b>	
	<ul style="list-style-type: none"> <li>Poor environment safeguard management recorded in the DWC area sections due to following observations:               <ol style="list-style-type: none"> <li>Small mesh net is not maintained and just thrown away. This unmanaged small mesh net can damage the feet of small mammals as well as hooved mammals such as spotted deer which can be trapped in the net.</li> <li>No clear site boundaries marked, and most of the workers use forest area outside the construction boundaries as their resting places which is prohibited as per Wildlife Act. This can aggravate illegal activities such as hunting, poaching in DWC areas, as well as polluting the areas due to waste dumping, open defecation etc.</li> <li>No notices are displayed for workers which is one of the conditions by DWC.</li> </ol> </li> </ul>	 <b>Broken small mesh fence inside DWC area</b>

	<p>(d) Unmanaged streams, stagnated water areas, and areas prone for erosion are there without attending required mitigation measures.</p> <p>(e) Backfilled areas are used for stockpiling excavated material from other sections. Once back-filling is over that section should kept free for animal movements re-arranging electric fence with a proper site restoration plan by the Contractor.</p> <p>(f) Observed firing remnants within construction boundaries of wildlife areas. Making open fire in wildlife sanctuary area is strictly prohibited which is well explained in EMP and conditions of Environmental approval.</p>	 <p><b>Construction areas without small mesh fence inside DWC area</b></p>  <p><b>Fire remnants in construction area inside wildlife sanctuary</b></p>
(viii)	<p><b>Unmanaged dust issues</b></p> <ul style="list-style-type: none"> <li>It was agreed by CSCEC to submit the dust management plan indicating the locations that needs dust barricades, watering plan etc. at the meeting held with CSCEC on 29.06.2020, but so far, no action taken.</li> <li>Serious dust issues observed in the construction areas adjacent to settlements, agriculture lands, as well as in the batching plant area</li> <li>In such areas no dust barriers or the existing dust barriers are properly maintained.</li> </ul>	 <p><b>Broken dust barricades and boundry wall in batching plant material storage area which result for windblown dust for the houses located nest to the plant – 30.06.2021</b></p>

		 <p><b>Damaged dust barriers</b></p>
(ix)	<b>Site restoration plans for backfilled areas</b>	
	<ul style="list-style-type: none"> <li>It was observed that now backfilling work completed in Galapitawewa tank area at 17+100 to 17+400 km.</li> <li>CSCEC was reminded to prepare restoration plans on such locations in accordance with conditional approval from the Deputy Commissioner of the Agrarian Services Department (Matale) with the letter reference 5/3/2/1/2019 on 08.08.19.</li> <li>In addition, all other backfilled areas, stockpile areas need to have a detail restoration plan prepared by EO-CSCEC and approved by Engineer for implementation.</li> </ul>	

### 3.2.3 NWPCP-ICB-1

38. The contractor of NWPCP-ICB 1 (CAMCE) still engaged with construction of their camp facilities, and no construction program and CEMP is approved. The key activities carried out under this contract package include tree felling through State Timber Cooperation (STC) being implemented by the Employer, surveying work for access road preparation, seeking approvals for gravel borrow sites, and disposal areas outside the protected areas for access road construction activities etc.

39. On 29 April 2021, a meeting and site visit to the working areas was held, and the monthly environmental meeting was also conducted with the participation of Contractor, RE, and Engineer's team and Employer's staff. This session was used as the initial training and awareness session for the newly approved EO to explain the scope of work expected by the contractor's EO, guidance to prepare CEMP, and approval requirements, including the key safeguard governing documents to be complied with related to both GoSL and ADB SPS (2009).

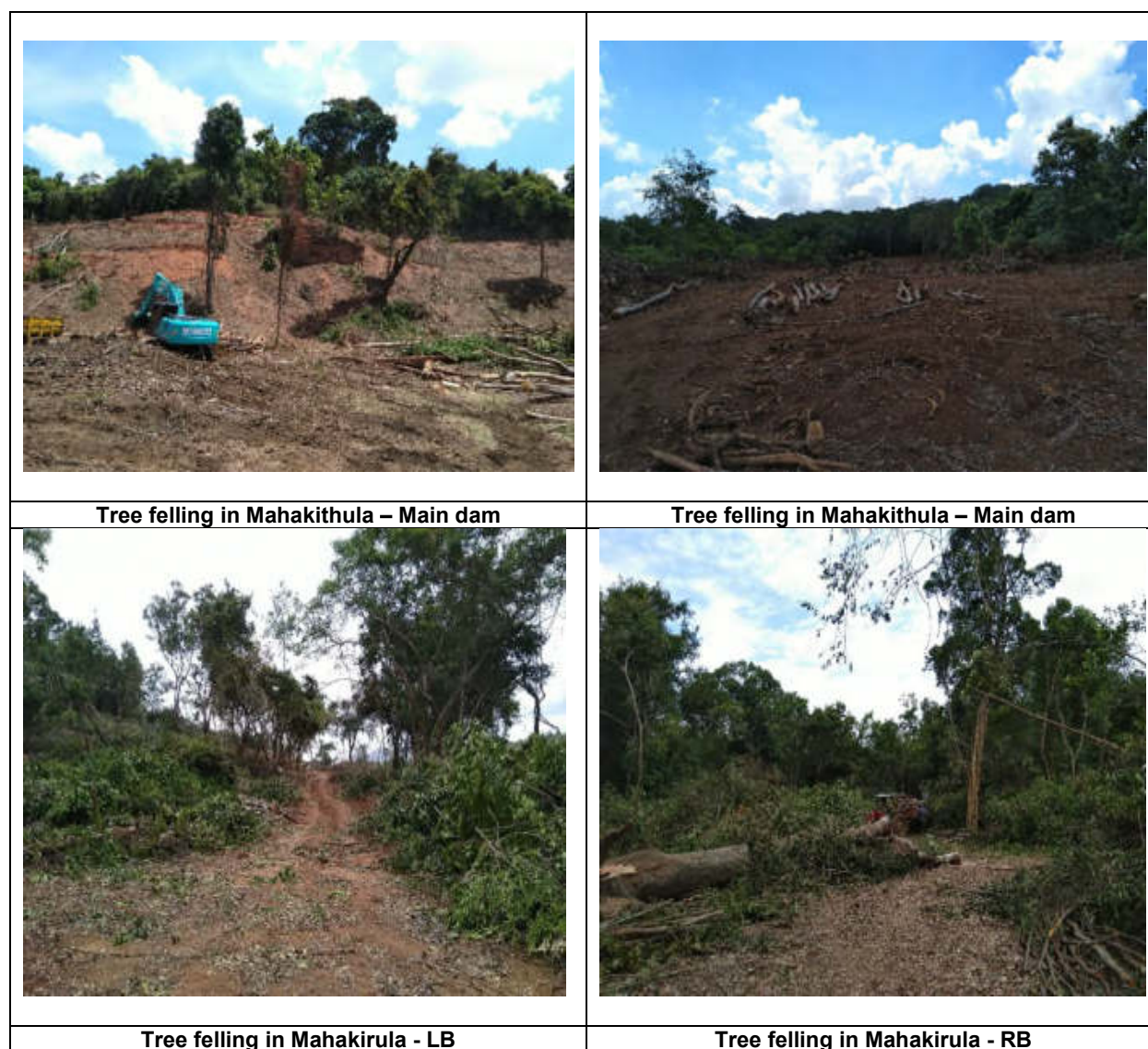
40. Provisional Sum Order (PSO) was prepared and issued to RE to proceed with Environmental Quality Monitoring (ambient air quality, surface/ground water quality, noise & vibration) in NWPCP-ICB-1 area as per the Terms of Reference (ToR) attached to the PSO in May 2021. This work shall be implemented under the BOQ item 6.2.3 included for Implementation of specific additional environmental mitigation measures proposed by the EIA study as instructed by the Engineer.

41. Draft CEMP received on 29 May 2021 (letter ref: CAMCE-QMCG/NWPCP-Site/PMDSC/S-065). CEMP returned to the Contractor with comments (PIU) for resubmission (RR) on 17th June 2021. The Contractor resubmitted the CEMP on 30th June 2021 (letter ref: CAMCE-QMCG/NWPCP-Site/PMDSC/S-175). The submitted document is under review by PMDSC.

42. Progress of tree felling is bit slow due to the late mobilization of STC team, and access issues. Tree felling in Mahakithula started on 18 March 2021. Most of trees in main dam axis and adjacent 200 m section (upstream) already been removed by STC (around 85% completed). Surface clearing work around 80% completed in this area. Around 20% of soil stripping work in main dam axis also completed. In saddle dam area around 20% of tree felling completed.

43. Tree felling in Mahakirula also has been started in some blocks (around 5-10% progress). However, no physical work scheduled for this year by the contractor in Mahakirula area.

44. Figure 3-2 shows some photographic records of the NWPCP-ICB 1 area.



**Figure 3-2: Photographic Records of NWPCP-ICB-1 area by end June 2021**

### 3.3 Public Grievances on Environmental Matters

45. Public grievances related to land matters and construction related aspects are mainly handled by the PIU-NWPCP, holding Grievance Redress Committee Meetings (GRCM) periodically. In addition, the Contractor is required to maintain a Grievance Log related to environmental matters.

46. There are no such records available under the NWPCP-NCB-1 contract due to nearing completion of the package. The Public Grievances recorded by the NWPCP-ICB-2 Contractor are given under **Annex 4**, indicating the present status of attending corrective measures. As mentioned in the earlier sections, attendance on grievances by the contractor is not satisfactory, which contributes to significant social unrest against the project.

### 3.4 Health & Safety Highlights for the Reporting Period

47. Health and safety (H&S) aspects are covered by the focal point for H&S based in the CRE office, who oversee all active packages under MWSIP, and one H&S Officer based in RE office of NWPCP-ICB-1 under PMDSC is focusing on construction monitoring of NWPCP active packages.

48. Table 3-5 summarizes the updates related to H&S aspects in the NWPCP area covering the 3 active packages.

**Table 3-5: H&S Highlights related to NWPCP during the reporting period**

Package	Accident /Incident occurred	Corrective actions/ recommendations.
ICB-1	No incident reported	<p>Contractor has started the mobilizing work in the beginning of this year and implemented the following measures to minimize the accidents.</p> <ul style="list-style-type: none"> <li>▪ Providing of PPE for all employees.</li> <li>▪ Assigning safety staff.</li> <li>▪ Providing necessary safety arrangements like sign-boards, barricading for critical locations, safe access etc.</li> <li>▪ Induction training and other safety trainings.</li> <li>▪ Preparation and implementation of COVID 19 Prevention Plan.</li> <li>▪ Providing of first aid materials.</li> <li>▪ Daily healthcare measures to prevent from COVID 19.</li> <li>▪ Regular site safety inspections have been conducted by PMDSC.</li> </ul>
ICB 2	<p>Three accidents, one near miss and one COVID 19 infection have occurred:</p> <ul style="list-style-type: none"> <li>▪ One truck mixture driver has fallen from top of the truck while attending for cleaning. He recovered after hospital treatments.</li> <li>▪ Two workers got an electrical shock when the pump car touched with an overhead power line.</li> <li>▪ Above two victims have been admitted in the hospital and recovered after treatments.</li> <li>▪ Soil collapsing on workers shoulder, happened in Ranwediya Tunnel.</li> <li>▪ Tunnel collapsing, with no harm to employees</li> <li>▪ One Chinese person got infected with COVID 19.</li> </ul>	<p>Accident investigations have been done and corrective and preventive measures applied as follows:</p> <ul style="list-style-type: none"> <li>▪ Providing of PPE for all employees.</li> <li>▪ Assigning safety staff.</li> <li>▪ Providing necessary safety arrangements like sign-boards, barricading for critical locations, safe access etc.</li> <li>▪ Induction training and other safety trainings.</li> <li>▪ Preparation and implementation of COVID 19 Prevention Plan and Project Health &amp; Safety Plans.</li> <li>▪ Providing of first aid materials and medical facilities.</li> <li>▪ Daily healthcare measures to prevent from COVID 19.</li> <li>▪ Special awareness sessions on Covid 19 have been conducted with the participation of MOH &amp; PHI.</li> <li>▪ Contractor has conducted PCR and Rapid Antigen tests several occasions as a precautionary measure</li> <li>▪ Regular site safety inspections have been conducted by PMDSC and issued instructions in writing and followed up the rectifications.</li> <li>▪ Monthly inspection of vehicle and machinery.</li> </ul>
NCB-1	No incident occurred	<p>Construction works in completion stage. Contractor has conducted remaining works in necessary control with implementing required health and safety measures.</p>

## **4 PLANNED ACTIVITIES FOR NEXT SEMESTER (JULY – DECEMBER 2021)**

49. The key activities in addition to the routine contract management and supervision activities under Task 3, under the PMDSC for next semester will include following:

- (i) Preparation of Supplementary Environment Impact Assessment (SEIA) for Bowatenna Tunnel 2 and Improvements to Wemedilla Reservoir (NCP-5 and -6) as per the ToR given in Annex 1 issued by CEA.
- (ii) Site restoration plans have been requested from the Contractor, and after approving by the Engineer, habitat restoration of the NWPCP-ICB-2 project area followed by the backfilling will be initiated under the PSO budget.
- (iii) Reforestation work and other relevant conditions given by DWC related to NWPCP-ICB-1 package will be implemented.
- (iv) Completion report for the NWPCP-NCB-1 package will be prepared once construction work is completed.

