

## Environmental monitoring result to be reported to JICA

<b>Project Name</b>	: <u>BLLT Expressway Project</u>	<b>Executing Agency</b>	: _____
<b>Section</b>	: <u>J3 package</u>	<b>Implementing Agency</b>	: <u>KEI-NE-OC-TEDI</u>
<b>Monitoring Date</b>	: <u>5<sup>th</sup> and 6<sup>th</sup> September, 2017</u>	<b>Supervision Consultant</b>	: <u>KEI-NE-OC-TEDI</u>
<b>Reporting Period</b>	: <u>3<sup>rd</sup> Quarter of 2017</u> (July to September)	<b>Contractor(s) for reporting</b>	: <u>SMCC – CIENCO 04 JO</u>
<b>Implementation Phase</b>	: <u>Construction Phase</u>	<b>Sub-Contractor for measuring</b>	: <u>CEECO - TRECO JO</u>

### 1. Contractor(s)

Contractor(s) Environmental Awareness	Yes / No	If No, actions required	Contractor's action taken
Contractor(s) aware of mitigation requirements?	Yes	None	None
Contractor(s) have a copy of EMP?	Yes	None	None

### 2. Mitigation Compliance Inspection

Mitigation Measure	Mitigations Implemented (Yes, No)	Mitigations Effective? (1 to 5)*	Current situation	Action required	Contractor's action taken
1. Preparation of tender document included detailed requirements in pollution control and protection of natural ecosystems.	Yes	1	Done	None	None
2. Proper preparation of CEMP by contractors	Yes	1	Done	None	None
3. Evidence of marking of work site boundaries	Yes	1	GOOD	None	None
4. No cutting trees outside the project ROW	Yes	1	GOOD	None	None
5. Replanting vegetation damaged by site clearance	Not yet implemented	-	-	None	None

6. No dumping of all kinds of wastes and cut trees in rivers, canals, ponds and field	Yes	2	GOOD	None	None
7. General site condition and cleanliness	Yes	1	GOOD	None	None
8. Covering of all trucks moving to and from site	Yes	2	GOOD	None	None
9. Watering road, construction site on rainless day	Yes	2	GOOD	None	None
10.Registration papers and compliance certificates of construction vehicles with Vietnam Register Authority of Police approved environmental emissions standards	Yes	2	GOOD	None	None
11.Installation of temporary waste storage areas at each construction site including segregation of hazardous and non-hazardous wastes.	Yes	2	GOOD	None	None
12.Sanitation conditions at construction worker camps, included sewage treatment facilities (toilets), domestic solid wastes management, house keeping etc.	Yes	1	VERY GOOD	None	None
13.Clean water and safe food supply for workers	Yes	2	GOOD	None	None
14.Requirements for vegetation waste (cut trees) burning met	Yes	2	GOOD	None	None
15.Proper organization of material transport to minimize environmental pollution and community disturbance	Yes	2	GOOD	None	None
16.Condition and effectiveness of erosion controls	Yes	2	GOOD	None	None
17.Condition and effectiveness of construction waste management	Yes	2	GOOD	None	None
18.Evidence of soil and/or water acidification due to leakage of acidic water from construction site to surrounding field, canals	Not	1	VERY GOOD	None	None
19.Evidence of direct or indirect disturbance of mangroves and other vegetation outside defined worksite boundaries	Not occurred	1	VERY GOOD	None	None
20.Stabilization, rehabilitation and landscaping of all land surfaces affected	Yes	2	GOOD	None	None

by construction activities					
21. Installation of noise and dust control walls	Yes	1	GOOD	None	None
22. Dust generation during windy conditions	Yes	1	GOOD	None	None
23. Number and type of community complaints on environmental issues received	No community complaints on environmental issues received	1	-	None	None
24. Mangrove replanting for compensation of mangrove area lost by the project at the Thi Vai river, Long Tau and Soai Rap river banks	Will be implemented by Package A7 Contractor	-	-	None	None

\* Mitigation Effectiveness Rating Criteria (Indicative examples)

1. Very Good (all required mitigations implemented)
2. Good (the majority of required mitigations implemented)
3. Fair (some mitigations implemented)
4. Poor (few mitigations implemented)
5. Very Poor (very few mitigations implemented)

