

Environmental monitoring result to be reported to JICA

Project Name	: <u>BLLT Expressway Project</u>	Executing Agency	: _____
Section	: _____	Implementing Agency	: <u>KEI-NE-OC-TEDI</u>
Monitoring Date	: <u>September 2017</u>	Supervision Consultant	: <u>KEI-NE-OC-TEDI</u>
Reporting Period	: <u>3rd Quarter of 2017</u>	Contractor(s) for reporting	: <u>J1 Contractor Shimizu– Vinaconex E&C JO</u>
Implementation Phase	: <u>Construction phase</u>	Sub-Contractor for measuring	: <u>CEECO</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				
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	3	FAIR	Must check all trucks before leaving the site.	Corrected and followed up
9. Watering road, construction site on rainless day	Yes	2	GOOD	Watering the roads at least twice per day	
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	3	FAIR	Hazardous and waste oil must store in right place	Corrected and followed up
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 occurred	1	GOOD	None	None
19.Evidence of direct or indirect disturbance of mangroves and other vegetation outside defined worksite	Not occurred	1	GOOD	None	None

boundaries					
20.Stabilization, rehabilitation and landscaping of all land surfaces affected by construction activities	Yes	2	GOOD	None	None
21.Installation of noise and dust control walls	Yes	2	GOOD	None	None
22.Dust generation during windy conditions	Yes	2	Watering the roads at least twice per day		
23.Number and type of community complaints on environmental issues received	No community complaints on environmental issues received	None	-	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	Not yet implemented	-	-	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: J1)

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 ₂	CEECO	TCVN 5971-1995	38-68	350	32-82	None	None	Date: 18-19 Sep 2017 Location: A1: Household area near Pier P2 at Sta: (21+ 799.500) – the beginning point of the package A2: Household area at Sta: (22+200.00) – nearly the gate of construction site on Road No. 01 A3: Between workcamp N.2 and batching plant at Eastern bank – nearly Pier P28 at Sta: (24+1670.00)
NO _x	CEECO	TCVN 6137-1996	31-61	200	21-69	None	None	
CO	CEECO	52 TCN 352-89/MOH	950-3,820	30,000	1170-3920	None	None	
TSP	CEECO	TCVN 5067-1995	62-176	300	58-269	None	None	

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

4. Noise and vibration (Package name: J1)

Parameter		Measured by	Monitoring Equipment	Result (dB)	Limited values* (dB)	Baseline (dB)	Action required	Contractor's action taken	Date/ Location
Noise (L _{Aeq})	6:00-21:00	CEECO	TCVN 7878 - 1:2008 TCVN 7878 - 2:2010	48.9-62.3	70	47.1-63.5	None	None	Date: 18-19 Sep 2017 Location: A1: Household area near Pier P2 at Sta: (21+ 799.500) – the beginning point of the package A2: Household area at Sta: (22+200.00) – nearly the gate of construction site on Road No. 01 A3: Between workcamp N.2 and batching plant at Eastern bank – nearly Pier P28 at Sta: (24+1670.00)
	21:00-6:00	CEECO		43.4-51.7	55	41.5-57.7	None	None	
Vibration (L ₉₀)	6:00-21:00	CEECO	TCVN 6963-2001	40.2-56.7	75	36.2-53.2	None	None	
	21:00-6:00	CEECO		36.1-47.6	Baseline Level	32.2-51.4	None	None	

5. Surface water quality (Package name: J1)

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	6.79-7.82	5.5-9	5.5-9	7.11-7.28	None	None	Date: 18th Sep 2017 Location: SW1-1: Soai Rap river - high tide (upstream) SW1-2: Soai Rap river - low tide (upstream) SW2-1: Soai Rap river - high tide (downstream) SW2-1: Soai Rap river – low tide (downstream)
DO	CEECO	TCVN 7324-2004	5.16-5.58	≥4	≥2	4.99-5.11	None	None	
EC	CEECO	SMEWW 2510B-2012	756-1,125	-	-	6.59-14.15	None	None	
TSS	CEECO	TCVN 6625-2000	23-42	50	100	48-73	None	None	
BOD	CEECO	TCVN 6625-2000	7-12	15	25	8-12	None	None	
COD	CEECO	TCVN 6001-2008	13-21	30	50	15-21	None	None	
NO ₂ ⁻ -N	CEECO	TCVN 6178-1996	NDT	0.04	0.05	0.014-0.018	None	None	
NO ₃ ⁻ -N	CEECO	TCVN 6180-1996	0.242-0.278	10	15	0.238-0.557	None	None	
NH ₄ ⁺ -N	CEECO	SMEWW 5220C-2012	0.084-0.152	0.5	1	0.036-0.051	None	None	
PO ₄ ³⁻ -P	CEECO	TCVN 6202-2008	0.012-0.019	0.3	0.5	0.038-0.064	None	None	
As	CEECO	TCVN 6182-1996	NDT	0.05	0.1	NDT	None	None	
Oil&Grease	CEECO	SMEWW 5520B-2012	0.21-0.29	1	1	NDT	None	None	
Coliforms	CEECO	TCVN 6187-2-1996	40-210	7500	10000	20-150	None	None	

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

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

6. Groundwater quality (Package name: J1)

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	6.27	5.5 -8.5	7.48	None	None	Date: 18th Sep 2017 Location: Wells of residents, along with alignment, 200-300m from the central line on western bank (Nha Be district)
EC	CEECO	SMEWW 2510B-2012	428	-	1617	None	None	
TDS	CEECO	TCVN 6625-2000	<2	-	<2	None	None	
COD	CEECO	TCVN 6001-2008	1.33	4	1.3	None	None	
NH ₄ ⁺ -N	CEECO	SMEWW 5220C-2012	0.045	0.1	0.043	None	None	
NO ₂ ⁻ -N	CEECO	TCVN 6178-1996	NDT	1	NDT	None	None	
NO ₃ ⁻ -N	CEECO	TCVN 6180-1996	0.441	15	0.062	None	None	
As	CEECO	TCVN 6182-1996	NDT	0.05	NDT	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

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
Mangroves Monitoring					
Mangrove cover (%) at each site	Will be implemented when the mangrove replanting program being carried out by Package A7				
Biomass of mangroves (kg/m ²)					
Density of predominant species (individuals/m ²)					
Species diversity measured by Shannon Weaver index					
Average height and stem diameter					
Wild terrestrial animals (species composition and density)					
Aquatic organisms Monitoring					
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:



NGUYEN QUOC LUAN

NOTE: NONE

Attachment: 01. PICTURES OF ENVIRONMENTAL MONITORING

PICTURES OF SAMPLING SURFACE WATER, SOIL, EMISSION, WASTEWATER, UNDERGROUND WATER – J1 PACKAGE.



Sampling surface water at SW1



Sampling surface water at SW2



Sampling sediment



Sampling soil



Sampling waste water at WW1



Sampling waste water at WW3



Sampling emission



Sampling underground water



Ambient air sampling at A1



Ambient air sampling at A2



Ambient air sampling at A3



Ambient air sampling at A3 – Night time