## **Annex 1**

### **Terms of Reference (ToR) for Proposed Bowatenna Tunnel 2 to carry out Supplementary Environment Impact Assessment (SEIA) issued by CEA**



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மகாவலி நீர்ப் பாதுகாப்புக்கான முதலீட்டுத் திட்டம்

Mahaweli Water Security Investment Programme

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தீர்மான அமைச்சு  
Ministry of Irrigation

වැඩසටහන් කළමනාකරණ ඒකකය  
திட்ட முகாமைத்துவப் பணிமனை  
Programme Management Unit



අංක 493/1/1 ටී.බී.ජයා මාවත, කොළඹ 10.

இல 493/1/1, T. B. ஜயா மாவத்தை கொழும்பு 10.

No. 493/1, T. B. Jayah Mawatha.

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Your No }

දිනය } 19.04.2021  
திகதி }  
Date }

## Team Leader

Program Management, Design and Supervision Consultant

**Subject: Construction Bowatenna Tunnel 2 to Wemdilla Reservoir and Improvements to Wemedilla Reservoir and RB Canal works including two mini hydro plants - TOR for the Supplemental EIA**

With reference to the BIQ report submitted to the CEA, to get the EIA approval for the above project, CEA has submitted the Terms of Reference (TOR) for the preparation of Supplemental Environmental Impact Assessment (SEIA) report. The TOR is attached herewith.

Hence, please make necessary actions to prepare the Draft Supplementary EIA report in accordance with the attached TOR and submit the report for us to take early approvals from CEA.

Eng. A. P. Ranjith De Silva  
Deputy Program Director

Signed./  
Eng. D. B. Wijayaratne  
Program Director

## Copy:

PD(PIU), NWPCP

For your information please

*Quite a substantial document is expected for this SEIA*

*① ASK - pls prepare a table showing*

Heading No.	Heading description	Responsibility
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*and fill out the first 2 columns. Then I/we can distribute the work.*

*② Contributors will be notified of which section is whose responsibility*

MWSIP - PMDSC	
453, T. B. Jayah Mawatha, Colombo 10	
Received by:	SA
Seen:	19/4/21
Date:	19 APR 2021 → ASK
Action by:	ASK SS KGEJIDW YGW & ATM
Copies to:	
Primary File Location:	23-4
Copy to Files:	

PIU Office  
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e-mail : pdashproject@gmail.com

PIU Office  
Address : North Western Province Canal Project (NWPCP)  
Madagalla Road  
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Polpitigama  
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rajaseka@yahoo.com

PIU Office  
Address : Minipe LB Canal Rehabilitation Project (MLBCRP)  
D&R Office  
Irrigation Department,  
Hawalaka  
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Fax No : 055 - 225 8977  
e-mail : mlbcpr-nwsp@gmail.com  
mediwaka.susantha@yahoo.com

## TERMS OF REFERENCE

**Project Name :** Supplemental EIA for Proposed North Western Province Canal Project (NWPCP)  
Construction of Bowatenna Tunnel to Wemedilla Reservoir and improvements to Wemedilla Reservoir and RB canal works including two mini hydro plants

**Project Proponent :** Ministry of Irrigation

**Project Approving Agency :** Central Environmental Authority

**Report requirement :** Supplemental EIA (SEIA)

**Validity period :** One and half years from the date of issue

**Report format :**

### Executive Summary

1. Introduction
2. Description of the project and reasonable alternatives
3. Description of the existing environment
4. Anticipated environmental impacts of the proposed project
5. Proposed mitigatory measures
  6. Extended Cost-benefit analysis
  7. Environmental Management Plan
  8. Conclusion and Recommendation

## ANNEXURE

### I Terms of Reference

- II References
- III Sources of data & information
- IV List of preparers including their work allocation and time schedules (report should be authenticated by the preparers)
- V Comments made by the public, NGOs and other agencies during formal and informal scoping meetings held by the EIA Team.
- VI Complete set of relevant maps, tables, charts, layout plans and other details

Note : This ToR is only a guideline document. Any additional information, impacts, mitigation measures etc. which will be useful in decision making could be incorporated in the SEIA report based on the findings of the SEIA study.

### Executive Summary

The summary should be a brief, non-technical summary of the justification of the proposed project, description of the salient features of the project, the existing environment of the project sites

and its environs, key environmental impacts, the measures proposed to mitigate the environmental impacts, environment management plan and conclusions. A one page summary table indicating the significant impacts and proposed mitigatory measures should be presented.

## 1. INTRODUCTION

- Background of the project
  - Objectives of the proposed project and justification
- (Summarize the need or problem been addressed by the project and how the proposed project is expected to resolve the problem or the issue)
- Objectives of the SEIA report
- (Specify the objectives of the assessment and the relationship of the results to project design and implementation in line with the original EIA)
- Methodologies and technologies adopted in SEIA report preparation
  - Government policy regarding the project
  - Any conditions laid down by state agencies in granting preliminary clearance for the project
  - Policy, legal and administrative framework of the project
  - ADBs requirements
  - **Conformity with other development plans in the area (present and proposed)**

### 4.1

## 2. DESCRIPTION OF THE PROPOSED PROJECT AND REASONABLE ALTERNATIVES

### 2.1 Description of the proposed project

- 2.1.1 Location, indicating the Divisional Secretariat Division/s and the Pradeshiya Sabha area/s within which the project site falls. Clear coloured and readable maps together with diagrams and photographs to be provided for reviewer to get a clear understanding of the project area and the location of all the project components. (The location map should include general location of the project site and exact location with clear coordinates).

- 2.1.2 State the present ownership of the project site/s. If state owned, please submit a letter of consent from the relevant state agency/agencies.

(If any activity of the project falls within a protected area declared under the Forest Ordinance or Flora and Fauna Protection Ordinance, consent from the relevant agency/ies should be obtained on release of land prior to embarking on the SEIA study).

- 2.1.3 Description of all project components relevant to the proposed project

#### Annex A

- (a) Construction of Bowatenna Tunnel 02
- Dimensions and design details of the tunnel (length, width, capacity etc.)
  - Details of inlet and outlet portals
  - Details of the areas to be cleared
  - Tunnel access to the tunnel for construction (temporary & permanent)
  - Width of the corridor of the tunnel including depth angle
  - Machineries to be used and duration of tunnelling
  - Methodology of construction and precautions to avoid ground water ingress to the tunnel considering geological features of the tunnel trace

- Disposal of debris (type and quantity generated and disposal plan. Disposal plan should describe the details of temporary and permanent disposal sites)
- (b) Modifications to Wemedilla Reservoir
  - Modifications to dams (existing/planned)
  - Modifications/ improvements to reservoir
  - Improvements to canals, natural streams
  - Water allocation plan for the downstream users during the constructional phase
- (c) Improvements to RB canal of Wemedilla
  - Modifications to Spillway and sluices
  - Modifications to the existing RB canal of the Wemedilla reservoir
  - Any other alterations
  - Water allocation plan for the downstream users during the constructional phase
  - Development of new irrigable areas if any
- (d) Construction of two mini hydro power plants
  - Provisional approval of the Sustainable Energy Authority (SEA)
  - Length, width and height of the headrace canal
  - Length, width and height of the proposed forebay tanks
  - Type, thickness, length, diameter & No. of lines of penstock
  - Details of the proposed power stations including installed capacity (KW/MW) and average annual output (MWh/GWh), type/sections/stories and width of the power house, switch yards/type of turbines/ No of units/ Rated speed, design discharge of the hydropower plant
  - Length, width and height of the hydropower plant
- (e) Relocation plan and sites identified for the relocation (No. of households/public properties and other infrastructure facilities).
- (f) Compatibility with the NWPCP
  - Activities/ actions link with the NWPCP
  - Capacity changes to be done to the NWPCP in line with the proposed alterations
- (g) Associated facilities required for the project such as, quarries, borrow pits, stockpiling sites for tunnel mucks, access roads, temporary roads, labour camps and any spoil disposal sites. Ownership of these sites should also be determined. (preferably supported by a map showing locations of such sites)
- (h) Joint management procedure/practice to be followed by the project, Irrigation Department and Mahaweli Authority of Sri Lanka

Size, capacities and dimensions of all structures should be described. Land area occupied for each component mentioned above should be indicated together with reservation requirements.

#### 2.1.4 A layout plan of the project at appropriate scale.

##### Annex B

**Annex C** This should indicate all the project components as described in 2.1.3 and reservation area/s to be maintained. This layout plan should indicate all new structures as well as all other relevant existing structures which are to be modified / improved under the project.

## **Annex D**

2.1.5 Give details on pre-construction and construction activities, phased implementation schedule, staffing and support facilities and services. Requirements of raw material should also be discussed (quantities & location).

## **Annex E**

2.1.6 Methodology of operation of the project components;

- Interactions/ interdependency of project components itself and with other irrigation developments of the area should also be addressed.
- Maintenance and operational activities of the project components including water allocations, downstream releases, reservoir/canals and reservation maintenance procedures etc.
- Infrastructure facilities required/provided by the project

2.1.7 Project cost, investment and funding sources.

## **2.2 Evaluation of Alternatives**

Describe reasonable alternatives considered to the proposed project which might be less harmful to the environment.

Following options can be considered for analysis of alternatives.

- Site alternatives
- Design and technology selection
- Construction techniques and phasing
- Operating and maintenance procedure etc.
- No action alternative (to demonstrate environmental conditions without project)

Compare alternatives in terms of potential environmental impacts, mitigatory measures, capital and operating costs, reliability etc.

Give reasons why such alternatives were rejected.

## **4.2 DESCRIPTION OF THE EXISTING ENVIRONMENT**

### **4.3**

### **4.4 STUDY AREA**

The study area for the assessment shall include the following;

- i) Project site (locations of all project components as described under section 2.1.3 (a),(b),(c),(d), (e), (f), (g) & (h) of the ToR)
- ii) Locations affected by construction activities

- iii) Any area beyond the project sites, where there is potential for environmental impacts. Special and conceptual boundaries should be clearly indicated in the SEIA report (The area which will be impacted by the project should be identified by the consultants).

Assemble, evaluate and present baseline data on the relevant environmental characteristics of the study area.

This chapter should provide information on physical, biological, socio-economic, archaeological and cultural aspects of the environment likely to be affected by any activity of the project during and after the project. Information should be presented in a comprehensive format using tables, maps and diagrams where appropriate. The methods used to collect data should be clearly stated under each category. All technical terms should be clearly defined. The existing environment should be described under following;

### 3.1 Physical environment

- Hydrology
  - Rain fall pattern of the area
  - General Description of the catchment areas of water bodies
  - Flow characteristics including minimum, maximum flow rates and mean annual flow
  - Minimum dry season flow/base flow
  - Surface drainage pattern
  - Occurrence of flood and return period
  - Existing water use pattern of the area
  - Surface and groundwater quality including sources of water pollution
  - Present use of surface and ground water
  - Ground water level of the area
  - Presence of aquifers associated with the tunnel trace/s

#### Annex F

- Geology & soil
  - Regional and local geological structures
  - Bore hole data and geological cross sections of all tunnels
  - Presence of active linear faults, subsidence and landslide potential
  - Leakage conditions
  - Soil characteristics relation to salinity, acidity, ground water recharge
  - Land use (water impounding areas, canal/ tunnel traces, new roads, relocation sites, borrow pits disposal sites etc should be indicated clearly. Please note that the land use above tunnel trace should also be provided. Clearly indicate the presence of households, buildings, developments and presence of fractures of such constructions in order to serve as baseline data)

#### Annex G

- Topography
  - Provide concise information on topography of the study area
  - Landform/surface features including rock exposure, hills, ridges, cliffs, valleys, rivers, water bodies and numerous other structural elements
  - A contour map should be provided indicating the land use of the inundation area at HFL of the reservoirs (This is applicable if any improvements/rehabilitation being done to the existing reservoir/s or any water bodies which will be formed/developed by the project), canals and proposed reservation areas

### 3.2 Biological Environment:

- Biodiversity profile of the study area should be described.

#### Annex II

#### Annex I

This study should identify (both in the directly and wider area around the project site) habitats that will be affected, the range and status of the main species groups that live in the area, the status of protected areas (Wildlife Reserves, National Parks, Sanctuaries, Elephant Corridors, Wetlands and Forest Reserves etc.) or other important areas for biodiversity, and the sensitivity of the area in terms of ecosystem services. Information on endangered, rare, migratory and commercially important flora and fauna and species with potential to become nuisances, vectors or dangerous should be given. Baseline studies and data collection may need to consider seasonal factors such as species migration etc.

#### Annex J

### 3.3 Social - Cultural Environment (include both present and projected where appropriate)

This section should address the following aspects. Data should be given separately for the directly affected area and the wider area.

- Settlements, population characteristics
- Distribution of income and sources, goods and services
- Present water supply and water uses including existing irrigation schemes and drinking water schemes/ sources (existing and planned water schemes)
- Cultural, historical, protected resources and archaeological aspects/considerations
- Existing health and infrastructure facilities
- Existing environmental / social / health issues in the area
- Environmental sensitive areas and natural disasters

## 4. ANTICIPATED ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

This chapter should show the overall effects of the project on the individual environmental components. Impacts should include the direct and indirect, long and short-term, positive and negative effects.

