

Annex 6.1
Project Entitlement Matrix

Annex 6.1 Project Entitlement Matrix for “Preparatory Survey on Traffic Improvement Project around New Kelani Bridge”

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
A. Residential Land and Structures					
A1	Loss of residential land	Land Owner with title deed or registration certificate	All (cash) payments for land will be made at replacement costs (provisions under LAA and Regulation 2008).	Chief Valuer (CV), related Divisional Secretariat Division(DS), Urban Development Authority(UDA) and Road Development Authority(RDA) are responsible agencies for the entitlement.	
A2	Loss of rental accommodation	Tenant, user with lease	<p>In case of partial loss of rental accommodation; AP has the option to stay with the owners agreement OR;</p> <ol style="list-style-type: none"> 1. to move out with following cash assistance <ul style="list-style-type: none"> - 6 months rental allowance AND; - Assistance in finding new affordable rental accommodation AND; - Materials transport allowance (item F1.1) <p>In case of complete loss of rental accommodation;</p> <ol style="list-style-type: none"> 1. AP has the option of cash for the value of the remaining lease OR cash assistance to cover rental arrangements for minimum period of 6 months of equivalent standard and advance payments as determined by the Chief Valuer to owner on a case to case basis whichever is higher. AND 2. Assistance in finding new affordable rental accommodation AND 3. Material transport (F1.2) AND 4. Transition subsistence allowance (F2.1) . 5. Livelihood restoration assistance(F3.1) <p>RDA will assist in recovering advance payments made by the tenant to the owner, if there is a complete loss of rental accommodation.</p>	CV, DS, RDA are responsible agencies for the entitlement.	

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
A3	Loss of residential structure	Owner of the residential structure with/without title deed/registration certificate for land	<p>The owner of the residential structure on state land or private land without title deed/registration certificate are eligible for the compensation if they are considered as socially recognized owner.</p> <p>For structures having sufficient land to rebuild upon (in case the residential structure is affected partially and being rebuild on site);</p> <ol style="list-style-type: none"> 1. All payments for structure based on full replacement cost (for materials and labour), WITHOUT deduction for depreciation or salvageable materials, in material, cash or a combination of both, according to the actual loss to repair or rebuild the structure to original or better condition. AND; 2. Materials transport assistance F1.1; AND 3. Transition subsistence allowance F2.1 AND 4. Cost of re-fixing of Fixtures and fittings G3 <p>For structures not having sufficient land to rebuild upon (in case the residential structure needs to be relocated):</p> <ol style="list-style-type: none"> 1. All payments for structure at full replacement cost (for materials and labour), WITHOUT deduction for depreciation or salvageable materials, in material, cash, or a combination of both; 2. Assistance from RDA to locate alternative plot for relocation; OR relocation to a resettlement site if developed by the project and opted by AP; 3. Transition subsistence allowance F2.1 AND; 4. Materials Transport Allowance (item F1.2) AND; 5. Livelihood restoration assistance(F3.1) AND; 6. Cost of re-fixing of Fixtures and fittings G3 will be paid. 	CV, DS, RDA are responsible agencies for the entitlement.	RDA (basically CE office) after consultation with DS finds that there is a land available in Kolonnawa DS area. So RDA can advise the APs of Wadullawatta and Sedawatta to purchase this land using the compensation they got.

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
			<p>In case of encroachments on state lands; AP would be paid the reinstatement value with the written concurrence of the Divisional Secretary,</p> <p>In case of encroachment on private land where the owner has not contested the encumbrances in a Court of Law; AP who carried out the improvements will qualify to receive the value upon adequate proof of the improvements which has been made on the land by such person.</p>		
B. Commercial Land and Structures					
B1	Loss of commercial land	Owner/s and/ or Operator/s of the commercial land	All (cash) payments for land lost at full replacement cost;	CV, DS, RDA are responsible agencies for the entitlement.	
B2	Loss of Commercial Structure	Owner of the affected commercial structure with/without registration for the business	<p>In case of partial loss of commercial structure; if it is located on a state land, AP may rebuild on the remaining land, and if it is located on a private land, the project will encourage AP to relocate</p> <p>For structures having sufficient land to rebuild upon (in case the residential structure is affected partially and being rebuild on site):</p> <ol style="list-style-type: none"> 1. Payment at replacement cost in material, cash, or a combination of both according to the actual loss to repair or rebuild the structure to original or better condition when remaining land sufficient to rebuild upon; 2. Materials transport assistance F1.1; AND 3. Transition subsistence allowance F2.1 AND 4. Cost of re-fixing of Fixtures and fittings G3 <p>For structures not having sufficient land to rebuild upon:</p>	CV,DS,RDA are responsible agencies for the entitlement RDA shall give reasonable time for owner/s or operator/s to continue their business operation while rebuilding their structures.	RDA (basically CE office) after consultation with DS finds that there is a land available in Kolonnawa DS area. So RDA can advise the APs of Wadullawatta and Sedawatta to purchase this land using the compensation they got.

