

Attachment 5 Environmental Monitoring / Social Monitoring Form (Quarterly)

The report is for Bridge No.1 and No.10

*: Under the measuring limit
Value is an average of measurement results.

Bridge No.1

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24		
Air Quality (Monitoring Times: 2 times per year)	Sulphur Dioxides: SO ₂	20-125µg/m ³ (daily)	Nos. of Sampling:2 point per bridge	Contractor	*	-	-	0	-	-	*	-	-	-	-	-	*	-	-		
	Nitrogen dioxides: NO ₂	40µg/m ³ (yearly)	Others: Traffic Volume, Metrological Data		*	-	-	0	-	-	*	-	-	-	-	-	-	*	-	-	
	Carbon monoxide: CO	200µg/m ³ (8 hours)			*	-	-	0	-	-	*	-	-	-	-	-	-	-	*	-	-
	Ozone: O ₃	-			*	-	-	0	-	-	*	-	-	-	-	-	-	-	*	-	-
	Suspended Particulate Matter: SPM	100 µg/m ³ (daily) 200µg/m ³ (hourly)	Both sides of Bridge Upstream / Downstream		128	-	-	5	-	-	20 / 15	-	-	-	-	-	-	-	35 / 40	-	-
	Dust	600µg/m ³			Both sides of Bridge Upstream / Downstream	84	-	-	3	-	-	12 / 6	-	-	-	-	-	-	16 / 21	-	-
Water Quality (Monitoring Times: 2 times per year)	pH	6.5-8.5	4 Sampling Points	Contractor	8.2	-	-	7.72/US 7.91/DS	-	-	8.0	-	-	-	-	-	8.0	-	-		
	Electric Conductivity: EC	<2000mS/m	4 Sampling Points		253.4	-	-	168/US 160.8/DS	-	-	164	-	-	-	-	-	-	178.2	-	-	
	SS (Suspended Solid)	50mg/m ³	4 Sampling Points		127-	-	-	42/US 40/DS	-	-	48	-	-	-	-	-	-	109	-	-	
	Dissolved Oxygen: DO	>2mg/L	4 Sampling Points		1.1 -	-	-	5.27/US 3.58/DS	-	-	5	-	-	-	-	-	-	6.1	-	-	
	Coliform		4 Sampling Points		123	-	-	110/US 10/DS	-	-	21	-	-	-	-	-	-	76.0	-	-	
	Turbidity	<5 NTU	4 Sampling Points		11.3	-	-	40/US 48/DS	-	-	12	-	-	-	-	-	-	27.1	-	-	
	Oil	<0.50mg/L	4 Sampling Points		7	-	-	5/US 5/DS	-	-	5	-	-	-	-	-	-	5	-	-	
Waste (Monitoring Times: 1 time per month)	Construction waste material, Deleterious material, Garbage		[During and After Construction]	Contractor	No activities	No Activity	No Activity	No Activity	Taken to Lologo stock yard/du mping site	ditto	No Activity	Taken to Lologo stock yard/du mping site	ditto	ditto	ditto	ditto	ditto	ditto	ditto		
			Physical observation																		
Noise and Vibration (Monitoring Times: 4 times per year)	Noise	Day: 70dB Night: 65dB	[During and After Construction]	Contractor	68.2	-	-	48	-	-	66	-	-	-	50	-	62	-	-		
	Vibration	Day: 70dB Night: 65dB	Monitoring Points: 2 3 times per monitoring day		44	-	-	44	-	-	44	-	-	-	47	-	44	-	-		