When describing the impacts indicate which are irreversible or unavoidable and which can be mitigated to the extent possible. Impacts should be quantified wherever possible.

Significance of impacts should be assessed using appropriate techniques.

Impacts should be discussed in the order of severity.

Special attention should be given to;

#### 4.1 Effect on physical aspects

- Depletion of groundwater table and water ingress to the tunnel
- Change of surface drainage pattern and related problems such as water logging, sedimentation etc., possibility of earth cracks/subsidence, potential for landslides in the area due to project activities etc
- Obstruction of natural drainage paths and aquatic ecosystem

- Soil erosion and land stability issues
- Haphazard disposal of tunnel muck debris (siltation of water bodies, potential impacts on wildlife ecosystem/ biodiversity etc.)
- Effects on natural environment and water bodies due to disposal of construction materials such cement, waste oil, and waste generated from camp sites.
- Water quality and hydrological aspects
- (Degradation in the quality of waters due to increased sedimentation, loads of pollutants and anticipated salinity threats, modification of surface and ground water flows and shifts in water balance due to extraction and diversions etc.).
- Air, noise and vibrational issues

#### Annex K

#### 4.2 Effect on ecological/biodiversity aspects

Both direct and indirect impacts should be described. The description should include the following information

- Areas of habitats (breeding, feeding and refugee areas) that may be lost and possible impacts due to such losses
  - Areas of habitats that will be disturbed and possible impacts due to such disturbances
  - Habitual routes that may be severed
- Annex L (Number and relative importance to maintenance of mobility in the landscape and within water bodies)

- Number of individual species that will be killed, injured or displaced in the context of proportion of population to be described together with relative importance of such species
- Quality of remaining habitats for key species for planning for long term solutions
- Areas of precious forest resources that will be lost/damaged/disturbed and resulting effects
- Ecosystem functions lost due to disturbance of forest resources
- Any other direct or indirect impacts

#### Annex M

#### 4.3 Effect on physical aspects

- Impact of disposal of tunnel muck, debris (siltation of water bodies, potential impacts on wildlife.
  - Soil erosion and land stability issues
- (Change of surface drainage pattern and related problems such as water logging, sedimentation etc., possibility of earth cracks/subsidence, potential for landslides in the area due to project activities etc.)
- Water quality and hydrological aspects
- (Degradation in the quality of waters due to increased sedimentation, loads of pollutants and anticipated salinity threats, modification of surface and ground water flows and shifts in water balance due to extraction and diversions etc.).
- Air, noise and vibrational issues

#### 4.4 Effect on social aspects

- Impacts to the downstream users due to hydrological changes  
(Limitations in sharing water and related issues including riparian rights of irrigation schemes which are now operating below the proposed Wemedilla reservoir due to modifications to the reservoir and RB canal, impacts on proposed and existing water supply schemes).
- Interactions / interdependency of project components itself and with other irrigation developments and water supply schemes of the area
- Impact on existing land use due to tunnelling
- Impacts on community due to water ingress/ disturbance to water sources
- Effects on existing and proposed settlements of the area
- Impacts due to relocation of communities, facilities, infrastructure and loss of property including agricultural lands/ livelihoods
- Impacts on land stability due to tunnel construction and other heavy machinery operations

#### 5. PROPOSED MITIGATORY MEASURES

This chapter should set out the proposed measures to minimize the impacts identified in Chapter 4 to acceptable levels including conformity to Sri Lankan standards. Alternative methods of mitigation should be discussed and the effectiveness of the proposed measures that are to be provided should be stated. Mitigation methods should be defined in specific practical terms. A rationale should also be presented for selection of chosen mitigatory measures.

Any conservation program / alternative measures proposed to be implemented to augment water supply to the people affected by this project shall also be discussed.

##### **In addition the project should:**

Mitigation measures should be designed to achieve at least no net loss of biodiversity. Therefore, post project restoration of habitats, offset of losses through creation of effective conservation of ecologically comparable areas may be considered.

#### 6. INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

This section:

- (i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- (ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and
- (iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

#### 7. GRIEVANCE REDRESS MECHANISM

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

#### 8. EXTENDED COST – BENEFIT ANALYSIS

Total environmental cost (the cost of direct and indirect negative impacts, proposed mitigation cost administration and monitoring costs etc.) and benefits arising out of the proposed project due to project activities should be incorporated and discussed. Findings should reflect the benefit arising out of the proposed project.

## 9. ENVIRONMENTAL MANAGEMENT PROGRAMME

The Environmental Management Plan (EMP) should be presented in Matrix form and should describe actions to be taken in sufficient details to provide a basis for subsequent auditing of compliance with commitments made in the SEIA process including who is responsible, how and when it will be implemented, what will be done and what results will be achieved, why it is being done, and how to know whether it is effective in addressing the underlying concerns.

- i. EMP shall have the following;
  - Describe each mitigation measure with technical details, including the type of impact to which it relates and conditions under which it is required, together with designs, equipment descriptions, and operating procedures as appropriate.
  - Provides links to project implementation schedules and other mitigation plans (for example resettlement plan).
- ii. A suitable monitoring programme should be submitted to monitor the changes of environment and implementation of mitigatory measures.

This plan should include the following;

- Parameters to be monitored
  - Frequency of monitoring, detection limits and definition of thresholds that will signal the need for corrective action
  - Location / timing of sampling
  - Institutional framework for mitigation of impacts
  - Responsible agency / agencies of monitoring
  - Describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measure and documents the progress and results of mitigation
- iii. Implementation arrangements
    - Specify the implementation schedule showing phasing and coordination with overall project implementation.
    - Describes the institutional framework, namely who is responsible for carrying out the mitigation and monitoring, which may include, additional topics to strengthen environmental management capability, technical assistance programs, training programs, organizational changes etc.
    - Identify the capital and recurrent costs to implement mitigation and monitoring measures described above. Identify the availability and source of funds to implement the measures.
  - iv. Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

## 8. CONCLUSION AND RECOMMENDATION

The environmental acceptability of the proposed project and key findings and recommendations of the assessment should be clearly stated.

## **Annex 2**

### **PMDSC instruction to CSCEC on Environment safeguard requirements related to blasting work**

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NIRÁS

PROGRAM MANAGEMENT, DESIGN AND SUPERVISION CONSULTANT

PMDSC NWPCP ICB - 2 - RE's Office  
#A1 & A2 "Jayanthi Kumarasiri"  
Kalahakele, Galewela**MAHAWELI WATER SECURITY INVESTMENT PROGRAM****Our ref.: PMDSC-NWP-Site/ ICB2/CSCEC/510****Date: 23.10.2019**

Mr. Tang Aimin  
Project Manager  
China State Construction Engineering Corporation Ltd  
Dambulla Road, 240 A, Puwakpitiya,  
Galewela, Sri Lanka

**Subject : Commencement of the Blasting Works****Your Ref : CSCEC-ICB2-PMDSC-686-2019 dated on 22<sup>nd</sup> October 2019****Our Ref : PMDSC-NWP-Site/ICB2/CSCEC/504 dated on 22<sup>nd</sup> October 2019**

Dear Sir,

Further to our letter no. PMDSC-NWP-Site/ICB2/CSCEC/504 dated on 22<sup>nd</sup> October 2019 with reference to your letter no. CSCEC-ICB2-PMDSC-686-2019 dated on 22<sup>nd</sup> October 2019 and to emphasize you the requirements mainly with respect to Safety and Environmental aspects to follow prior to commencement of blasting activities at 16+800 km.

- I. Submit clear MS indicating required Safety and Environmental aspects and annex the obtained valid approvals (explosive licence by the District Explosive Controller, Industrial Mining License issued by GSMB, CEA referring to the section 11.3 of the CEA approval) for the approval of the Engineer prior to carrying out blasting work
- II. Adhere the required Environmental concerns as stipulated in the Environmental Conditional Approval by CEA which included but not be limited to following:
  - Excavation blasting operations and removal of existing rocks should be done in accordance with proper engineering designs and should be limited to the approved Right of Way (ROW) / acquired construction boundaries
  - Such boundaries should be clearly demarcated visible to everyone
  - Display notices in advance to the public closer to the proposed blasting area, and submit the evacuation plan with the MS for the people residing within 50 - 100 m to the blasting location (depending on the blasting face and quantity of explosives)
  - Ensure that the crack survey records have been done and preparations are made for control blasting
  - Ensure blasting will not cause any damage to the existing earth stability, natural drainage paths, water resources etc.
  - Debris removed should not be dumped / obstruct the neighbouring lands, agriculture fields, forest areas etc. Realistic disposal method should be proposed in the MS
  - Blasting operations should be carried out only during the daytime between 06.00 – 18.00 hrs after proper trials supervised by the necessary authorities

Program Management, Design and Supervision Consultant  
Mahaweli Water Security Investment Program

Resident Engineer: Ravi Kodikara Arachchi  
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- Noise and Vibration levels should be maintained appropriately referring to the CEA standard limits as indicated in the CEA conditional approval, EMP etc.
- III. The responsibility of complying with the required Environmental and Safety measures lies with CSCEC, and any disturbance, damage should be compensated by the CSCEC and in the presence of Environmental and Safety officers of the CSCEC at site.

Forwarded for your kind perusal please.

Yours sincerely,  
for the Engineer,



Ravi Kodikara Arachchi  
Resident Engineer

Copies: Mr. Eng. G. M. R. A. Perera (Project Director NWPC Project)  
Mr. Lutz Romer (Chief Resident Engineer PMDSC)

## **Annex 3**

### **Environment Monitoring Records on blasting issues with Contractor**

**TRACTEBEL**

  
 with the direct participation of


  
 LAHMEYER INTERNATIONAL


  
 GURCHENSHALICY


  
 InfotechsIDEAS


  
 Engineering Consultants Limited


  
 NIRAS

PROGRAM MANAGEMENT, DESIGN AND SUPERVISION CONSULTANT

 PMDSC NWPCP ICB - 2 - RE's Office  
 #A1 & A2 "Jayanthi Kumarasin"  
 Kalahakele, Galewela
**MAHAWELI WATER SECURITY INVESTMENT PROGRAM**

Our ref.: PMDSC-NWP-Site/ ICB2/CSCEC/1964

Date: 08 February 2021

 Mr. Tang Airmin  
 Project Manager  
 China State Construction Engineering Corporation Ltd  
 Dambulla Road, 240 A, Puwakpitiya,  
 Galewela, Sri Lanka

**CONSTRUCTION OF MAIN CANAL FROM NEBADAGAHAWATTA TO MAHAKITHULA RESERVOIR  
 INLET TUNNEL (FROM 5+250 TO 22+300 KM) – NWPCP-ICB 2**
**CONTRACT NO: MMDE/MWSIP/ADB/NWPCP/ICB-2/3267-3268-SRI/ICB/2017/003**
**Subject : Negligence of Attending Several Environment and Health Issues at Ranwediya Outlet Portal**
**Your Ref : N/A****Our Ref : N/A**

Dear Sir,

During the joint site inspection held on 03 February 2021 with the participation of Environmental Monitoring Specialist (EMS) of PMDSC and Environmental Officer (EO) of CSCEC several environmental non-compliances were identified at the Ranwediya outlet portal site. All identified issues, comments and recommendations by EMS are given in **Table 1**.

**Table 1: Existing issues, comments, and recommendations to correct.**

Issue	Non-compliance status	Comments and Recommended Action
<b>Dewatering</b>		
<ul style="list-style-type: none"> <li>Dewatering not up to the standard.</li> <li>Lots of sediments can be observed in the dewatering water from sedimentation tanks.</li> <li>Dewatered water directly releasing to the roadside drainage and deposited sediments can be observed in the roadside drainage.</li> <li>This roadside drainage connects with nearby natural stream that goes to Dewahoowa Main Tank.</li> </ul>	Violating <u>Gazette Notification No. 1534/18 dated 01 February 2008</u> of CEA, GOSL, and CEA conditional approval clause 2.6, 4.5 and 9.1	<ul style="list-style-type: none"> <li>It is prohibited to discharge dewatered water into roadside drains that is connected with natural stream without proper purification action.</li> <li>Therefore, it is a must to introduce more sedimentation tanks to existing tank system or must prepare additional sedimentation system in suitable place to ensure sedimentation process up to the standard.</li> <li>This should be finalized within two weeks.</li> </ul>

 Program Management, Design and Supervision Consultant  
 Mahaweli Water Security Investment Program

 Resident Engineer: Palitha Deshapriya  
 Telephone: +94 071-7989593 Email: - renwpcpicb\_2@yahoo.com