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
			<ol style="list-style-type: none"> 1. All payments for structure lost at full replacement cost (for materials and labour) in material, cash, or a combination of both, WITHOUT deduction for depreciation or salvageable materials; 2. Assistance from RDA to locate alternative plot for relocation if opted by owner/s on recovery of the value of land; 3. Materials transport assistance F1.2; AND 4. Transition subsistence allowance F2.1 AND 5. Livelihood restoration assistance(F3.1) AND; 6. Cost of re-fixing of Fixtures and fittings G3 will be paid. 		
B3	Loss of business	Affected business owners with registration for business (regardless of the ownership of land)	<p>For temporary loss of business (in case the commercial structure is affected partially or temporary, and being rebuilt on site):</p> <ol style="list-style-type: none"> 1. Payment for any associated loss of income while commercial structure is being rebuilt based on the accounts and tax returns pertaining to preceding three (3) years. 2. A payment for increased overhead expenses would be recommended by CV as per the circumstances. <p>(Regulations 2008)</p> <p>For permanent loss of business (in case the commercial structure needs to be relocated):</p> <ol style="list-style-type: none"> 1. Cash payment not exceeding three times the average annual net profits from business, as shown by the books of accounts, for three calendar years immediately preceding acquisition or livelihood restoration grant, whichever is higher; 2. For businesses who do not maintain books of accounts cash payment equivalent to 6 months 	CV, DS, RDA are responsible agencies for the entitlement.	

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
			<p>income OR Livelihood assistance grant, whichever is the higher;</p> <p>3. Materials transport allowance F1.2 AND</p> <p>4. Transition subsistence allowance F2.1 AND</p> <p>5. Livelihood restoration allowance F3.1</p> <p>6. An allowance in the amount of Rs. 15,000 will be paid for advertising the new premises, printing of notice boards</p>		
B4	Loss of business	Affected business owners without registration for business (regardless of the ownership of land)	<p>1. Cash payment equivalent to 6 months income OR Livelihood assistance grant, whichever is the higher</p> <p>2. Materials transport allowance F1.1 or F1.2 AND</p> <p>3. Transition subsistence allowance F2.1 AND</p> <p>4. Livelihood restoration allowance F3.2</p> <p>5. An allowance in the amount of Rs. 2,500 to 15,000 will be paid for advertising the new premises, printing of notice boards</p>	CV, DS, RDA are responsible agencies for the entitlement.	
B5	Loss of business	Tenant of the affected commercial structure with registration for business	<p>For temporary loss of business (in case the commercial structure is affected partially or temporary, and being rebuilt on site):</p> <p>1. AP has the option to stay with the owners agreement OR to move out with compensation described below (See the description under “for permanent loss of business”)</p> <p>2. A Payment up to a maximum of Rs. 15,000 would be paid for any associated loss of income while commercial structure is being rebuilt.</p> <p>3. A payment for increased overhead expenses would also be recommended by CV as per the circumstances.</p> <p>4. Material transport allowance F1.1 AND</p> <p>5. Transition subsistence allowance F2.1 AND</p> <p>6. Livelihood restoration allowance F3.2</p>	CV, DS, RDA are responsible agencies for the entitlement.	

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
			<p>For permanent loss of business (in case the commercial structure needs to be relocated):</p> <ol style="list-style-type: none"> 1. Cash for the value of the remaining lease OR cash assistance to cover rental arrangements for minimum period of 6 months of equivalent standard and advance payments as determined by the CV to owner on a case to case basis whichever is higher AND; 2. Assistance in finding new affordable rental premises to operate business; 3. For losses of income a cash payment not exceeding three times the average annual net profits from business, as shown by the books of accounts, for three calendar years immediately preceding acquisition or livelihood restoration grant, whichever is higher; 4. For businesses who do not maintain books of accounts cash payment equivalent to 6 months income OR Livelihood assistance grant, whichever is the higher; 5. Material transport allowance F1.2 AND 6. Transition subsistence allowance F2.1 AND 7. Livelihood restoration assistance F3.1 8. Livelihood restoration allowance F3.2 9. Project will also assist in recovering any advance payments made by the tenant to the owner, if there is a complete loss of the structure. 		
C. Other Private Properties or Secondary Structures					
C1	Partial or complete loss of other property or secondary structure (i.e. shed, outdoor latrine,	Owners of structures (regardless of the ownership of land)	All payments for affected structure at replacement cost (market value of the structure plus cost for transporting building materials, any labor, contractors' fee and any registration taxes)	CV, DS, RDA are responsible agencies for the entitlement.	