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	
Air Quality (Monitoring Times: 2 times per year)	Sulphur Dioxides: SO ₂	20-125µg/m ³ (daily)	Nos. of Sampling:2 point per bridge	Contractor	*	-	-	-	0 / 0	-	-	-	0 / 0	
	Nitrogen dioxides: NO ₂	40µg/m ³ (yearly)	Others: Traffic Volume, Metrological Data		*	-	-	-	0 / 0	-	-	-	-	0 / 0
	Carbon monoxide: CO	200µg/m ³ (8 hours)			*	-	-	-	0 / 0	-	-	-	-	0 / 0
	Ozone: O ₃	-			*	-	-	-	0 / 0	-	-	-	-	0 / 0
	Suspended Particulate Matter: SPM	100 µg/m ³ (daily) 200µg/m ³ (hourly)	Both sides of Bridge Upstream / Downstream		128	-	-	-	32 / 39	-	-	-	-	35 / 32
	Dust	600µg/m ³	Both sides of Bridge Upstream / Downstream		84	-	-	-	20 / 13	-	-	-	-	19 / 17
Water Quality (Monitoring Times: 2 times per year)	pH	6.5-8.5	4 Sampling Points	Contractor	8.2	-	-	-	8.0	-	-	-	7.35	
	Electric Conductivity: EC	<2000mS/m	4 Sampling Points		253.4	-	-	-	145.3	-	-	-	-	149.8
	SS (Suspended Solid)	50mg/m ³	4 Sampling Points		127-	-	-	-	98.0	-	-	-	-	77.3
	Dissolved Oxygen: DO	>2mg/L	4 Sampling Points		1.1 -	-	-	-	3.5	-	-	-	-	4.8
	Coliform		4 Sampling Points		123	-	-	-	40.0	-	-	-	-	42.3
	Turbidity	<5 NTU	4 Sampling Points		11.3	-	-	-	21.5	-	-	-	-	11.5
	Oil	<0.50mg/L	4 Sampling Points		7	-	-	-	5.0	-	-	-	-	5
Waste (Monitoring Times: 1 time per month)	Construction waste material, Deleterious material, Garbage		[During and After Construction]	Contractor	No activities	No Activity			All waste items are taken to Lologo stock yard or disposal area		All waste items are taken to Lologo stock yard or disposal area	All waste items are taken to Lologo stock yard or disposal area		
			Physical observation											
Noise and Vibration (Monitoring Times: 4 times per year)	Noise	Day: 70dB Night: 65dB	[During and After Construction]	Contractor	68.2	-	67.5	-	65.8	-	-	-	73.0	
	Vibration	Day: 70dB Night: 65dB	Monitoring Points: 2 3 times per monitoring day		44	-	44.0	-	44.0	-	-	-	45.5	

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24		
Hydrometeor (Monitoring Times: 1 time per month)	Storm water during rain Condition of storm water discharge		Physical observation Monitoring of discharge condition at drainage system	Contractor	No rainwater	All rainfall is drained into river	All rainfall is drained into river	All rainfall is drained into river	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	All rainwater is successfully drained into the river	
Living and Livelihood (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None No traffic jam due to construction	None No traffic jam due to construction	None No traffic jam due to construction	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	None in particular	
Existing Social Infrastructure (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None No traffic jam due to construction	None No traffic jam due to construction	None No traffic jam due to construction	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	None in particular	
Road Safety (Monitoring Times: 1 time per month)	Grasping situation of intersection crossing by school children			Contractor	None in particular	No school children around the construction site	Around 8am and 3pm, many school children walk on the bridge No.1	Around 8am and 3pm, many school children walk on the bridge No.1	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.1
Working Environment (Monitoring Times: time per week)	Grasping situation of EHS during the construction			Contractor	No activities	Done properly	Done properly	Done properly	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	All items are being done properly.
Traffic Accident (Monitoring Times: 1 time per week)	Grasping situation of traffic congestion during the construction Grasping situation of traffic accident during the construction			Contractor	No activities	No traffic jam due to construction No accident	No traffic jam due to construction No accident	No traffic jam due to construction No accident	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	ditto ditto	No accident occurred

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Hydrometeor (Monitoring Times: 1 time per month)	Storm water during rain Condition of storm water discharge		Physical observation Monitoring of discharge condition at drainage system	Contractor	No rainwater	All rainwater is successfully drained into the river	All rainwater is successfully drained into the river	All rainwater is successfully drained into the river	All rainwater is successfully drained into the river	All rainwater is successfully drained into the river	-
Living and Livelihood (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None in particular	None in particular	None in particular	None in particular	None in particular	-
Existing Social Infrastructure (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None in particular	None in particular	None in particular	None in particular	None in particular	-
Road Safety (Monitoring Times: 1 time per month)	Grasping situation of intersection crossing by school children			Contractor	None in particular	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.1	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.1	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.1	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.1	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.1	-
Working Environment (Monitoring Times: time per week)	Grasping situation of EHS during the construction			Contractor	No activities	All items are being done properly.	All items are being done properly.	All items are being done properly.	All items are being done properly.	All items are being done properly.	-
Traffic Accident (Monitoring Times: 1 time per week)	Grasping situation of traffic congestion during the construction Grasping situation of traffic accident during the construction			Contractor	No activities	No accident occurred	No accident occurred	No accident occurred	No accident occurred	No accident occurred	-