Issue	Non-compliance status	Comments and Recommended Action
<ul style="list-style-type: none"> <li>Apparently, sedimentation tank at the portal not functioning properly or not sufficient.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) not pay his attention regarding this matter and has not taken any rectification action against this.</li> </ul>		<ul style="list-style-type: none"> <li>Frequently (at least monthly) monitor water quality of de-watering water to ensure sedimentation process up to the standard and no impurities in the water.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) is responsible for all environment health and safety (EHS) matters and should pay his attention actively on all safeguard matters.</li> <li>If site in charge (Chinese nationalist, Mr. Chin) unable to pay his attention regarding safeguard matters in future, PMDSC has all right to remove him.</li> </ul>
<b>Toilet / Sanitary facilities at the site</b>		
<ul style="list-style-type: none"> <li>Toilet in the Ranwediya outlet portal site not up to the standard.</li> <li>Only one toilet is there and it also dirty and hygienically very bad.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) not pay his attention regarding this matter and not taken any rectification action against this.</li> </ul>	Violating clause 9.2 of the Conditional Environment Approval issued by CEA on 23.02.2016 (Ref. 08 /EIA/Water/07/2012 given under Vol IV – part B EMP) and sub-clause 6.4 of Contract Agreement Vol 4 under Part A.	<ul style="list-style-type: none"> <li>Should prepare sufficient numbers (2 or 3) of standard toilet at the site within a week and should maintain hygienically.</li> <li>To maintain hygienically, should appoint one or sufficient numbers of persons by the site in charge.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) is responsible for this matter and should pay his attention actively.</li> <li>If site in charge (Chinese nationalist, Mr. Chin) unable to pay his attention regarding this matter in future, PMDSC has all right to remove him.</li> </ul>
<ul style="list-style-type: none"> <li>On 23 December 2020, PMDSC EHS team (EMS and HSO) had a meeting with site in charge (Chinese nationalist, Mr. Chin) with participation of EO (CSCEC) regarding this matter and he promise to solve it immediately. But still the issue is same and unchanged.</li> <li>On 24 December 2020, PMDSC (ACRE, RE, EMS) had a meeting with CSCEC (PM and Mr. Tao) and PM and Mr. Tao promise to solve this issue within a week. But</li> </ul>		

Issue	Non-compliance status	Comments and Recommended Action
still the issue is same and unchanged.		
<b>Drinking Water and other facilities</b>		
<ul style="list-style-type: none"> <li>No drinking water at the site.</li> <li>No resting place for workers.</li> <li>No place to take foods during lunch and dinner.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) not pay his attention regarding this matter and not taken any rectification action against this.</li> <li>On 23 December 2020, PMDSC EHS team (EMS and HSO) had a meeting with site in charge (Chinese nationalist, Mr. Chin) with participation of EO (CSCEC) regarding these issues and he promise to solve all issues immediately. But still issues are same and unchanged.</li> <li>On 24 December 2020, PMDSC (ACRE, RE, EMS) had a meeting with CSCEC (PM and Mr. Tao) and PM and Mr. Tao promise to solve these issues within a week. But still the issues are same and unchanged.</li> <li>EMS questioned about drinking water at site from the site in charge (Chinese nationalist, Mr. Chin) and he told it is not his responsibility.</li> </ul>	Sub-Clause 6.4 of Contract Agreement Vol 4 under Part A	<ul style="list-style-type: none"> <li>According to the contract agreement CSCEC should give sufficient amount of drinking water for their works.</li> <li>Should establish resting place and place to take lunch and dinner within two weeks.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) is responsible for these matters and should pay his attention actively.</li> <li>If site in charge (Chinese nationalist, Mr. Chin) unable to pay his attention regarding these matters in future, PMDSC has all right to remove him.</li> </ul>

Issue	Non-compliance status	Comments and Recommended Action
<b>Garbage</b>		
<ul style="list-style-type: none"> <li>No garbage management system at site.</li> <li>No proper garbage collection and disposal system at site.</li> <li>Garbage can be seen everywhere at site.</li> <li>Lots of dogs at site due to this garbage issue and it became another health issue.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) not pay his attention regarding this matter and not taken any rectification action against this.</li> </ul>	Violate clause 5.2 of the Conditional Environment Approval issued by CEA on 23.02.2016 (Ref. 08 /EIA/Water/07/2012 given under Vol IV – part B EMP) and Sub-clause 1.6.7 and 6.17.1 under the Section 1 of the Conditions of the Contract Vol II.	<ul style="list-style-type: none"> <li>Should introduce proper garbage management (garbage collection and disposal) system at site.</li> <li>Site in should prepare on site garbage management plant within a week and should get PMDSC approval.</li> <li>To garbage management, should appoint one or sufficient numbers of persons by the site in charge.</li> <li>Dogs not allowed at site and therefore take action to remove dogs at the site.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) is responsible for these matters and should pay his attention actively.</li> <li>If site in charge (Chinese nationalist, Mr. Chin) unable to pay his attention regarding these matters in future, PMDSC has all right to remove him.</li> </ul>
<b>Cement Waste</b>		
<ul style="list-style-type: none"> <li>Cement waste can be observed within the site due to washing of truck mixers.</li> <li>No cement truck washing bay at site.</li> <li>PMDSC already informed CSCEC by a letter (PMDSC-NWP-Site/ICB2/CSCEC/1371 dated 16 July 2020) to establish cement truck washing bay as reply of CSCEC latter (CSCEC-ICB2-PMDSC-1430 dated 01 July 2020).</li> <li>Site in charge (Chinese nationalist, Mr. Chin) not pay his attention regarding this matter and not taken any action against this.</li> </ul>	Same as above, and Gazette Extra Ordinary 1534/18 Dated 01 February 2008.	<ul style="list-style-type: none"> <li>Should establish cement truck washing bay as agreed (CSCEC-ICB2-PMDSC-1430 dated 01 July 2020).</li> <li>Site in charge (Chinese nationalist, Mr. Chin) is responsible for these matters and should pay his attention actively.</li> <li>If site in charge (Chinese nationalist, Mr. Chin) unable to pay his attention regarding these matters in future, PMDSC has all right to remove him.</li> </ul>

Issue	Non-compliance status	Comments and Recommended Action
<b>Medical Inspection Room (MI Room)</b>		
<ul style="list-style-type: none"> <li>No proper MI room at the site.</li> <li>Existing MI room cannot use, no facilities, not hygienic, stored several unwanted items (Bicycles, survey equipment, Barricade tapes, ropes, rubber construction-joint sealers, Coconut, etc.).</li> <li>Site in charge (Chinese nationalist, Mr. Chin) not pay his attention regarding this matter and not taken any action against this.</li> <li>On 23 December 2020, PMDSC EHS team (EMS and HSO) had a meeting with site in charge (Chinese nationalist, Mr. Chin) with participation of EO (CSCEC) regarding these issues and he promise to solve all issues immediately. But still issues are same and unchanged.</li> <li>On 24 December 2020, PMDSC (ACRE, RE, EMS) had a meeting with CSCEC (PM and Mr. Tao) and PM and Mr. Tao promise to solve these issues within a week. But still the issues are same and unchanged.</li> </ul>	Health & Safety Manual - Contract Agreement Vol 4 under Part A	<ul style="list-style-type: none"> <li>Prepare proper MI room and equipped all wanted items within two weeks.</li> <li>Site in charge (Chinese nationalist, Mr. Chin) is responsible for these matters and should pay his attention actively.</li> <li>If site in charge (Chinese nationalist, Mr. Chin) unable to pay his attention regarding these matters in future, PMDSC has all right to remove him.</li> </ul>

As a summary, all above mentioned issues arose merely due to negligence and unattendance of site in charge (Chinese nationalist, Mr. Chin) and therefore herewith PMDSC strongly warn him and advice to correct all above mentioned issues within two weeks period. Please consider this as a final warning against site in charge (Chinese nationalist, Mr. Chin). If site in charge (Chinese nationalist, Mr. Chin) unable to solve above mentioned issues within a given period of time without proper reason, PMDSC will issue a letter to remove site in charge (Chinese nationalist, Mr. Chin) with reference to **Sub-Clause 6.9 [Contractor's Personnel]** of the **General Conditions (FIDIC 2010)**, "the Contractor's Personnel shall be appropriately qualified, skilled, and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

(a) persists in any misconduct or lack of care,

- (b) carries out duties incompetently or negligently,  
(c) fails to conform with any provisions of the Contract, or  
(d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment,  
If appropriate, the contractor shall then appoint (or cause to be appointed) a suitable replacement person\*.

Thanking you.

Yours sincerely,

  
Palitha Deshapriya  
Resident Engineer

Encl: —

Cc: Eng. G. M. R. A. Perera (Project Director NWPC Project)  
Dr B. Freeman (Project Director-PMDSC)  
Mr. M. Chegwin (Team Leader-PMDSC)  
Mr. Lutz Roemer (Chief Resident Engineer - PMDSC)  
Mr. Andrejs Krumins (Assistant Chief Resident Engineer - PMDSC)  
Dr Anusha Kasige (Environmental Specialist – PMDSC)  
Mr. T.N.Peries (Environmental Monitoring Specialist – PMDSC)  
Mr. M.J.Brown (Procurement & Contracts Specialist – PMDSC)  
Eng. Ananda (Contracts Engineer – PMDSC)

## **Annex 4**

### **Public Grievances recorded by the NWPCP-ICB 2 Contractor**

## PUBLIC COMPLAINTS REGISTER - NWPCP ICB 02

No	Description	Date of Complaint	Chainage	Name of Complainant	Location/Address	Contact Number	Action Taken Date	Action Taken	Current Status		
									Solved	In Progress	Not Solved
1	Dust problem due to construction works of NWPCP Canal	27.03.2018	Pahala Bambawa	Mr.W.M.Lahiru Dilshan	No.459 A,Bogasyaya,Pahala Bambawa			Construction works yet to start at this location. Solution will be offered when constructions begin.	1		
2	The house is located about 6 feet away from the Canal boundary and focuses on impact events during construction works in progress.	15.11.2018	Pahala Bambawa	Mr.N.W.D.Nanayakkara	Pahala Bambawa, Galewela			It was explained that the construction work is being carried out with minimum impact on the house. Prior to the commencement of the construction works the impact on the houses will be examined and it was explained that further action would be taken accordingly.	1		
3	There is a problem with the dust due to NWPCP Canal construction works	31.03.2019	Pibidunugama	Mr.Susanatha Dodangolla	Kurushi Lanka Stores,Korakahagolla			Provided a dust fence to solve the issue.	1		
4	There is a problem with the dust due to NWPCP Canal construction works	04.04.2019	Aluthwewa	Mr.Leonard	Aluthwewa, Bambaragaswewa			Issue was discussed at the Monthly Progress Review Meeting and CSCEC agreed to provide a dust barrier. And it was provided.	1		
5	Walls of the house owned by the complainant was cracked due to construction works of NWPCP - Canal	23.04.2019	17+000		Aluthwewa,Bambaragaswewa			CSCEC has arranged a temporary house for the family to stay on as it is difficult to stay at their house.	1		
6	Under MWSIP Programme it was decided to Open elephant fence, Construction of security guards with all facilities, Rectify existing elephant fence before the start of construction works within Wildlife Area. Above decisions were taken at MWSIP Inaugural Meeting. Due to this reason of villages of Kalugala,Maningamuwa,Bambaragaswewa,Pibidunugama,Korakahagolla,Aluthwewa have faced threat of wild elephants. Matter was conveyed to PD - PMU through a letter on 01.07.2019	08.07.2019	Kalugala, Maningamuwa, Bambaragaswewa, Pibidunugama, Korakahagolla, Aluthwewa villages	DWC Range Office,Kurunegala,	Department of Wildlife Range Office, No.27/1,Gattuwaana,Kurunegala			Both ICB 01 and ICB 02 Packages have to solve this problem. A meeting was held at DWC Head Office and solutions for above issues were discussed and decisions were arrived.Security huts are arranged.	1		
7	Due to construction activities of NWPCP Canal, water level depletion observed in Complainant's agricultural well. Requested to increase the depth of the well using an excavator from CSCEC	10.08.2019	Aluthwewa	Ms.A.K.Amarasinghe	Aluthwewa,Bambaragaswewa, Galewela			CSCEC has dug the well for more depth.Due to prevailing rains water level has reached a high level. Only a temporary solution.	1		
8	Due to construction activities of NWPCP Canal, water level depletion observed in Complainant's agricultural well. Requested to increase the depth of the well using an excavator from CSCEC	10.08.2019	Aluthwewa	Mr.M.K.G.Jayasinghe	Bambaragaswewa, Galewela			CSCEC has dug the well for more depth.Due to prevailing rains water level has reached a high level. Only a temporary solution.	1		
9	Problem of dust created by excavation works of NWPCP Canal	13.08.2019	Aluthwewa	Mr.T.A.Laxman Dassanayake	Churuch road,Aluthwewa, Bambaragaswewa			A joint inspection at this place was held on and CSCEC was requested to rectify the situation	1		
10	Damages to roads and houses with cracks observed in general area of Kospotha, Aluthwewa and Korakahagolla due heavy construction vehicle traffic	22.08.2019	Aluthwewa	Mr.M.G.Indika Padmasiri and Villagers of Manabinda.	Bambaragaswewa			CSCEC agreed to repair and maintain all designated roads and other roads used by them. in Progress	1		
11	Cracks appeared in the house due to construction works of NWPCP - ICB 2 Canal	22.08.2019	Aluthwewa	Mr.R.M.S.Abeysinghe	No.240,Randana,Dambagolla Road,Galewela			CSCEC was requested to carry out repair works	1		
12	CSCEC has used the Complainant's land as an access road for their vehicle park and hence damaged the PVC water supply pipes which provided water to paddy field and damaged Aloe Vera plantation.	27.08.2019	Pibidunugama	Mrs.Seelawathie	Pibidunugama			CSCEC was requested to look in to this the matter and provide solutions asap.	1		
13	Cracks and damage to the parapet wall	09.09.2019	16+400km	Mrs.U.R.Nandawathi	340/2,Aluthwewa,Bambaragaswewa,Galewela	773375004	2020.09.19	The wall is in the ROW. The land should be cleared by the Employer. It was agreed to repair the damage if the land could not be able to clear by the Employer. Copy of letters to be attached by CSCEC in their relevant file. Employer said that this land is no need for construction works. According to that we have paid Rs.20,000.00 for Mr.Nalaka Sanjeeva for wall damages.	1		
14	Complainant informed about closure of his private well due to construction of NWPCP Canal. Requested funds to construct a new well.	17.09.2019	Aluthwewa	Mr.James Singho	Danduwagolla,Bambaragaswewa, Danduwagolla			Necessary arrangements are being made by the Land Acquisition Branch to provide a new well.		1	
15	Water in the well has run dry and amount of compensation payment is not enough	17.09.2019	Kospotha	Mr.R.H.A.Gunathunga, Podi Menike	Ranasinghe Niwasa,Kospotha,Beligamuwa			CSCEC has increased the depth of the well and water is available due to prevailing rain. Only a temporary solution	1		
16	Unauthorized removal of five (05 nos) coconut trees	25.09.2019	Ranwediya	Mr.Mohamed Maridu	Ranwediya,Galewela			Rs.75,000/- paid as compensation and settled the issue.	1		
17	Problem of agricultural well	03.10.2019	20+200km	Mrs.K.Renuka Bandara	Korakahagolla,Pibidunugama,Bambaragaswewa	702897545		Many times performed the dewatering of the agro well and clean the mud but owner did not satisfy with the work. We have done the best from our side. Currently we are providing the drinking water. CSCEC was asked to keep all records of thier works.		1	
18	Problem of water well	05.10.2019	16+400km	Mr.W.T.Wickramasinha	Aluthwewa,Bambaragaswewa, Galewela	717181200		1. The well has been cleaned several times (more than 20 times) 2. The well was repaired on 20.10.2019 3. Drinking water was supplied continuously. 4. LKR 144,000/- was paid to build a new tube well as the land owner was not satisfied with any of the above given solutions.	1		
19	Damage to Cauliflower cultivation and siltation with mud in the land block.	07.10.2019	20+200km	Mr.P.M.Chenaka Nishantha Kumara	Korakahagolla,Bambaragaswewa, Galewela	762840321		LKR 70,000/- was paid on 14th October 2019 as compensation and the issue was solved	1		
20	Damage to Beet Root cultivation and siltation with mud in the land block.	11.10.2019	18+200km	Mr. B.M.Kapilarathna	51-B, Aluthwewa,Bambaragaswewa, Galewela			LKR 50,000/- was paid on 31st October 2019 as compensation and issue solved	1		
21	Problem of access road	10.12.2019	20+200km	Mrs.K.Renuka Bandara	Korakahagolla,Pibidunugama,Bambaragaswewa	702897545		Provided some concrete to make the road.		1	