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
	warehouse, storage facility, cold storage facility, animal pen etc)				
C2	Loss of statues, tombs or graves	All owners	A cash payment between Rs. 5000 and Rs. 15,000 would be paid to cover the cost of exhumation (including any religious ceremonies if required) and relocation.	CV, DS, RDA are responsible agencies for the entitlement.	The value something between Rs. 5,000 and Rs. 15,000 which will be decided during the valuation process.
D. Loss of Income of Employees or Hired Labourers					
D1	Temporary loss of income	All affected employees, wage or daily labourers in private or government businesses	<ol style="list-style-type: none"> 1. Cash payment for lost salary/wages for each month AP cannot work OR assistance in securing new employment including relevant skills training if required; AND 2. Transition subsistence allowance F2.1 AND 3. Livelihood restoration allowance F3.2 	CV, DS, RDA are responsible agencies for the entitlement.	
D2	Permanent loss of income	All affected employees, wage or daily labourers in private or government businesses	<ol style="list-style-type: none"> 1. Cash payment equivalent to 6 months salary/wages 2. RDA will encourage employers to provide severance pay for employees; 3. Preferential access to project construction employment opportunities; 4. Transition subsistence allowance F2.1 AND; 5. Livelihood restoration assistance F3.1 AND; 6. Livelihood restoration allowance F3.2 will be paid where applicable. 	CV, DS, RDA are responsible agencies for the entitlement.	
E. Trees with Timber Value and Standing Crops					
E1	Loss of crops and trees with timber value	Person who cultivates crops and/or owns trees	<ol style="list-style-type: none"> 1. An advance notice to harvest crop shall be displayed at GN office and informed to AP by 	RDA, CV, DS, Grama Niladhari Division (GN) and State Timber	

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
		(regardless of the ownership of land)	<p>GN in advance;</p> <p>2. Where harvesting is not possible the market value for lost cash crops will be paid;</p> <p>For owner, payment for crops will be paid to the owner.;</p> <p>For landless tenant farmer, payment for crops will be paid to the tenant;</p> <p>For sharecropper, payment for crops shall be shared between owner and sharecropper according to the sharecropping agreement;</p>	Corporation (where applicable) are responsible agencies for the entitlement.	
F. Livelihood Restoration and Rehabilitation Assistance					
F1. Materials Transport Allowance					
F1.1	Materials Transport Allowance	APs reorganizing or rebuilding residential / commercial structures on site	Cash assistance up to Rs. 7500 would be paid for each affected household.	CV, DS, RDA are responsible agencies for the entitlement.	
F1.2	Materials Transport Allowance	Households or business owners who will be relocated (regardless of the ownership of land)	<p>Cash assistance (relocation allowance) would be paid to household based on floor area of the house in occupation before relocation;</p> <ul style="list-style-type: none"> Rs. 10,000 for houses where floor area is less than 1000 sq.ft Rs. 15,000 for houses where floor area is between 1000-2000 sq.ft. Rs. 25,000 for houses where floor area is more than 2000 sq.ft. <p>If there are subfamilies, above payment should be divided proportionately.</p> <p>For other properties, maximum amount of Rs. 25,000</p>	CV, DS, RDA are responsible agencies for the entitlement.	

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
			would be paid depending on the nature of occupation.		
F2. Transition Subsistence Allowance					
F2	Transition Subsistence Allowance	Each member of severely affected household	Subsistence allowance for the transition period for EACH member of severely affected household of Rs. 600/month for a period of 3 months. However this assistance could be further extended (up to a maximum of 6 months) as assessed on a case to case basis, with a written concurrence from Divisional Secretary.	CV, DS, RDA are responsible agencies for the entitlement.	“Severely affected household” is the family at least food security, especially for families with low income (2009/2010 food poverty level being at Rs. 2071)
F3. Livelihood Restoration (Grant and Training)					
F3.1	Livelihood restoration assistance	Household having permanent effect on livelihood (those who are resettled, loose job, etc.)	A cash assistance of Rs. 20,000 per household would be paid as Livelihood restoration grant, with written concurrence of Divisional Secretary. If requested by household, RDA will assist in obtaining professional assistance and advice, to invest funds or to set up a business at a commercially viable location. RDA would assist the household to obtain Micro Credit facilities to obtain productive assets. Training for up to two members of AP households to receive skills and vocational training, to an amount of Rs 5,000 per member.	CV, DS, RDA are responsible agencies for the entitlement. RDA will hire a NGO or a consultant to conduct a livelihood restoration assistance for the project. RDA will provide money for the training.	

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
G. Special Assistance/ Allowances					
G1	Special Assistance / Allowances for Vulnerable APs	Households having vulnerable APs (poor, elderly APs, ethnic minority households, female-headed households, and disabled)	A special grant of Rs 20,000 per household to improve living standards of vulnerable APs and households; Assistance to vulnerable households in finding suitable land for relocation and shifting OR provision of resettlement sites if developed by the project and opted by AP.	CV, DS, RDA are responsible agencies for the entitlement.	
G2	Cost of re-fixing of Fixtures and fittings	For households and owner/s or operator/s of businesses and institutions that will be permanently displaced	An allowance of Rs. 5,000 maximum will be paid for a household. In case of a business premises or any other construction of specified nature the amount will be based on actual computations. Steps will be taken to avoid any double counting.	CV, DS, RDA are responsible agencies for the entitlement.	“Double counting” means that valuation officer counts doubly for a sum of money for shifting and re-fixing.
G3	Expenses incurred during acquisition process	All APs who appear for section 9 inquiry	An allowance not exceeding Rs. 10,000 would be paid to each AP who appears for section 9 inquiry.	CV, DS, RDA are responsible agencies for the entitlement.	
H. Community Assets					
H1	Loss of small scale community buildings and other structures such as shrines, temples, Kovils etc.	Divisional Secretary division, urban ward, local community or	Restoration in existing location of affected community buildings, structures, infrastructure and common property resources to original or better condition; OR replacement in alternative location identified in	CV, DS, RDA and Local Authority are responsible agencies for the entitlement.	The access to the Kovil for the devotees will be secured through consideration of