### 3. Ambient air monitoring (Package name: J3)

Parameter	Measured by	Monitoring Equipment	Result ( $\mu\text{g}/\text{m}^3$ )	Limited values* ( $\mu\text{g}/\text{m}^3$ )	Baseline ( $\mu\text{g}/\text{m}^3$ )	Action required	Contractor's action taken	Date/ Location
SO <sub>2</sub>	CEECO	TCVN 5971-1995	32-75	350	28-73	None	None	<b>Date:</b> 05-06 September 2017 <b>Location:</b> KK1: Residential area at Binh Khanh commune, Can Gio district, HCM (Near Pier P1) KK2: Concrete batching plant area, Nhon Trach district, Dong Nai province KK3: Residential area at Binh Khanh commune, Can Gio district, HCM (near Rung Sac st, endpoint of pk J2). KK4: Residential area at Phuoc Khanh commune, Nhon Trach district, Dong Nai (Near Pier P24)
NO <sub>x</sub>	CEECO	TCVN 6137-1996	21-64	200	17-62	None	None	
CO	CEECO	52 TCN 352-89/MOH	720-3920	30,000	810-3540	None	None	
TSP	CEECO	TCVN 5067-1995	39-214	300	87-269	None	None	

\* National Technical Regulation for ambient air quality QCVN 05:2013/BTNMT, 1h average

#### 4. Noise and vibration (Package name: J3)

Parameter		Measured by	Monitoring Equipment	Result (dB)	Limited values* (dB)	Baseline (dB)	Action required	Contractor's action taken	Date/ Location
Noise (L <sub>Aeq</sub> )	6:00-21:00	CEECO	TCVN 7878 - 1:2008	50.1-66.7	70	45.0-67.9	None	None	<b>Date:</b> 05-06 September 2017 <b>Location:</b> KK1: Residential area at Binh Khanh commune, Can Gio district, HCM (Near Pier P1) KK2: Concrete batching plant area, Nhon Trach district, Dong Nai province KK3: Residential area at Binh Khanh commune, Can Gio district, HCM (near Rung Sac st, endpoint of pk J2). KK4: Residential area at Phuoc Khanh commune, Nhon Trach district, Dong Nai (Near Pier P24)
	21:00-6:00	CEECO	TCVN 7878 - 2:2010	38.4-51.0	55	44.4-52.8	None	None	
Vibration (L <sub>90</sub> )	6:00-21:00	CEECO	TCVN 6963-2001	37.4-53.1	75	38.4-51.3	None	None	
	21:00-6:00	CEECO	TCVN 6963-2001	35.2-44.1	Baseline Level	35.4-45.7	None	None	

\* Noise: National Technical Regulation QCVN 26:2010/BTNMT, Vibration: National Technical Regulation QCVN 27:2010/BTNMT

#### 5. Surface water quality (Package name: J3)

Parameter	Measured by	Monitoring Equipment	Result (mg/L)**	Limited values* (mg/L)**		Baseline (mg/L)**	Action required	Contractor's action taken	Date/ Location
				B1	B2				
pH	CEECO	TCVN 6492-2011	6.73-7.38	5.5-9	5.5-9	6.65-6.78	None	None	<b>Date:</b> 05th September 2017 <b>Location:</b> <b>NM1:</b> Long Tau river (upstream) <b>NM2:</b> Long Tau river (downstream) <b>NM3:</b> Canal at the site in Binh Khanh commune, Can Gio district, HCM city (near
DO	CEECO	TCVN 7324-2004	4.85-5.39	≥4	≥2	4.03-4.98	None	None	
EC	CEECO	SMEWW 2510B-2012	354-2406	-	-	2840-9680	None	None	
TSS	CEECO	TCVN 6185-2008	21-45	50	100	20-68	None	None	
BOD	CEECO	TCVN 6625-2000	6-12	15	25	4-13	None	None	
COD	CEECO	TCVN 6001-2008	13-23	30	50	7-25	None	None	
NO <sub>2</sub> <sup>-</sup> -N	CEECO	TCVN 6178-	0	0.04	0.05	0.012-0.024	None	None	

		1996							Pipe Culvert No.2) <b>NM4:</b> Canal at the site in Phuoc Khanh commune, Nhon Trach district, Dong Nai (near Pipe Culvert No.4)
NO <sub>3</sub> <sup>-</sup> -N	CEECO	TCVN 6180-1996	0.078-0.196	10	15	0.056-0.921	None	None	
NH <sub>4</sub> <sup>+</sup> -N	CEECO	TCVN 6179-1:1996	0.092-0.263	0.5	1	0.047-0.095	None	None	
PO <sub>4</sub> <sup>3-</sup> -P	CEECO	TCVN 6202-2008	0.017-0.028	0.3	0.5	0.015-0.024	None	None	
As	CEECO	TCVN 6182-1996	0	0.05	0.1	0	None	None	
Oil&grease	CEECO	SMEWW 5520B:2012	0.15-0.45	1	1	NDT-0.08	None	None	
Coliforms	CEECO	TCVN 6187-2-1996	70-490	7500	10000	4-70	None	None	

\* National Technical Regulation for surface water quality QCVN 08:2015-MT/BTNMT

\*\*Unit: N/A for pH, MPN/100ML for coliforms

NDT: not detected.