22	Damage to paddy field	10.12.2019	20+200km	Mrs.K.Renuka Bandara	Korakahagolla,Pibidunugama,Bambaragaswewa	702897545		No objection as it is not cultivated.	1		
23	Problem of access road	11.12.2019	16+400km	Mr.P.R.Nalaka Sanjeewa	340/2, Aluthwewa,Bambaragaswewa, Galewela	773375004		The Access road is in ROW and road was inundated during construction. Dewatering was done and road was repaired using gravel and solved the issue.	1		
24	Damage to coconut plantation	24.01.2020	20+200km	Mrs.K.Renuka Bandara	Korakahagolla,Pibidunugama,Bambaragaswewa	702897545		No objection		1	
25	Contamination of canal water near the Batching Plant.	27.01.2020	Batching Plant Location.	Mrs.P.G.Sarathchandran	03rd Mile Post, Nilagama,Bambaragaswewa	774080260		The canal was washed using water bowser on 28 <sup>th</sup> January 2020 and solved the issue. Water quality of the stream also checked.		1	
26	Setting up of new concrete Batching Plant in Pibidunugama village area by CSCEC	03.02.2020	19+000 Km	Villagers	Pibidunugama			Said location has been changed and CSCEC has selected two new locations to setup Batching Plant no.02	1		
27	Washed away soil during rain from Canal construction has filled up the drinking water well	09.02.2020	20+200 Km	Mrs. K.Renuka Bandara	Korakagolla,Pibidunugama,Bambaragaswewa	702897545		Particular well was cleaned several times and the well was surrounded by soil and sandbag wall constructed to prevent filling up with mud water		1	
28	Requested to clean the well used for drinking water	12.03.2020		Mr.D.G.Susantha Wickramasinghe	Korakahagolla, Galewela			On several occasions this well was cleaned and a runoff preventing wall was constructed to protect the well	1		
29	Water pump was damaged due to agro well over flowing due to heavy rains	18.05.2020	15+200km	Mr.K.G.Jayawardena	Andagala,Walawwela,Bambaragaswewa	779559647		New water motor was bought and handed over. The problem was solved. Pump to be repaired.	1		
30	Stock piles soil washed away into the paddy field and sedimented	18.05.2020	Kospotha	Mr.K.W.Senadeera	Kospotha,Beligamuwa			CSCEC to solve the issue immediately	1		
31	Damage of dust barricades and dust problem occurred	19.05.2020	12+450km	Mrs.G.A.Somalatha	Katupotha,Bambaragaswewa	776056238		Dust barricade was maintained properly and solved the issue.Requested CSCEC to provide photographic evidence	1		
32	Possible damages to the house may occur due to blasting of rocks within canal trench	21.05.2020	Hombawa	Mrs.D.M.Dingiri Menike	Andagala,Bambaragaswewa			As a temporary solution 1000L water tank supplied on 2020.07.31 and we gave our confirmation to her, after we finish the constructions we will repair all the damages. 2021.01.21 new cement wall water tank was constructed and solved the issue	1		
33	Problem of drinking water well	27.05.2020	12+500km	Mr.Kulathunga Adikari	Katupotha,Bambaragaswewa	716337588		Prepared a trench to prevent storm water in to the well and apply cement around the well to prevent storm water in to the well	1		
34	Damage to coconut plantation	01.06.2020	16+450km	Mr.A.M.S.Gunathilaka	380/A,Korakahagolla,Bambaragaswewa	771969101		Discussed and decided to pay for a Stock Pile to be paid on 13th July 2020		1	
35	Damage to fence due to construction work	02.06.2020	17+000km	Mr. Yapa Bandara	Aluthwewa,Bambaragaswewa	774080260		The fence was repaired and solved the problem	1		
36	Chinese workers have used the surrounding land area for their conveniences	04.06.2020	Aluthwewa	Mr.K.G.G.Bandara	Egodayaya,Aluthwewa			CSCEC to provide toilets for workers		1	
37	Problem of temporary storm water canal prepared on the land of the Complainant	10.06.2020	18+200km	Mr. B.M.Kapilaratna	51-B Aluthwewa,Bambaragaswewa, Galewela	729669125		The land was prepared for cultivations and solved. For the issue CSCEC was requested to provide photographic evidence before and after..	1		
38	Situation of the land of the Complainant soil accumulated from adjacent land block	10.06.2020	Pibidunugama	K.Daya Hemasiri	Korakahagolla, Pibidunugama			The land was prepared for cultivations and solved the issue.	1		
39	Damage of culvert due to transport	12.06.2020	17+000km	Mr. P.M.Samarakoon	Aluthwewa,Bambaragaswewa	772563810		Repaired the culvert by using hume pipes and solved. For the issue CSCEC was requested to provide photographic evidence	1		
40	Objection of villages in Ranwediya for well water level deduction	15.07.2020	9+000km	Ranwediya Villages	Ranwediya,Galewela			Held a special meeting at Ranwediya on 29.07.2020. As a temporary solution from 24th July to 31st of July water supply through Galewela Pradeshiya Sabawa and currently supply water through DS office.		1	
41	Dust problem due to access road use for Nilagama out portal	26.08.2020	Nilagama temple area	Y.Priyangika Lakmal Jayasuriya	Nilagama temple area	N/A	2020.08.31	Dust barricades were constructed around the affected house and the school on 2020.08.31	1		
42	Damage for the road, due to truck mixture movements	26.08.2020	Nilagama temple area	Nilagama Villages	Nilagama temple area	N/A	2020.09.02	The damage culvert repaired by adding concrete blocks and concrete on 2020.09.02	1		
43	stock piles soil washed away into the paddy field and sedimented in to his well	28.08.2020	18+500	Nimal			2020.09.02	Using long arm excavator that well was excavated on 2020.09.02	1		
44	stock soil beyond the stockpile land area and some tree debris were put in to his land	2020.08.31	12+630	A.M.Kulathunga Adikari	No:401,Katupotha,Bambaragaswewa,Galewela	716337588	2020.10.15	Removed all the soil beyond the ROW and removed tree debris as per the request of the complainer. Also proper drainage system was constructed to mitigate the soil erosion	1		
45	Sriyani's land located nearby nilagama tunnel out portal. She complain that CSEC has put soil beyond the ROW and she has requested to remove those soil from her land	2020.10.20	14+300	Sriyani Wasantha Kumari	Nawakawaththa,Bambaragaswewa,Galewela	070 4594563	2020.11.03	Soil beyond our ROW has been removed as per the request of the land owner.	1		
46	Mr.Premarathna complained that he needs to cover the stockpile area by asbastose sheets, stop the vehical movements and etc	2020.10.05	16+450	S.K.Premarathna	No 138/1, Aluthwewa, Bambaragaswewa,Galewela	077 8183862	2020.10.05	Already arranged dust net to avoid the dust and three times watering for the road to reduce the dust generation. However the complainer not satisfied about those actions. But we are unable to fulfill his requirements hence its not practical. Furthermore there's no dust generation from the stockpile. 2020.11.07 again visited this house and explain about the situation, because we have already taken all necessary actions. Then landowner was satisfy and close the case. Now there is no issue.	1		
47	Beetroot cultivation was damaged by the elephants. The complainer think these elephants came to the village due to our construction activities	2020.10.20	Close by the 20+ area	H.P.Anusha Priyadarshani	Korakahagolla, Bambaragaswewa,Galewela	077 4822760		Mr.Hao agreed to give some donation for the complainer		1	

48	Cracks occurred at the house walls due to blasting vibrations	2020.10.29	14+300	M.G.Karunawathi	No 122, Adagala, Bambaragaswewa, Galewela	0				1		
49	Cracks occurred at the house walls due to backfilling vibrations	2020.11.03	17+900	S.Gunaratne			2020.11.03	The house was inspected and so many cracks were identified. However before starting the backfilling crack survey was done. Hence we gave our confirmation for the complainer, after we finished the constructions we will take the necessary actions		1		
50	Ranwediya villages have been complained that due to our construction activities natural drainages were blocked and storm water flew through their houses	2020.11.06	Close by the Ranwediya Tunnel	Ranwediya Villages	N/A	N/A	2020.11.06	All the drainages around the tunnel area was cleaned and cut more deeper to store more water. Then all those drainages were directed to a natural stream. After that all storm water has been flew accordingly and villages were happy about that	1			
51	The feeder canals blocked due to our canal and farmers need to re-arrange the canals for starting the cultivations	2020.11.12	10+00	Ranwediya Villages	N/A	N/A	2020.11.12	we have re-arranged the feeder canals and connect the both sides and supplied water for the farmers	1			
52	Cracks occurred at the house walls due to blasting vibrations	2020.11.16	Nilagama tunnel out portal	M.G.Jayathilaka	No 121/D, Adagala, Bambaragaswewa			The house was inspected by the EO and forward the complain to blasting engineer also. Until blasting finish in that area decision is pending				
53	Villages near by the Nilagama temple have complained that rainfall runoff water has been flew through their houses and they requested to clean the drainages	2020.11.19	close by the nilagama temple	Nilagama Villages	N/A	N/A	2020.11.19	we have cleaned the drainages and arranged the storm water path	1			
54	Villages have been complained near by 13+ area regarding the night time work at the site.	2020.11.26	13+	Mr.Jayasooriya	Katupotha, Bambaragaswewa	N/A	2020.11.27	The environmental consultant has been stoped the night work and not allowed to further disturbance for the villages	1			
55	Cracks occurred at the house walls due to blasting vibrations	2020.12.04	Nilagama tunnel out portal	R.M.Migara Rathnayaka	Adagala, Bambaragaswewa, Galewela.	077 1776789 077 8183626						
56	12+630 stockpile has been collapsed and soil has been moved to the road	2021.01.04	12+630	Katupotha Villages	Katupotha, Bambaragaswewa	71185592	2021.01.04	Removed all the soil beyond the stockpile area and clean the drainages to retain the eroding soil	1			
57	The feeder canals blocked due to our canal and farmers need to re-arrange the canals for starting the cultivations	2021.01.20	14+550 to 14+ 600	G.B.J.M.Heenbada	Adagala, Bambaragaswewa	N/A	2021.01.25	we have re-arranged the feeder canals by using PVC pipes and connect the both sides and supplied water for the farmers	1			
58	Cracks occurred at the house walls due to blasting vibrations	2021.01.29	Nilagama tunnel out portal	W.G.Lalith Wijekoon	Adagala, Bambaragaswewa	71856888		The house was inspected by the EO and forward the complain to blasting engineer also. Until blasting finish in that area decision is pending				
59	Ranwediya public water supply organization has been complain about their water supply pipes have damaged due to our heavy vehical movements.	2021.02.02	Ranwediya Tunnel	Ekamuthu Swasakthi Prajamula Organization	E 423 I, Ranwediya, Galewela	776716977	2021.02.22	We have paid Rs. 25,810.00 for the water supply community as they have requested and solve the issue.	1			
60	Dust due to vehicle movement	2021.02.05	Close by Ch 12+630	W.A.Chandrawathi	Dilenatharu Pre school, Katupotha, Bambaragaswewa, Galewela.	070 2155615	2021.03.05	Dust net barrigade was constructed and cover the area. Also we are watering to the moragolla road 3 times per day and solved the issue.	1			
61	Use the land for vehicle parking and store some materials, without land owners approval.	2021.02.16	Ranwediya Tunnel outportal	M.H.Aynoon Umma	No 596, Kappetigala, Galewela.	077-6683459						
62	The complainers agricultural well has been damaged due to our stockpile nearby ch 14+	2021.02.17	14+	K.M.Pathma Kumari	Nawakawaththa, Adagala	071-9158411						
63	Soil spilled along the RDA road near by Ranwediya junction	2021.03.08	Ch 8+600	Ranwediya villages	Ranwediya villages	N/A	2021.03.08	Removed all the soil along the road and wash the road. Currently sprinkling water for 3 time in that loaction.	1			
64	Cracks occurred at the house walls due to blasting vibrations	2021.03.20	Nilagama tunnel out portal	B.S.M.Samarawikrama	No 512/A, Adagala Rukaththana yaya, Bambaragaswewa, Galewela.	0705763833/ 0771299885						
65	Cracks occurred at the house walls due to blasting vibrations	2021.03.19	Nilagama tunnel out portal		Adagala, Bambaragaswewa, Galewela.	077 2423120	2021.03.20	Crack survey was done for this house.		1		
66	Paddy land damaged due to canal constructions	2020.11.23	Ch 9+ 932 to 10+000	M.R.M.Naleer	No: 234, Ranwediya, Galewela.	077 2102302	2020.11.27	Arranged nearly 1000 sand bags as a barrier as per the advice of the D.M.N.K. Disanayaka, Senior Resttlemnt Officer of PIU. However during rainy season that sand bag barrier was washed away and again he complained. 2021.01.08 again PIU officers inspected this land and advised to pay for the damage.		1		
67	Block the drinage system and as a resul of that water overflow to his land. Because of this their day to day life has been disturbed.	2021.05.06	Ch 8+300	G.Wallimile	Bambawa, Galewela	741549988	2021.05.07	Using JCB clean the drainage and make a soil dam to avoid the overflowing.	1			
68	Natural canal nearby house blocked due to NWPCP project and because of that during rainy season water overflow to her land	2021.05.09	Ch 15+050	D.M.Dingirimanika	Andagala, Bambaragaswewa	770514908	2021.05.10	Using JCB clean the drainage and make a soil dam to avoid the overflowing.	1			
69	Block the drinage system and as a resul of that water overflow to his land	2021.05.09	Ch 12+900	Sujeewa Lakmal	Katupotha, Bambaragaswewa	714637285	2021.05.10	Using JCB clean the drainage and make a soil dam to avoid the overflowing.	1			