Bridge No.4

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24		
Air Quality (Monitoring Times: 2 times per year)	Sulphur Dioxides: SO ₂	20-125µg/m ³ (daily)	Nos. of Sampling:2 point per bridge	Contractor	*	-	-	0	-	-	0.1	-	-	-	-	-	*		
	Nitrogen dioxides: NO ₂	40µg/m ³ (yearly)	Others: Traffic Volume, Metrological Data		*	-	-	0	-	-	*	-	-	-	-	-	-	*	
	Carbon monoxide: CO	200µg/m ³ (8 hours)			*	-	-	0	-	-	*	-	-	-	-	-	-	-	*
	Ozone: O ₃	-			*	-	-	0	-	-	*	-	-	-	-	-	-	-	*
	Suspended Particulate Matter: SPM	100 µg/m ³ (daily) 200µg/m ³ (hourly)	Both sides of Bridge Upstream / Downstream		128	-	-	5	-	-	11	-	-	-	-	-	-	-	70 / 40
	Dust	600µg/m ³			Both sides of Bridge Upstream / Downstream	84	-	-	3	-	-	18	-	-	-	-	-	-	42 / 35
Water Quality (Monitoring Times: 2 times per year)	pH	6.5-8.5	4 Sampling Points	Contractor	8.2	-	-	7.72/US 7.91/DS	-	-	8.2	-	-	-	-	-	-	7.9	
	Electric Conductivity: EC	<2000mS/m	4 Sampling Points		253.4	-	-	168/US 160.8/DS	-	-	179.8	-	-	-	-	-	-	-	171.2
	SS (Suspended Solid)	50mg/m ³	4 Sampling Points		127-	-	-	42/US 40/DS	-	-	50	-	-	-	-	-	-	-	74.8
	Dissolved Oxygen: DO	>2mg/L	4 Sampling Points		1.1 -	-	-	5.27/US 3.58/DS	-	-	10.53	-	-	-	-	-	-	-	4.0
	Coliform		4 Sampling Points		123	-	-	110/US 10/DS	-	-	34.3	-	-	-	-	-	-	-	42.0
	Turbidity	<5 NTU	4 Sampling Points		11.3	-	-	40/US 48/DS	-	-	15	-	-	-	-	-	-	-	20.9
	Oil	<0.50mg/L	4 Sampling Points		7	-	-	5/US 5/DS	-	-	5	-	-	-	-	-	-	-	5.0
Waste (Monitoring Times: 1 time per month)	Construction waste material, Deleterious material, Garbage		[During and After Construction]	Contractor	No activities	No Activity	No Activity	No Activity	Taken to Lologo stock yard/dumping site	ditto	ditto	Taken to Lologo stock yard/dumping site	ditto	ditto	ditto	ditto	ditto		
			Physical observation																
Noise and Vibration (Monitoring Times: 4 times per year)	Noise	Day: 70dB Night: 65dB	[During and After Construction]	Contractor	68.2	-	-	65	-	-	65	-	-	-	58	-	52		
	Vibration	Day: 70dB Night: 65dB	Monitoring Points: 2 3 times per monitoring day		44	-	-	44	-	-	44	-	-	-	47	-	44		

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24
Hydrometeor (Monitoring Times: 1 time per month)	Storm water during rain Condition of storm water discharge		Physical observation Monitoring of discharge condition at drainage system	Contractor	No rainwater	All rainfall is drained into river	All rainfall is drained into river	All rainfall is drained into river	ditto	ditto	ditto	ditto	Ditto	ditto	ditto	ditto	ditto
Living and Livelihood (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None No traffic jam due to construction	None No traffic jam due to construction	None No traffic jam due to construction	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto
Existing Social Infrastructure (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None No traffic jam due to construction	None No traffic jam due to construction	None No traffic jam due to construction	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto
Road Safety (Monitoring Times: 1 time per month)	Grasping situation of intersection crossing by school children			Contractor	None in particular	No school children around the construction site	Around 8am and 3pm, many school children walk on the street	Around 8am and 3pm, many school children walk on the street	ditto	ditto	ditto	ditto	Ditto	ditto	ditto	ditto	ditto
Working Environment (Monitoring Times: time per week)	Grasping situation of EHS during the construction			Contractor	No activities	Done properly	Done properly	Done properly	ditto	ditto	ditto	ditto	Ditto	ditto	ditto	ditto	ditto
Traffic Accident (Monitoring Times: 1 time per week)	Grasping situation of traffic congestion during the construction Grasping situation of traffic accident during the construction			Contractor	No activities	No traffic jam due to construction No accident	No traffic jam due to construction No accident	No traffic jam due to construction No accident	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto	ditto