	Type of Loss	Entitled Persons	Entitlements	Application Guidelines	Remarks
		local authority owning or benefiting from community property. Chief priest of the religious place.	consultation with affected communities and relevant authorities; OR cash payment at full replacement cost; AND Restoration of access to community resources.		the new location of the temple.
H2	Loss of local infrastructure such as local roads, play grounds, footpaths, bridges, irrigation, water points or communal hand pumps etc.	Divisional Secretary division, urban ward, local community or local authority owning or benefiting from community property.	Restoration in existing location of affected local infrastructure and common property resources to original or better condition; OR replacement in alternative location identified in consultation with affected communities and relevant authorities; OR Cash payment at full replacement cost; AND Restoration of access to community resources.	CV, DS, RDA and Local Authority are responsible agencies for the entitlement.	
H3	Shifting of common resources such as High tension and distribution electricity power lines, water supply lines, telecommunication lines.	Utility agency who owns the facility	Relocation in alternative location identified in consultation with relevant authorities; OR Cash payment at full replacement cost.	RDA, CV, DS, Respective Utility Service Agency (e.g. CEB, NWS&DB, SLT) are responsible agencies for the entitlement.	
I. Unanticipated Adverse Impacts					
I1	Any unanticipated adverse impact due to project intervention	Any unanticipated consequence of the project will be documented and mitigated based on the spirit of the principles agreed upon in this RAP			

Annex 6.2
Traffic Diversion Plan

Traffic Diversion Plan for the Proposed Project

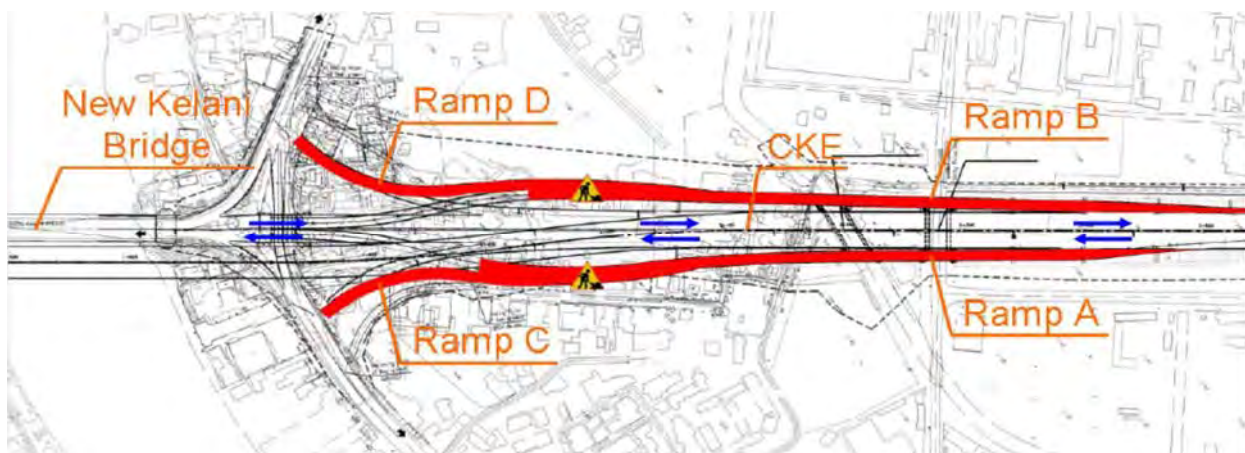
1. Traffic diversion plan at New Kelani Bridge interchange

The Colombo – Katunayake Expressway (CKE) will be operational when this project commence it's construction work. Therefore a reconstruction will be required to the interchange at new Kelani bridge. The traffic diversion plan proposed at New Kelani Bridge Interchange is as follows.

The reconstruction of the New Kelani Bridge Interchange will be carried out in 3 phases as shown below:

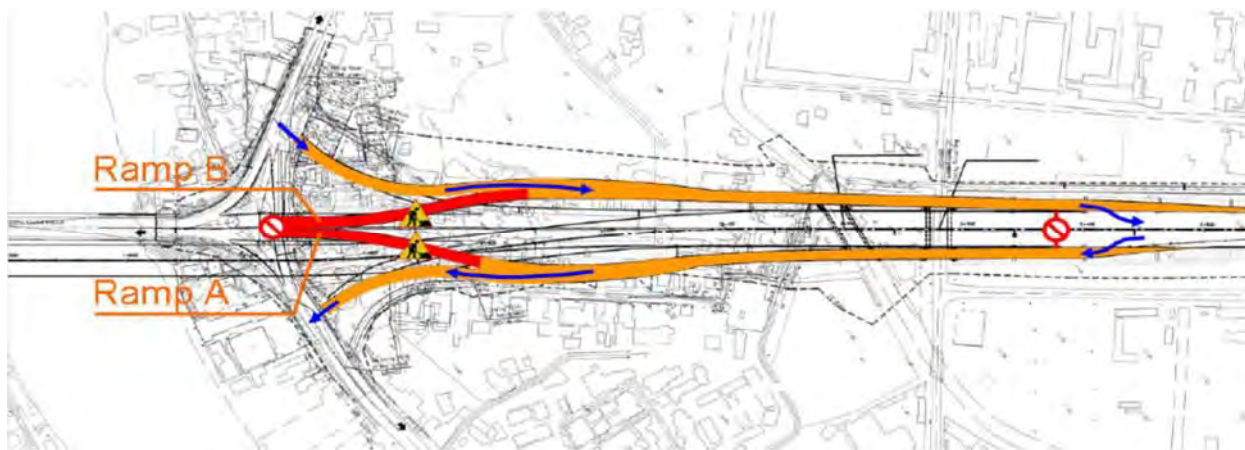
Phase 1:

1. Construction of Ramp A and Ramp B on both side of the CKE up to the diverging noses.
2. Construction of Ramp C and Ramp D as temporary 3-lane ramps in order to have enough capacity during CKE Main Line closure and traffic diversion.
3. Construction of all the sub-structure of the approach bridge located in the vicinity of the ramp A alignment.



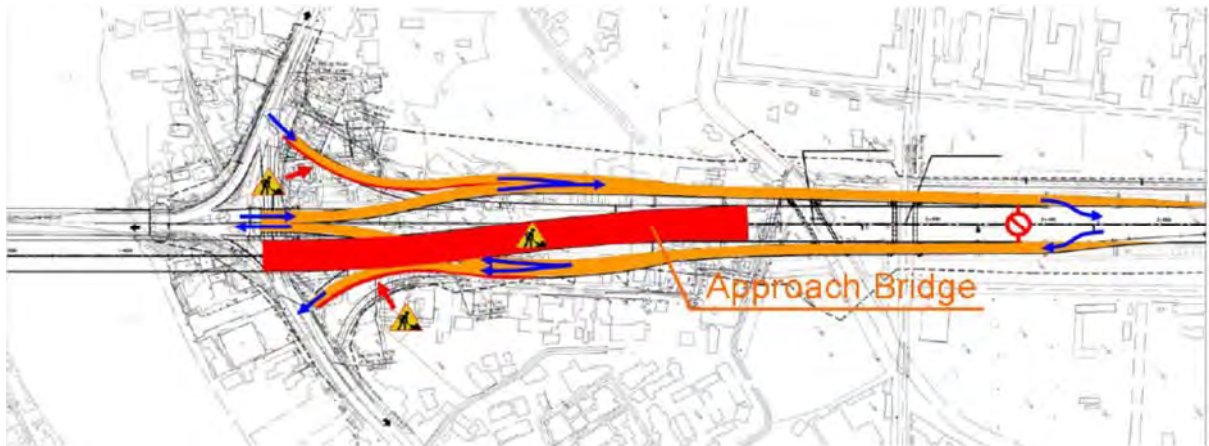
Phase 2:

1. Closure of the CKE Main Line. All the traffic of the CKE is diverted onto the ramps.
2. Construction of the remaining sections of Ramp A and Ramp B.
3. Construction of the remaining sub-structures.



Phase 3:

1. Removal of one of the 3 traffic lines of Ramp C and Ramp D to obtain their final cross section.
2. Construction of the super-structure of the approach bridges.

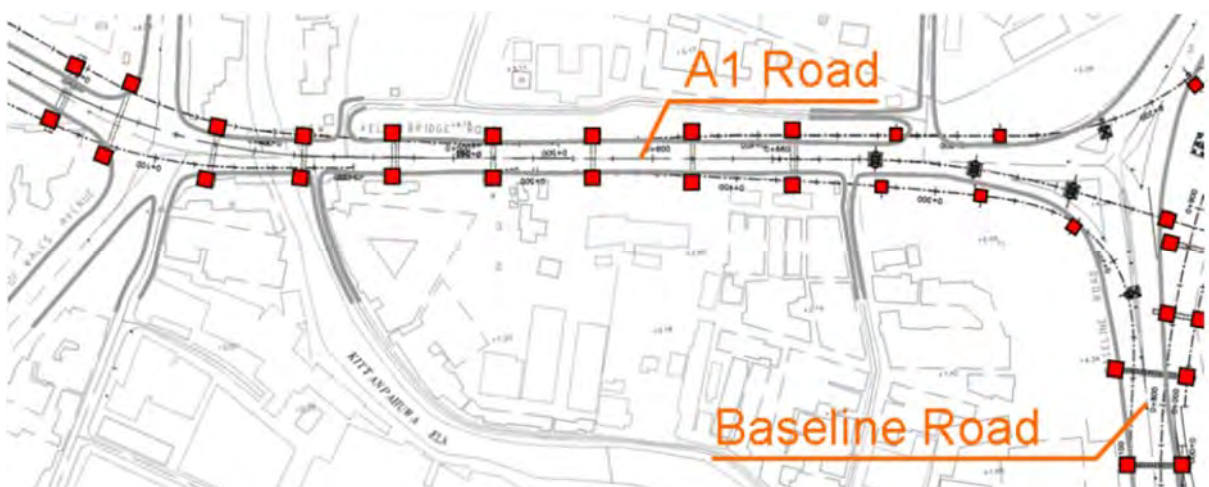
**2. Traffic diversion plan at Kelanitissa intersection**