70	According to the complainer, his chili cultivation damaged due to our canal water spilling. He is requesting a compensation for his crop damage.	2021.05.25	Ch 17+400	H.M.Jayathilaka	Aluthwewa, Bambaragaswewa	784708893	2021.06.07	<p>On 2021.06.07 EO and Safety officer visited the complainers cultivation land. At that time we have observed following things.</p> <ul style="list-style-type: none"> <li>• First, his land is located in a low elevated area and our canal, roads and surrounding lands are located in higher elevation than this land. So during last rainy season this land can be easily flooded.</li> <li>• Secondly, there is no place in this land to release the stagnated water. Mainly this happens due to this land located in a low elevated area.</li> <li>• Furthermore, we have observed Kubuk (Terminalia arjuna) trees in this land. That indict this land is a waterlogging area. But, chili (Capsicum sp.) is not suitable for grow in such an area. Because when water level rise the root system is damaged and decline the production or can be die the cultivation.</li> <li>• Finally, we have identified that, the cultivation is not completely destroy and farmer has been harvested his chili.</li> </ul> <p>Then again we have visited him on 2021.06.09 and explain him about his crop damage and our observations. After explain that he was agreed to get Rs.40,000.00 as the compensation.</p>	1		
71	During dry period reduce the groundwater level	2021.07.01	Ranwediya Outlet	S.Yakub	No:240/C, Ranwediya, Galewela.		2021.07.02	We have given a 1000 L capacity water tank for this person and daily we are supplying water for him.	1		
72	Ranwediya public water supply organization has been complain about their water supply pipes have damaged due to our heavy vehical movements.	2021.04.05	Ranwediya Tunnel	Ekamuthu Swasakthi Prajamura Organization	E 423 I, Ranwediya, Galewela	776716977	2021.02.22	We have paid Rs. 18,000.00 for the water supply community as they have requested and solve the issue.	1		
73	During the Ranwediya Inlet blasting huge vibration and noise has been occurred. Because of that cracks occurred in house. Also new born baby is there and it's not safe for a new born child.	2021.07.05	Ranwediya Inlet	R.M.D.Indrachapa	No:660/A, Kappetiya, Galewela.		2021.07.06	We have been agreed to provide a vehical for every blasting time, to go out side from the house. The complainer was agreed for that.	1		
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## **Annex 5**

### **Latest Corrective Action Plan (CAP) Submitted by NWPCP-ICB-2 Contractor**



中國建築股份有限公司 (17公里水渠項目)  
CHINA STATE CONSTRUCTION ENGRG. CORP. LTD

Date: 15<sup>th</sup> June 2021

Our Ref. No. CSCEC-ICB2-PMDSC- 2381

Mr. A.A.P. Deshappriya,  
Resident Engineer  
RE Office NWPCP ICB-2  
#A1 & A2, Jayantha Kumarasiri  
Kalahakele, Galewela  
Sri Lanka

**Construction of Main Canal from Nebadagahawatta to Mahakithula Reservoir  
Inlet Tunnel (from 5+250km to 22+300km)– NWPCP – ICB - 2**  
**ContractNo:MMDE/MWSIP/ADB/NWPCP/ICB-2/3267-3268-SRI/ICB/2017/003**

**Sub: Submission of revise Environmental Corrective Action Plan (ECAP).**

Dear Sir,

Herewith we are submitting the revise Environmental Corrective Action Plan (ECAP) for your reference.

Thank You.

Yours Faithfully,

Mr. Tao Yan Rong,

Executive Project Manager  
Construction of Main Canal from Nebadagahawatta to Mahakithula Reservoir Inlet  
Tunnel (from 5+250 km to 22+300 km)  
China State Construction Engineering Corporation Ltd.

CC: Mr. Eng. G.M.R.A. Perera ( Project Director - NWPC Project)

Mr. Lutz.Roemer (Chief Resident Engineer - PMDSC)

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### Corrective Action Plan (CAP) – Rev 01.

No	Environmental Issue	Reference at any NCR/Letter from Engineer	Location/Section in NWP ICB 2 area	Required Corrective Actions	By whom from CSCEC			
					Management & Implementation Responsibility	Supervision Responsibility	Required resources/Equipment's	By when (Date)
01	Cement Waste at the sites	PMDSC-NWP-Site/ICB2/CSCEC/0738 (E-NCR No: 009) PMDSC-NWP-Site/ICB2/CSCEC/0967 (E-NCR No: 011) PMDSC-NWP-Site/ICB2/CSCEC/0968 (E-NCR No: 012) PMDSC-NWP-Site/ICB2/CSCEC/0857 (E-NCR No: 010)	Section 01,02,03 & 04	1. Arrange one pit at all sites to wash the shooter of the truck mixers. 2. Drum of the truck mixer wash at the batching plant cement washing bay 3. The cement washing bay will be clean regularly 4. Cement slug will be distributed among the villages. 5. Remove the cement spilling along the moragolla road 6. In batching plant proper detention tanks will be constructed to manage storm water.	"Batching Plant Manager- Mr.Guo - 077 0076464 Mr.Lu 076 3425771  Site - Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwe diyawa Inlet - Kamal - 076 5484824 Ranwe diyawa Outlet - Allan - 071 0411061"	Environmental Officer Mobile - 076 1963986	1.JCB to prepare pits at the sites  2.Loder and JCB for cleaning the cement washing bay  3. Manpower  4.Cement, bricks and other relevant materials for construct detention tanks	1. 02 to 06 all mitigation actions were taken.  2. Action 01 will be done before 25th June 2021
02	Dust Issue	PMDSC-CRE-NWP/ICB2CSCEC/010	Section 01,02,03 & 04 access	"1. Watering for the all access roads for 3 times a day.	"Site - Section 01.	Environmental Officer - 076	1.Separate water bowsers for each site	Both corrective actions were implement at the

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中國建築股份有限公司(17公里水渠項目)  
CHINA STATE CONSTRUCTION ENGRG. CORP. LTD

			roads	2. Arrange dust barricades using "dust net" where necessary. "	Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwedyawa Inlet - Kamal - 076 5484824 Ranwedyawa Outlet - Allan - 071 0411061"	1963986	2. Dust nets 3. Bamboo/GI Pipes 4. Binders.	site. But some dust barricades need to repair and it will be finish before 25th June 2021
03	Waste Management		Section 01,02,03,04 & Batching Plant	" 1. Keep separate dustbins to collect garbage. 2. Maintain proper housekeeping. 3. Advice the workers to bring lunch box. 4. Waste management plan	Batching Plant Manager- Mr.Guo - 077 0076464 Mr.Lu 076 3425771  Site - Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03.	Environmental Officer - 076 1963986	1. Dust bins	2021.06.30

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					Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwedyawa Inlet - Kamal - 076 5484824 Ranwedyawa Outlet - Allan - 071 0411061"			
04	Stockpiles	PMDSC-CRE- NWP/ICB2/CSCEC/1278-A	Section 01,02,03 & 04	"1. Clean the drainages and maintain properly. 2. Apply sand bags where necessary 3. Start the backfilling. 4. Future stockpile will start according to the method statement. 5. Close the NCR 005. "	Site - Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwedyawa Inlet - Kamal - 076 5484824 Ranwedyawa Outlet - Allan - 071 0411061"	Environmental Officer - 076 1963986	"1. JCB/Excavators 2. Manpower 3. Sand bags 4. Tipers to transport the soil. "	"one to four all mitigation actions were taken. NCR 005 will be replied before 25th June"
05	Dewatering & Stagnated		Section 01,02,03 & 04	1. Stagnated water need to de-water. 2. De-watering through silt traps.	Site -	Environmental Officer - 076	"1. JCB 2. Water pipes	We have taken all these mitigation actions and

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	Water			3. Make silt traps at every sites. 4. Clean the blocked drainages.	Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwediya Inlet - Kamal - 076 5484824 Ranwediya Outlet - Allan - 071 0411061"	1963986	3. Manpower 4. Water pump mortors 5. Electricity"	some new locations need to apply these mitigation actions. It will finish before 30 June 2021.
06	Blockages of Drainage paths and streams		Section 01,02,03 & 04	" 1. clean the drainages and maintain properly.	Site - Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580	Environmental Officer - 076 1963986	" 1. JCB/Excavators 2. Manpower	Already done

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**中國建築股份有限公司(17公里水渠項目)**  
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					Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwedyawa Inlet - Kamal - 076 5484824 Ranwedyawa Outlet - Allan - 071 0411061"			
07	Soil Erosion and Siltation		Section 01,02,03 & 04	"1. Prepare silt traps. 2. Arrange proper drainage system to stop the erosion. 3. Apply sand bag barriers where necessary. 4. Regular maintenance of the drainages."	Site - Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwedyawa Inlet - Kamal - 076 5484824 Ranwedyawa Outlet - Allan - 071 0411061"	Environmental Officer - 076 1963986	1. JCB/Excavator 2. Manpower 3. Sand bags	Already done and maintaining. No public complains received regarding this like previous years.
08	Blasting Works		Nilagama out portal, 14+500	"1. Stop the flying rocks. 2. reduce the noise. 3. Follow the standered method 4. Do regular monitorings 5. Attend to the public complains	"Blasting Enginner - Mr. Jiang - 076 7788522 Mining Engineer - MR.Madawa 071 8581665"	"Environmental Officer 076 1963986 Safety Officer - Ishara - 076 7213016	"1. Fly rock covers 2. Sand bags 3. Man power 4. Proper explosive materials	We have taken all those actions and did the crack survey

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						Mr.Sunil - 077 7756350"		
09	Public Road Maintenance	"NWPCP/PIU/PD/W/01/ICB02/21-2/126 NWPCP/PIU/PD/W/01/ICB02/21-2/125 MMDE/MWSIP/PMU/NWPCP/04/ICB2 NWPCP/PIU/PD/W/01/ICB02/21-2/137"	Section 01,02,03,04 & Batching Plant	1. Regular maintenance of the access roads. 2. Maintain the road maintenance records.	Batching Plant Manager- Mr.Guo - 077 0076464 Mr.Lu 076 3425771  Site - Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwedyawa Inlet - Kamal - 076 5484824 Ranwedyawa Outlet - Allan - 071 0411061"	Environmental Officer 076 1963986 Safety Officer - Ishara - 076 7213016  Mr.Sunil - 077 7756350	"1.ABC/Quarry dust/Greval/Concrete/Interlocking blocks 2. Manpower 3. JCB/Excavator 4.Roller	Already done and doing regular maintainance.
10	ROW & Land issues		Section 01,02,03 & 04	"1. Demarcate the ROW clearly 2. Hard/ Soft barricading the ROW 3. Only work within the ROW"	Site - Section 01. Hui 076 0176914 Niroshan- 076 5454305  Section 02.	Environmental Officer 076 1963986 Safety Officer - Ishara - 076 7213016	"1. GI pipes 2. Barricade tapes 3. Binders"	30-Jun-21