#### 6. Groundwater quality (Package name: J3)

Parameter	Measured by	Monitoring Equipment	Result (mg/L)**	Limited value* (mg/L)**	Baseline	Action required	Contractor's action taken	Date/ Location
pH	CEECO	TCVN 6492-2011	4.72-4.82	5.5 -8.5	3.30-4.15	None	None	<b>Date:</b> 05th September 2017 <b>Location:</b> At Concrete batching plant (Nhon Trach - Dong Nai), near Pier P17
EC	CEECO	SMEWW 2510B-2012	379-428	-	3570-3650	None	None	
TDS	CEECO	TCVN 6625-2000	<2	-	<2	None	None	
COD	CEECO	TCVN 6001-2008	1.04-1.36	4	1.2-1.4	None	None	
NH <sub>4</sub> <sup>+</sup> -N	CEECO	SMEWW 5220C-2012	0.058-0.082	0.1	0.049-0.057	None	None	
NO <sub>2</sub> <sup>-</sup> -N	CEECO	TCVN 6178:1996	NDT	1	NDT	None	None	
NO <sub>3</sub> <sup>-</sup> -N	CEECO	TCVN 6180-1996	1.97-2.23	15	0.051-0.083	None	None	
As	CEECO	TCVN 6182-1996	0.012-0.013	0.05	0.026-0.037	None	None	
E. Coli	CEECO	TCVN 6187-2-2009	NDT	Not detected	NDT	None	None	

\* National Technical Regulation for underground water quality QCVN 09:2015-MT/BTNMT

\*\*Unit: N/A for pH, mS/m for EC, MPN/100ML for E.Coli

NDT: not detected.

**7. Environmental Incidents During Reporting Period , if relevant**

Environmental Incidents (accidents, spills, complaint)	Date / Location	Reported by	Description	Action Taken	Further Action Required
Accidents	None				
Oil/Chemical spills	None				
People Complaint	None				
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.....					
.....					

**8. Natural environment monitoring (for whole project)**

Mangroves and Aquatic Organism Monitoring	Date / Location	Reported by	Assessment	Action Taken	Further Action Required
<b>Mangroves Monitoring</b>					
Mangrove cover (%) at each site	Will be implemented when the mangrove replanting program being carried out by Package A7				
Biomass of mangroves (kg/m <sup>2</sup> )					
Density of predominant species (individuals/m <sup>2</sup> )					
Species diversity measured by Shannon Weaver index					
Average height and stem diameter					
Wild terrestrial animals (species composition and density)					
<b>Aquatic organisms Monitoring</b>					
Phytoplanktons: species composition, density and Bi indexes	Soai Rap and Long Tau rivers (Will be carried out by CSC under Projec's Environmental Monitoring Program)				
Zooplanktons: species composition, density and Bioindexes					
Benthos: species composition, density and Bioindexes					

9. Summary of Actions Required and Follow-up (if relevant): **NONE**

Inspected by : CSC'S ENVIRONMENTAL SPECIALIST

Date : OCTOBER 2017

Signature:

A handwritten signature in blue ink, appearing to read 'Luan', with a horizontal line underneath it.

NGUYEN QUOC LUAN

Notes: NONE

Attachment: **Pictures of environmental monitoring for 3<sup>rd</sup> Quarter of 2017**

**Ambient air, noise & vibration monitoring / Quan trắc không khí, tiếng ồn, độ rung**



Location KK1 day & night / Vị trí KK1 ngày và đêm



Location KK2 day & night / Vị trí KK2 ngày và đêm



Location KK3 day & night / Vị trí KK3 ngày và đêm



Location KK4 day & night / Vị trí KK4 ngày và đêm



**Surface water sampling / Lấy mẫu nước mặt**



Location NM1 / vị trí NM1



Location NM2 / vị trí NM2



Location NM3 / vị trí NM3



Location NM4 / vị trí NM4

**Ground water and sediment sampling / Lấy mẫu nước ngầm và trầm tích**



Location NN1 / vị trí NN1



Location SD1 / vị trí SD1

**Soil sampling / Lấy mẫu đất**



Location Đ1 / Vị trí Đ1



Location Đ2 / Vị trí Đ2

**Wastewater sampling/ Lấy mẫu nước thải**



Location NT1 / vị trí NT1



Location NT2 / vị trí NT2



Location NT3 / vị trí NT3



Location NT4 / vị trí NT4

**Emissions measurement / Đo mẫu khí thải**



Location KT1 / Vị trí KT1



Location KT2 / Vị trí KT2