Bridge No.10

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24		
Air Quality (Monitoring Times: 2 times per year)	Sulphur Dioxides: SO ₂	20-125µg/m ³ (daily)	Nos. of Sampling:2 point per bridge	Contractor	*	-	*	-	-	-	-	-	0 / 0	-	-	-	0 / 0		
	Nitrogen dioxides: NO ₂	40µg/m ³ (yearly)	Others: Traffic Volume, Metrological Data		*	-	*	-	-	-	-	-	-	0 / 0	-	-	-	0 / 0	
	Carbon monoxide: CO	200µg/m ³ (8 hours)			*	-	*	-	-	-	-	-	-	-	0 / 0	-	-	-	0 / 0
	Ozone: O ₃	-			*	-	*	-	-	-	-	-	-	-	0 / 0	-	-	-	0 / 0
	Suspended Particulate Matter: SPM	100 µg/m ³ (daily) 200µg/m ³ (hourly)	Both sides of Bridge Upstream / Downstream		128	-	48 / 32	-	-	-	-	-	-	-	40 / 34	-	-	-	34/ 32
	Dust	600µg/m ³	Both sides of Bridge Upstream / Downstream		84	-	19 / 20	-	-	-	-	-	-	-	12 / 18	-	-	-	14/16
Water Quality (Monitoring Times: 2 times per year)	pH	6.5-8.5	4 Sampling Points	Contractor	8.2	-	8.2	-	-	-	-	-	7.5	-	-	-	7.5		
	Electric Conductivity: EC	< 2000mS/m	4 Sampling Points		253.4	-	191.8	-	-	-	-	-	-	124.3	-	-	-	164	
	SS (Suspended Solid)	50mg/m ³	4 Sampling Points		127-	-	147.0	-	-	-	-	-	-	98	-	-	-	53	
	Dissolved Oxygen: DO	>2mg/L	4 Sampling Points		1.1 -	-	21.5	-	-	-	-	-	-	6.0	-	-	-	3.47	
	Coliform		4 Sampling Points		123	-	28.0	-	-	-	-	-	-	30.3	-	-	-	22.5	
	Turbidity	<5 NTU	4 Sampling Points		11.3	-	37.0	-	-	-	-	-	-	17.3	-	-	-	15	
	Oil	<0.50mg/L	4 Sampling Points		7	-	5.0	-	-	-	-	-	-	5.0	-	-	-	5.0	
Waste (Monitoring Times: 1 time per month)	Construction waste material, Deleterious material, Garbage		[During and After Construction]	Contractor	No activities	Taken to Lologo stock yard/dumping site	ditto	-	-	-	-	-	All waste items are taken to Lologo stock yard or disposal area	-	-	-	All waste items are taken to Lologo stock yard or disposal area		
			Physical observation																
Noise and Vibration (Monitoring Times: 4 times per year)	Noise	Day: 70dB Night: 65dB	[During and After Construction]	Contractor	68.2	-	62	-	-	-	60.9	-	62.5	-	-	-	74.8		
	Vibration	Day: 70dB Night: 65dB	Monitoring Points: 2 3 times per monitoring day		44	-	44	-	-	-	44.0	-	44.0	-	-	-	47.0		

Environmental Issues	Monitoring Items	Standard Value	Sampling Point, Method	Responsible	Before commence	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Hydrometeor (Monitoring Times: 1 time per month)	Storm water during rain Condition of storm water discharge		Physical observation Monitoring of discharge condition at drainage system	Contractor	No rainwater	No rainfall this month	All rainfall is drained into river	ditto	ditto	ditto	All rainwater is successfully drained into the river	ditto	All rainwater is successfully drained into the river	ditto	ditto	ditto	No rain in this month
Living and Livelihood (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None in particular	None No traffic jam due to construction	ditto	ditto	ditto	None in particular	ditto	None in particular	ditto	ditto	ditto	None in particular
Existing Social Infrastructure (Monitoring Times: 1 time per month)	Pollution status by Air quality, Noise, Waste material to residents Monitoring of Road Users and Residents			Contractor	None in particular	None in particular	None No traffic jam due to construction	ditto	ditto	ditto	None in particular	ditto	None in particular	ditto	ditto	ditto	None in particular
Road Safety (Monitoring Times: 1 time per month)	Grasping situation of intersection crossing by school children			Contractor	None in particular	To be observed next month as road was closed on 22nd Jan 2024	School children walk on the street properly	ditto	ditto	ditto	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.10	ditto	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.10	ditto	ditto	ditto	Around 8 a.m. and 3 p.m., many school children walk on the Bridge No.10
Working Environment (Monitoring Times: time per week)	Grasping situation of EHS during the construction			Contractor	No activities	All items done properly	Done properly	ditto	ditto	ditto	All items are being done properly.	ditto	All items are being done properly.	ditto	ditto	ditto	All items are being done properly.
Traffic Accident (Monitoring Times: 1 time per week)	Grasping situation of traffic congestion during the construction Grasping situation of traffic accident during the construction			Contractor	No activities	No traffic jam due to construction work. No accident	No traffic jam due to construction No accident	ditto	ditto	ditto	No accident occurred	ditto	ditto	ditto	ditto	ditto	No accident occurred