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					Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04 Chen 077 2066031 Amila - 077 4169744  Ranwediya Inlet - Kamal - 076 5484824 Ranwediya Outlet - Allan - 071 0411061"	Mr.Sunil - 077 7756350		
11	Housekeeping & Sanitation		Section 01,02,03,04 & Batching Plant	"1. Regular housekeeping activities. 2. Arrange proper toilet facilities 3. Supply drinking water for workers	Batching Plant Manager- Mr.Guo - 077 0076464 Mr.Lu 076 3425771  Site - Section 01. Hui 076 0176914 Nirosan-076 5454305  Section 02. Sha- 076 2914438 Shehan - 076 8932321  Section 03. Jiang 076 7788522 Sameera - 076 3281580  Section 04	Environmental Officer 076 1963986 Safety Officer - Ishara - 076 7213016  Mr.Sunil - 077 7756350	"1. Toilets 2. Drinking water 3. Resting places 4. Materials to construct 1 & 3	30-Jun-21

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					Chen 077 2066031 Amila - 077 4169744  Ranwe diyawa Inlet - Kamal - 076 5484824 Ranwe diyawa Outlet - Allan - 071 0411061"			
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## **Annex 6**

### **Semi-Annual Environment Review for NWPCP-ICB 2 (Jan to June 2021)**

**TRACTEBEL**with the mutual expertise of  
**ENGIE****LAHMEYER INTERNATIONAL****GC****InfotechsIDEAS****Engineering Consultants Limited****NIRAS**

PROGRAM MANAGEMENT, DESIGN AND SUPERVISION CONSULTANT

PMDSC NWPCP ICB - 2 - RE's Office  
#A1 & A2 "Jayanthi Kumarasin"  
Kalahakela, Galewela**MAHAWELI WATER SECURITY INVESTMENT PROGRAM**

Our ref.: PMDSC-NWP-Site/ ICB2/CSCEC/2355

Date: 15 July 2021

Mr. Tang Aimin  
Project Manager  
China State Construction Engineering Corporation Ltd  
Dambulla Road, 240 A, Puwakpitiya,  
Galewela, Sri Lanka**CONSTRUCTION OF MAIN CANAL FROM NEBADAGAHAWATTA TO MAHAKITHULA RESERVOIR  
INLET TUNNEL (FROM 5+250 TO 22+300 KM) – NWPCP-ICB 2****CONTRACT NO: MMDE/MWSIP/ADB/NWPCP/ICB-2/3267-3268-SRI/ICB/2017/003****Subject : Semi-Annual Environment Review for NWPCP-ICB 2 (January to June 2021)****Your Ref : N/A****Our Ref : N/A**

Dear Mr. Tang,

This letter including Annex 1 and Annex 2 is to update you the lapses noticed related to Environment Safeguard Management under NWPCP-ICB 2 contract by the Contractor based on the document review for the period of January- June 2021 and site monitoring conducted on 30 June 2021, by PMDSC Environment team.

The main findings of this review include;

- (i) Poor performance of approved Environment Officer (EO) of completing key deliverables such as CEMP, Waste Management Plan, Dust Management Plan and Site Restoration Plan
- (ii) Poor implementation of the agreed actions as per the PMDSC initiative by preparing a Corrective Action Plan (CAP) (Pls refer Annex 1 and Annex 2)
- (iii) Lack of proper safeguard management and monitoring plan in site level which result weak environment management at the site level
- (iv) In adequate training/ awareness and follow-ups to the site staff and workers by the Environment Key staff of the Contractor.

Above lapses are clearly violating the Contractor's Conditions of the Contract, and relevant clauses of the governing documents such as CEA conditional approval, EIA, updated EMP, ADB SPS (2009) etc. Hence you are strongly reminded to take required measures to rectify the highlighted issues without any delay.

Further, poor site maintenance and non-compliance, lapses recorded with the key documentation indicates inadequate capacity, knowledge, and experience of the present Environment Officer (EO) for a key staff position as explained under Section "C" of Annex 1 and hence the Engineer instruct replacing her with a qualified EO fulfilling Employer's conditions with strong capacity to handle field monitoring, planning environment safeguard aspects due to the high sensitivity of the project area.

Thanking you.

Yours sincerely,


Palitha Deshapriya  
Resident EngineerEncl: **Annex 1: Semi-Annual Environment Review for NWPCP-ICB 2 (Jan to June 2021)****Annex 2: Issues identified during the site inspection held on 30 June 2021 in NWPCP-ICB 2 area**

Cc: Eng. G. M. R. A. Perera (Project Director NWPC Project)

Mr. Lutz Roemer (Chief Resident Engineer PMDSC)

Program Management, Design and Supervision Consultant  
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## Annex 1: Semi-Annual Environment Review for NWPCP-ICB 2 (Jan to June 2021)

	Safeguard item/ tool	Improvement required on the lapses	Rating
<b>A. Documentation Progress</b>			
(i)	Contractor's Environment Management Plan (CEMP)	<ul style="list-style-type: none"> <li>The approved EO was trained and asked to submit the updated version considering all scope changes of the NWP-ICB 2 package, but not yet attended.</li> <li>Repeated reminders made in writing as well at progress meetings.</li> <li>Rev 02 of CEMP was submitted by the Contractor on 04 March 2019, and comments submitted by PMDSC. No revised version submitted.</li> </ul>	"Poor & Non-complied"
(ii)	Monthly Environment Progress Reports	<ul style="list-style-type: none"> <li>As indicated in the Contract Agreement (Vol II – NWPCP ICB 2, Section 1.15.4 "Progress Reporting") Monthly progress report shall be submitted within 4 days after each calendar month to use the particular details / findings to report to employer/ ADB.</li> <li>But the reporting not received on time (i.e., Jan 2021 Report received on 27/02/2021; Feb 2021 received on 24/03/2021; April 2021 and May 2021 on 14/06/2021 and 15th June 2021 respectively)</li> <li>No March 2021 report received till the date of this report issued.</li> <li>Content wise, the report lacks EO's self-monitoring checklist, or status update to explain monthly environment safeguard status compared with the EMP/CEMP. The self-diary indicates that EO just visit the site without proper monitoring schedule/plan which displays her inadequate planning on environment safeguard compliance monitoring.</li> <li>Environment Quality Monitoring (Section 2.1.3) had not attended for last 6 months, which is a mandatory for a project in this nature (as per EMP/EIA).</li> <li>Not had stakeholder engagement / grievance meeting details for past 6 months? Or not included any information in monthly report?</li> <li>Under approval status (section 2.1.1) I noticed some approvals are outdated/ expired. Why not include updated approval dates? If the relevant approval is no more required, just remove it from the list indicating that particular work is completed.</li> <li>Section -2.4 – Any critical environmental concerns – There has been many critical issues reported each month (i.e., Tunnel failure at Ran-wediyawa), but no indication of such, or corrective measures adopted.</li> <li><b>Annex NCR Summary:</b></li> <li>Just list down NCR – Summary – but it is EO and PMs responsibility to attend required corrective measures</li> </ul>	<p>"Poor reporting"</p> <p>Need to be improved through a qualified, experienced EO</p>

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		<p>each month and close those, without dragging those months and months. Some needs very simple actions, but even not concern by the Contractor or the EO.</p> <ul style="list-style-type: none"> <li>▪ <b>Section 03</b> – Future key issues related to construction plan always keep Blank in every report. That means, the Contractor EO not prepared for next month safeguard activities with an action plan, which is a major lapse observed under NWP-ICB 2, and the reason for may environmental issues resulted under the package.</li> <li>▪ <b>Annex – Stockpile:</b></li> <li>▪ Excellent you provided the list of stockpiles – 26 stockpiles up to May 2021 report. But, as per site condition, most of these stockpiles are now used for backfilling. Then why not updated the present status.</li> <li>▪ The stockpiles – removed – have you followed the formal procedure to restore the sites as per the owner's agreement, and hand it over? Pls update with such details as a sperate report on "Restoration of Stockpile sites".</li> </ul>	
(iii)	Other key documents as supplements to CEMP	<p>Since the Contractor was failed to submit a complete CEMP, following key plans were requested to prepare and submit since July 2020 (Ref. PMDSC-NWP-Site/ICB-2/CSCEC/1354 on 15/07/2021) and reminded repeatedly (Ref. PMDSC-NWP-Site/ICB 2/CSCEC/1925 on 26. 01. 2021; PMDSC-NWP-Site / ICB 2/ CSCEC/ 1991 on 19. 02. 2021):</p> <ul style="list-style-type: none"> <li>(i) Dust Management/ Watering plan indicating areas for dust barricades, watering schedule etc. including maintenance plan;</li> <li>(ii) Waste Management Plan (including domestic waste and construction related waste)</li> <li>(iii) Site restoration plans for Stockpiles and other areas for backfilled sections</li> </ul> <p>Above plans were expected from EO-CSCEC, but so far, not received.</p>	<p>Non-complied</p> <p>No action so far</p>
<b>B. Compliance monitoring findings</b>			
(i)	Site condition as per the observations made on 30 June 2021	The site findings of the Environment audit carried out (as a sudden visit to capture the actual site situation) on 30 June 2021, are shown in the <b>Annex 2</b> with photographic evidence.	Low Need attention and proper planning
(ii)	Status of attending NCRs	Out of 16 Environment Non-Conformance Reports (ENCRs) issued up to March 2021, 7 ENCRs (ENCR 5, 7, 9,	


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		11, 12, 14, 15) still not closed. Details follows with present site conditions:	<p>CSCEC needs to take an effort to correct those long dragging ES issues as per the agreed Corrective Action Plan (CAP)</p> <p>EO – CSCEC needs to have a proper plan how to manage the NCRs and close through the Engineer</p> <p>Though some actions are taken, EO-CSCEC has no experience to present it to Engineer and close the NCRs unless Engineer reminded to do so</p> <p>With the intention of closing these pending NCRs Engineer / PMDSC introduced CAP but since Jan 2021 until July 2021, EO – CSCEC being unable to implement those actions which exhibits poor performance and lack of experience of</p>
(a)	PMDSC-ICB2-NCR No. 5 was issued on 01.10.2019 due to washing off the stock-piles	<ul style="list-style-type: none"> <li>Reminder was made to the Contractor pay immediate attention to attend corrective actions recommended on NCR 05 to compensate damaged wells by Engineer on 23.10.19 through Ref. CSCEC-ICB2-PMDSC-516-2019</li> <li>Further corrective actions implemented on (i) damaged wells rectification/ purification, (ii) reinstatement of agriculture fields damaged due to washing off stockpiles, (iii) reinstatement natural streams blocked by stockpile erosion, failures, and (iv) corrective measures attended to manage existing stockpiles were informed by the Contractor on 31.10.2019 (Ref. CSCEC-ICB 2-PMDSC-709-2019)</li> <li>The monitoring observation on stockpile maintenance and operations as of Jan 2021 indicated that (i) Toe and silt traps of most of the stockpiles are not maintaining properly, (ii) No adequate mitigatory measures are taken as per the ENCR 5, (iii) Due to stockpile located RHS at Ch.18+300km, the Dehigaha Ela and few water wells located adjacent to the Dehigaha Ela completely silted and there are public complains, (iv) Unauthorized stockpile operation observed at RHS of 12+350km and Kandabodayaya and paddy land near outlet portal of the Nilagama tunnel etc.</li> <li>Hence, EO of the Contractor was repeatedly asked to update the present status of stockpiles, disposal areas linked to the detail Waste/spoil management Plan as agreed with the Engineer at the Special meetings, but not attended till June 30, 2021.</li> <li>As per site observation by 30 June 2021, most of the stockpiles are now used for backfilling work, but still in May Progress report there is a list of 26 stockpiles and no restoration details submitted. Hence, the Contractor to submit those details to close NCR No. 5.</li> </ul>	
(b)	NCR No. 7 issued on 25 Oct 2019 related to the issues in the batching plant area mainly due to lack of proper wastewater and solid waste treatment and disposal arrangement, noise, dust issues and complaints from the neighborhood	<ul style="list-style-type: none"> <li>Method Statement was submitted by the Contractor to rectify the highlighted issues on 02.11.19 (Ref. CSCEC-ICB2-PMDSC-719-2019) and MS was returned for resubmission by the RE on 29.11.19 considering the comments raised by EMS.</li> <li>Corrective actions taken by the Contractor was informed to RE on 27.12.19 (Ref. CSCEC-ICB2-PMDSC-907-2019) but as per site monitoring it was noted that the actions taken are not satisfactory and hence NCR keep opened till end of monitoring period</li> <li>Revised Method Statement incorporating Engineer's comments was submitted by CSCEC on 28.12.19 (Ref. CSCEC-ICB2-PMDSC-908-2019)</li> </ul>	