At the intersection of A1 Road and Baseline Road, some of the piers of the approach bridge will have to be built in the median of the existing roads. As the intersection is already congested, it is important that traffic disruption is kept to a minimum during their construction.

A 4-phase traffic diversion plan has been prepared to minimize the impact of the works on the traffic flow, as shown below:

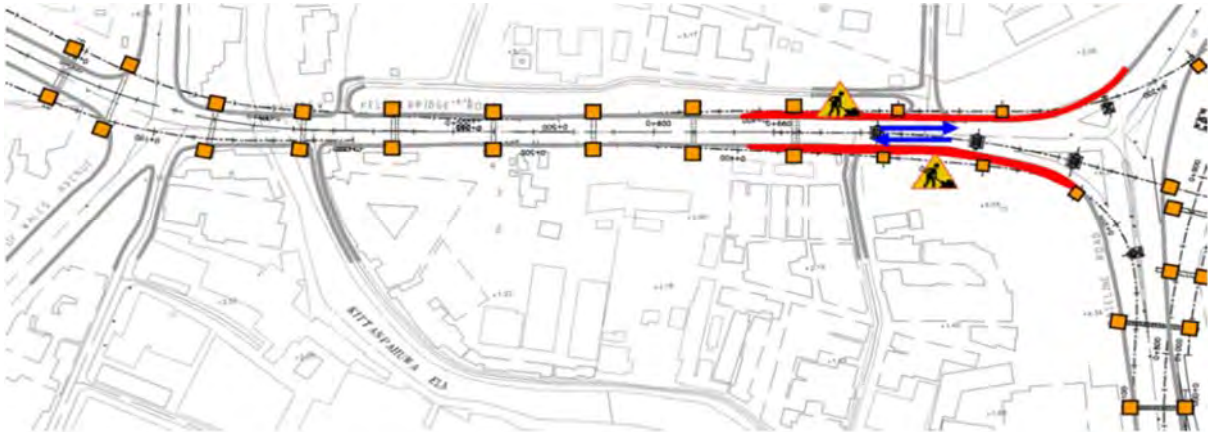
Phase 1:

1. Construction of piers foundation and sub-structure of located outside the existing roads with minor impact on the traffic flow.

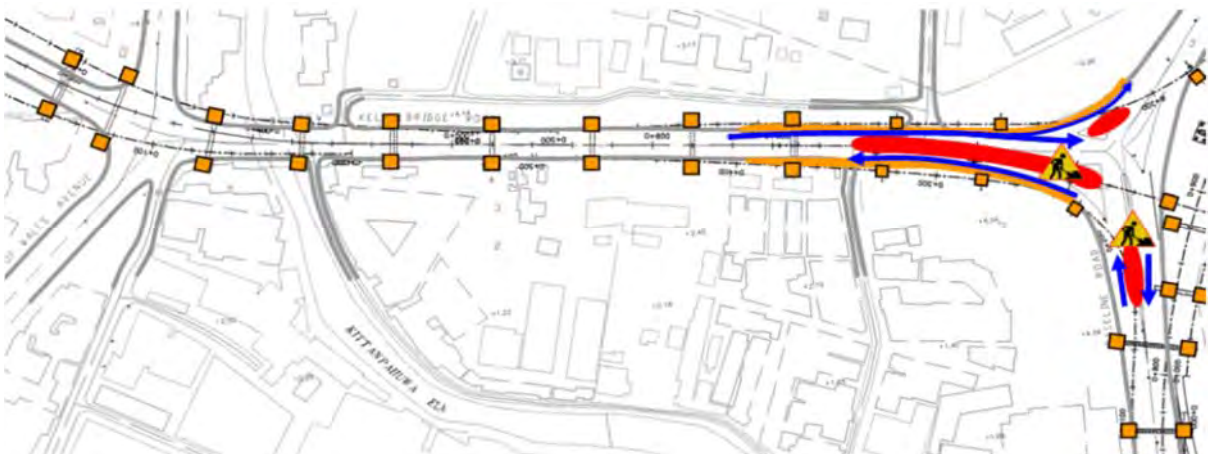


Phase 2:

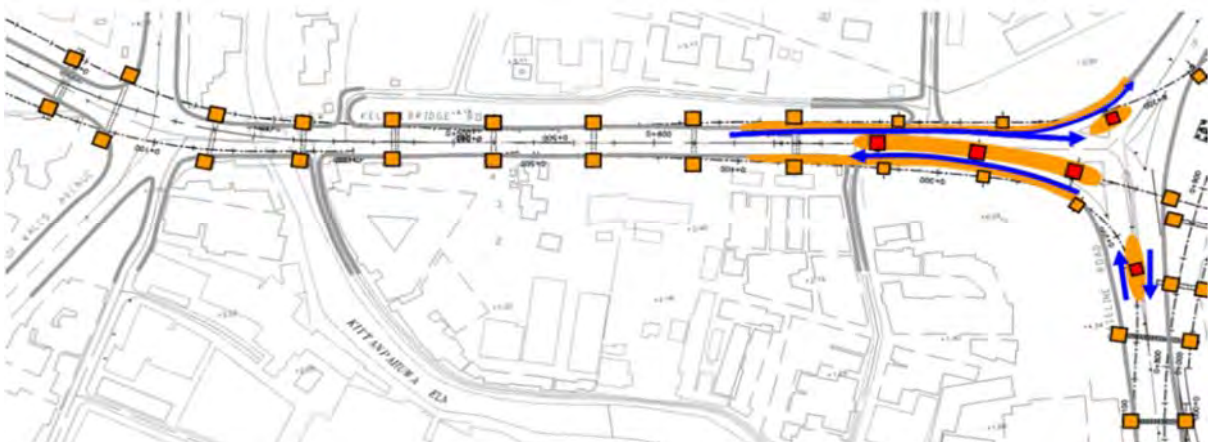
1. Widening of the existing roads in the area where the piers will be built in the median.

**Phase 3:**

1. Installation of construction yards where piers will be built in the middle of the road. The traffic flow is maintained with the subsequent widening of the road.

**Phase 4:**

1. Construction of the foundation and sub-structure of the piers located on the median with minor impact on the traffic flow.



3. Traffic diversion plan at Orugodawatta Interchange

The approach bridge heading towards the Baseline Road will be supported at its extremity by two piers located in the median of the existing roads. As the Baseline Road is a one of the main arterial road of the City, its capacity has to be maintain even during the construction works. A proper traffic diversion plan is thus required to ensure a smooth traffic flow during construction.

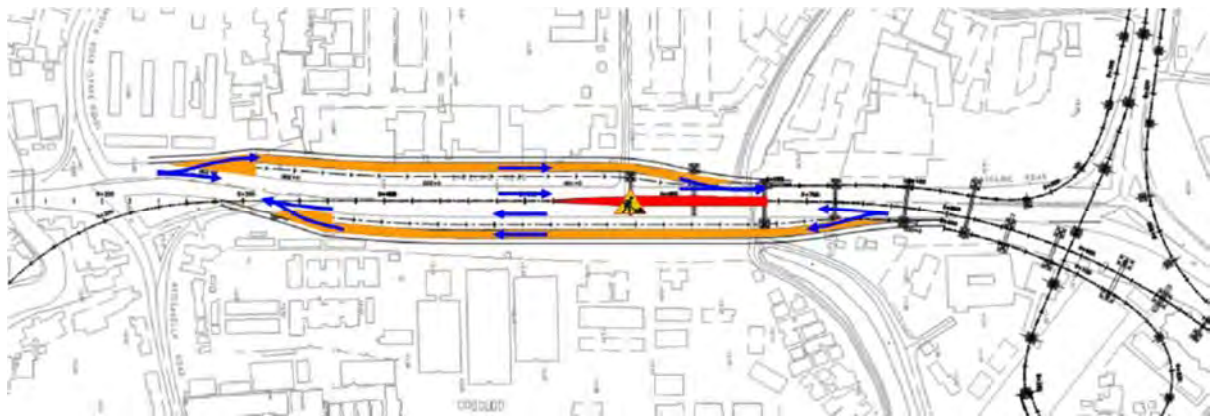
Phase 1:

1. Implementation of 4-meter wide service roads (one traffic lane each) on both side of the Baseline Road.



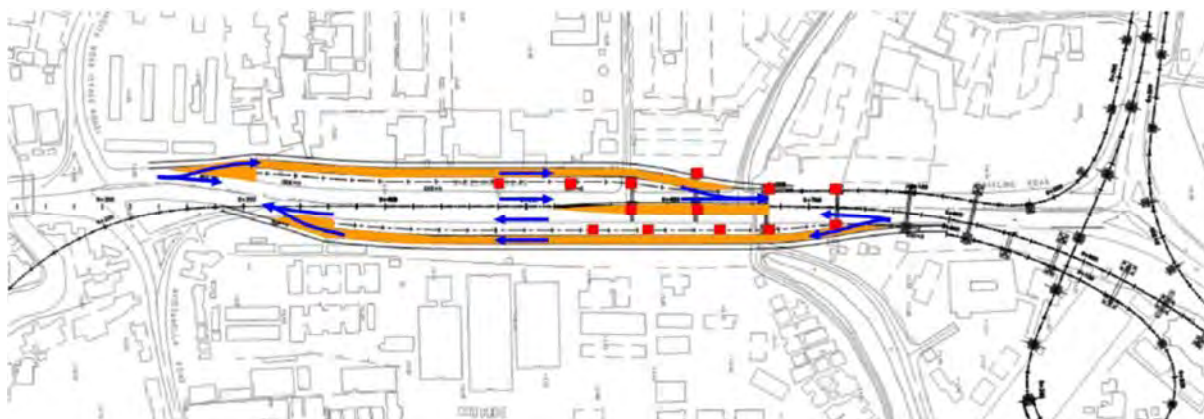
Phase 2:

1. Construction of a 5-meter wide median in the middle of the Baseline Road. The traffic capacity is maintain with 3 traffic lanes: 2 traffic lanes of the Baseline Road and one additional traffic lane of the service road.