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		<ul style="list-style-type: none"> <li>Several follow ups were attended by the Engineer, including Notice to temporary suspend batching plant operations due to causing public nuisance, repeated violation of CEA regulatory and EPL conditions, HS manual (Ref. PMDSC-CRE -NWP/ICB 2-CSCEC/010 on 08.02.2020)</li> <li>the Contractor informed Engineer through letter Ref. CSCEC-ICB2-PMDSC-1117 on 22.02.2020 about the corrective actions taken for the Environmental Non-Compliance Report (Env -NCR) -007, but the actions had not been implemented as per the required level, and NCR No. 10 was issued upon the release of polluted water</li> <li>After continuous follow-ups made, the Contractor attended progressive improvements to solve the issues during Jan – March 2021 period.</li> <li>Still some lapses there as per 30 June 2021 visit which are described in Annex 2. The Contractor to attend those as well as to make a request to close NCR</li> </ul>	the Key staff of CSCEC
(c)	E- NCR No. 009 (Ref. Ref. PMDSC-NWP-Site/ICB 2/CSCEC/783 on 08.01.2020): Cement waste dumping in the site at Ch.12+200 km area, Ch.16+600 km area, Ch.17+600 km area, Ch.20+200 km area	<ul style="list-style-type: none"> <li>Although the Contractor's letter Ref. CSCEC-ICB 2-PMDSC-1881 on 24.09.2020, the problem was not solved site level, and this has been notified in several letters, meetings etc. including Letter Ref. PMDSC-NWP-Site/ICB-2/CSCEC-1925 on 26.01.2021 and follow up meeting held on 04.03.2021. Hence, NCR No. 09, 11 and 12 are still open.</li> <li>However, as per the site observations, and referring to the letters (CSCEC-ICB 2-PMDSC-2357 on 04.06.2021 and CSCEC-ICB 2-PMDSC-2357 on 04.06.2021) E-NCR 09 and E-NCR-11 can be closed.</li> <li>Since, there is no arranged solution for other areas where construction work take place, specially in wild-life areas NCR No. 11 shall be closed upon establishing temporary washing pits to wash shooter of truck mixers as indicated in the recent CAP submitted on 15.06.2021</li> </ul>	
(d)	E- NCR No. 011 (Ref. PMDSC-NWP-Site/ICB2/CSCEC/967 on 02.03.2020) – Cement waste at the site, not follow E-NCR 09 and Engineer recommendations,		
(e)	E-NCR No. 12 (Ref. PMDSC-NWP-Site/ICB 2/CSCEC/0968 on 02.03.2020) Spilled cements on Moragolla main road in Aluthwewa area from truck mixers used by the Contractor leading		






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	dust generation and risk of slipping motor - bicycle, foot - bicycle, etc.		Unsatisfactory
(f)	E-NCR No. 15 for instalment of 2 Water Tanks and the Pipeline on the Top of Rock at Nilagama Outlet Portal (Beyond the Approved Area for Construction) without Relevant Approvals (Ref. PMDSC-NWP-Site/ ICB2/CSCEC 11528 on 19.08.2020)	<ul style="list-style-type: none"> <li>Respond with relevant approvals from FD to establish such tanks on the rock and damaging the rock to install such tanks.</li> </ul>	
(g)	E-NCR 14 on non-compliance issues in DWC Area 1 related to construction activities and not attending required mitigation measures (Ref. PMDSC-NWP-Site/ICB2/CSCEC 1423 on 24.07.2020)	<ul style="list-style-type: none"> <li>Issues include non-functioning electric fence, not establishing small mesh fence, inappropriate waste disposal, erosion, natural stream blocking, no required notices established as per DWC conditions etc.</li> <li>Most of issues still prevailing in section 1 as well as other sections of DWC area, which Contractor need to update the Engineer with the corrective measures attended</li> </ul>	
C.	Performance of Key staff	<ul style="list-style-type: none"> <li>New CV of Ms Sammani was Submitted by the CSCEC on 01.07.2021 (Ref. CSCEC-ICB2-PMDSC-1418) and the Engineer conditionally and probationary approved her CV on 06.07.2021 (Ref. PMDSC-NWP-Site/ ICB2/CSCEC/1333) due to following reasons:               <ul style="list-style-type: none"> <li>(i) As per Employers requirements (Vol II of Contract doc) under section 6.6.1 and Addendum No. 1 for Section 1 – General Requirements (Sub Clause 1.17.3 of the bidding document, the EO position under Key staff requires Total 10 years Similar works 5 years Similar position 3 years. However, the proposed CV of Ms Sammani had total of 4-year experience since Sept 2016, and similar work experience was less than 3 years from March 2017 at the appointment.</li> <li>(ii) However, due to the urgency of having an EO in site, Engineer approved her with following conditions: (a) Due to lack of minimum experience the proposed EO to engage with work under close supervision for 6-month (probation period) to provide on the job training; (b) After evaluating the performance during first 6 months, her service</li> </ul> </li> </ul>	Unsatisfactory





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		<p>extension to be considered; (c) Attendance for the PMDSC awareness session and site training conducted by EMS/ES of PMDSC is compulsory before starting the work in the site</p> <p>(iii) First 6 months up to Jan 2021, she was trained extensively in the field as well as for reporting by the PMDSC team and shown some progress of attending work. But, during the period of Jan to June 2021, which she was asked to continue work by her own, under PMDSC guidance she was unable to show a considerable progress</p> <p>(iv) This is mainly due to the lack of work experience, field knowledge, poor planning to attend the tasks holding a "Key position" in a such large-scale project.</p> <p>(v) Hence, Engineer's recommendation is to replace her with a qualified EO fulfilling employer's conditions with strong capacity to handle field monitoring, planning environment safeguard aspects due to the high sensitivity of the project area.</p>	




**Annex 2: Issues identified during the site inspection held on 30 June 2021 in NWPCP-ICB 2 area**


(i)	<b>Boundary demarcation of the construction areas</b>	
	<p>ROW is not clearly demarcated in most of the parts.</p> <p>No visible construction area / boundary demarcation most of the places along the canal, including DWC area (other than electric fence)</p>	<p>As per Conditions of the contract Under Sub-Clause 1.3.5 "Right of Way" - Section 1 of the Conditions of the Contract Vol II and ADB requirements, all boundaries to be clearly marked to avoid trespassing, disturbances to surrounding habitats, community, or agriculture fields</p>
(ii)	<b>Waste Management</b>	
a.	<p>Cement waste still not managed properly which is related to NCR 09 and 11, which violate</p> <ul style="list-style-type: none"> <li>Sub-Clause 1.6.7 and 1.17.4.3 under the Section 1 of the Conditions of the Contract Vol II</li> <li>Sub-clause 9.1 of the Conditional Environment Approval issued by CEA on 23.02.2016 (Ref. 08/EIA/Water/07/2012 given under Vol IV – part B EMP)</li> <li>Table 6.1 of the EMP in the Contract Document Vol IV – Part B, highlighting the National standards to be followed to protect environment from hazardous waste like cement</li> </ul>	 <p><b>Observation at Approx. Chainage 8+000 km</b></p>

b.	<ul style="list-style-type: none"> <li>Sludge waste is just dumped openly inside the batching plant area without proper arrangement for sludge disposal which violates EPL/CEA conditions. The sludge is just dumped mixed with other waste material, which makes the site untidy and polluted</li> <li>The Contractor was advised repeatedly to identify a recycling solution of this sludge waste, which can be used for cement/ concrete products</li> </ul>	 <p><i>Photo at Batching plant – Moragolla on 30.06.21</i></p>
c.	<ul style="list-style-type: none"> <li>Other waste disposal also has no proper arrangement in the site, and no designated places for waste collection</li> <li>In batching plant premises, all types of waste including e-waste, asbestos waste (which are hazardous and needs special disposal arrangements as per CEA regulations) is just dumped outside. No dust bins placed</li> <li>The Contractor and EO was repeatedly asked to submit the waste management plan, but no yet submitted for Engineer's approval which is a CEA requirement</li> </ul>	 <p><i>Photo at Batching plant – Moragolla on 30.06.21</i></p>
	<ul style="list-style-type: none"> <li>Disposal of oil filter of a heavy vehicle with oil negligently at the edge of construction access road close to the paddy field at approx. chainage Ch.5+450 km</li> </ul>	
	<ul style="list-style-type: none"> <li>Burning waste inside the Batching plant area which violates CEA and EPL conditions (recorded on 30.06.21)</li> </ul>	

	<ul style="list-style-type: none"> <li>Due to un-planned disposal of tunnel waste at Ranwidiyawa tunnel portal area (Ch.9+850 km), coconut trees belong to National Livestock Development Board (NLDB) has been died</li> </ul>	
(iii)	<b>Wastewater management in the site</b>	
d.	<ul style="list-style-type: none"> <li>Wastewater management in batching plant area is not clear, as the sedimentation tanks seems to be not functioning properly as the channels in between the compartments are blocked with cement waste</li> <li>Wastewater, sewage, and other domestic wastewater management in the tunnel portals needs to be explained in the waste management plan as there is no approved document covering such aspects related to NWPCP ICB 2</li> </ul>	 <p><i>Photo at Batching plant – Moragolla on 30.06.21</i></p>
(iv)	<b>Drainage management/ erosion</b>	
a.	<p>Stream diversion done without any erosion protection measures, and just directed to the natural streams without silt traps or other mitigation measures which violates:</p> <ul style="list-style-type: none"> <li>Employers' requirements – Specification Section 2 of Vol II; Section 5.3.7 – "Control of Water" under Conditions of the Contract Vol II</li> <li>Sub-clause 2.5 of CEA Environment Conditional Approval (Ref. 08/EIA/Water/07/2012 on 23.02.2016) – "Hydrological Aspects"</li> </ul>	
b.	<p>Release of silt-laden water to natural streams resulted from dewatering at the canal trace around chainage Ch.8+000 km</p> 	

		
(v)	<b>Stockpile management / Restoration</b>	
	<ul style="list-style-type: none"> <li>There is a list of 26 stockpiles included in the monthly progress report, which is repeated each month without any status update, by EO-CSCEC</li> <li>But in the site, most of these stockpiles has been used for backfilling and some stockpile areas are now changed its land use as cultivated lands.</li> <li>EO needs to submit an updated list of existing stockpiles with their approval status, and the site restoration plans for the stockpiles, including handing over documents which is important to keep records for ADB/CEA post-monitoring and as evidence for grievances which can be raised in latter part of the project</li> <li>At chainage Ch.7+430 km and Ch.7+960 km, excavated soil from the canal is dumped in adjacent private lands out of the construction boundaries. Are these approved stockpiles?</li> </ul>	 <i>Stockpiles approx. at 7+450 km</i>  <i>Stockpiles approx. at 7+960 km</i>
(vi)	<b>Environment issues in Wildlife Area</b>	
	<ul style="list-style-type: none"> <li>Poor environment safeguard management recorded in the DWC area sections due to following observations:               <ol style="list-style-type: none"> <li>Small mesh net is not maintained and just thrown away. This unmanaged small mesh net can damage the feet of small mammals as well as hooved mammals such as spotted deer which can be trapped in the net</li> <li>No clear site boundaries marked, and most of the workers use forest area outside the construction boundaries as their resting places which is prohibited as per wildlife act. This can aggravate illegal activities such as hunting, poaching in DWC areas, as well as polluting the areas due to waste dumping, open defecation etc.</li> </ol> </li> </ul>	 <i>Broken small mesh fence inside DWC area</i>

	<p>(c) No notices are displayed for workers which is one of the conditions by DWC</p> <p>(d) Unmanaged streams, stagnated water areas, and areas prone for erosion are there without attending required mitigation measures</p> <p>(e) Backfilled areas are used for stockpiling excavated material from other sections. Once backfilling is over that section should kept free for animal movements re-arranging electric fence with a proper site restoration plan by the contractor.</p> <p>(f) Observed firing remnants within construction boundaries of wildlife areas. Making open fire in wildlife sanctuary area is strictly prohibited which is well explained in EMP and conditions of Environmental approval.</p>	 <p><b>Construction areas without small mesh fence inside DWC area</b></p>  <p><b>Fire remnants in construction area inside wildlife sanctuary</b></p>
(vii)	<p><b>Unmanaged dust issues</b></p> <ul style="list-style-type: none"> <li>It was agreed by the Contractor to submit the Dust management plan indicating the locations that needs dust barricades, watering plan etc. at the meeting held with the Contractor on 29.06.2020, but so far, no action taken</li> <li>Serious dust issues observe in the construction areas adjacent to settlements, agriculture lands, as well as in the batching plant area</li> <li>In such areas no dust barriers or the existing dust barriers are not properly maintained</li> </ul>	 <p><b>Broken dust barricades and boundry wall in batching plant material storage area which result for windblown dust for the houses located nest to the plant – 30.06.2021</b></p>

		
		<i>Damaged dust barriers</i>
(viii)	<b>Site restoration plans for backfilled areas</b> <ul style="list-style-type: none"> <li>▪ It was observed that now backfilling work completed in Galapitawewa tank area at Ch.17+100km to Ch.17+400 km</li> <li>▪ The Contractor is reminded to prepare restoration plans on such locations in accordance with conditional approval from the Deputy Commissioner of the Agrarian Services Department (Matale) with the letter reference 5/3/2/1/2019 on 08.08.19</li> <li>▪ In addition, all other backfilled areas, stockpile areas needs to have a detail restoration plan prepared by EO-CSCEC and approved by Engineer to implement</li> </ul>	