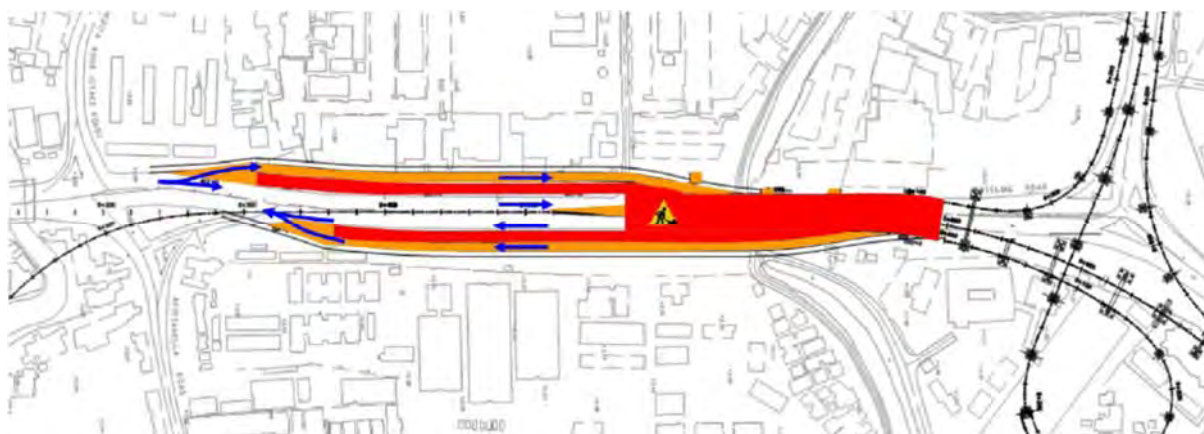
Phase 3:

1. Construction of the piers foundation and sub-structure of the approach bridge located on the median.
2. Construction of the piers foundation and sub-structure of ramps, some located between the Baseline Road and the service road.



Phase 4:

1. Construction of the ramps of Orugodawatta Interchange.
2. Construction of the super-structure of the approach bridge.



Source: Final report of the preliminary design study for the 2nd New Kelani Bridge project.

Annex 6.3

Letter from CEB for Relocation of Transmission line

Annex 6.3 - Letter from CEB for Relocation of Transmission line

ලංකා විදුලිබල මණ්ඩලය

(1959 දං. 17 දරණ පාර්ලිමේන්තු පනතින් ස්ථාපිතයි.)

இலங்கை மின்சாரச் சபை

(1959 ஆண்டின் 17 ஆம் இல. பாராளுமன்ற சபை சட்டத்தின் பிரகாரம் நடைமுறைப்படுத்தியது)



CEYLON ELECTRICITY BOARD

(Established by Act of Parliament No. 17 of 1959)

50, ත්‍රිකුණාමලයේ ජී. චාම්පල් මාවත,
කු. පෙ. 540, කොළඹ 2, ශ්‍රී ලංකාව.

50, சேர் சிற்றம்பலம் ஏ. சாம்பல் மாவத,
த. ப. 540, கொழும்பு 2, ஸ்ரீ லங்கா.

50, Sir Chulampalam A. Chandana mawatha,
P. O. Box 540, Colombo 2, Sri Lanka.

Telephone +094112329544

Fax: +094112329544

Attentions. Chief Engineer Tr. Designs

TD/CE/G/18/01/10

08th July 2013

Chief Engineer (Colombo),
Road Development Authority,
No: 15,
Manthri Place,
Colombo 05.

**PREPARATORY SURVY ON TRAFFIC IMPROVEMENT PROJECT AROUND NEW
KELANI BRIDGE**

Requesting an estimate for shifting of affected pylon and laying cables underground

This refers to our letter RDA/CE/COL/BR-8/4 sent on 12th June 2013, with regard to the above subject.

The total estimated cost for, shifting two transmission lines as per your request is One thousand two hundreds forty and eighty eight cents, million Sri Lankan rupees (MLKR 1240.88).

This is forwarded for your approval and arrangement of funds please.

Thank you,

Ceylon Electricity Board

Additional General Manager (Transmission)

Attachments:

- Annex 01 : Detailed BOQ and cost estimation
- Annex 02 : Proposed New line route
- Annex 03 : Special Terminal Tower 220kV
- Annex 03 : Special Terminal Tower 132kV

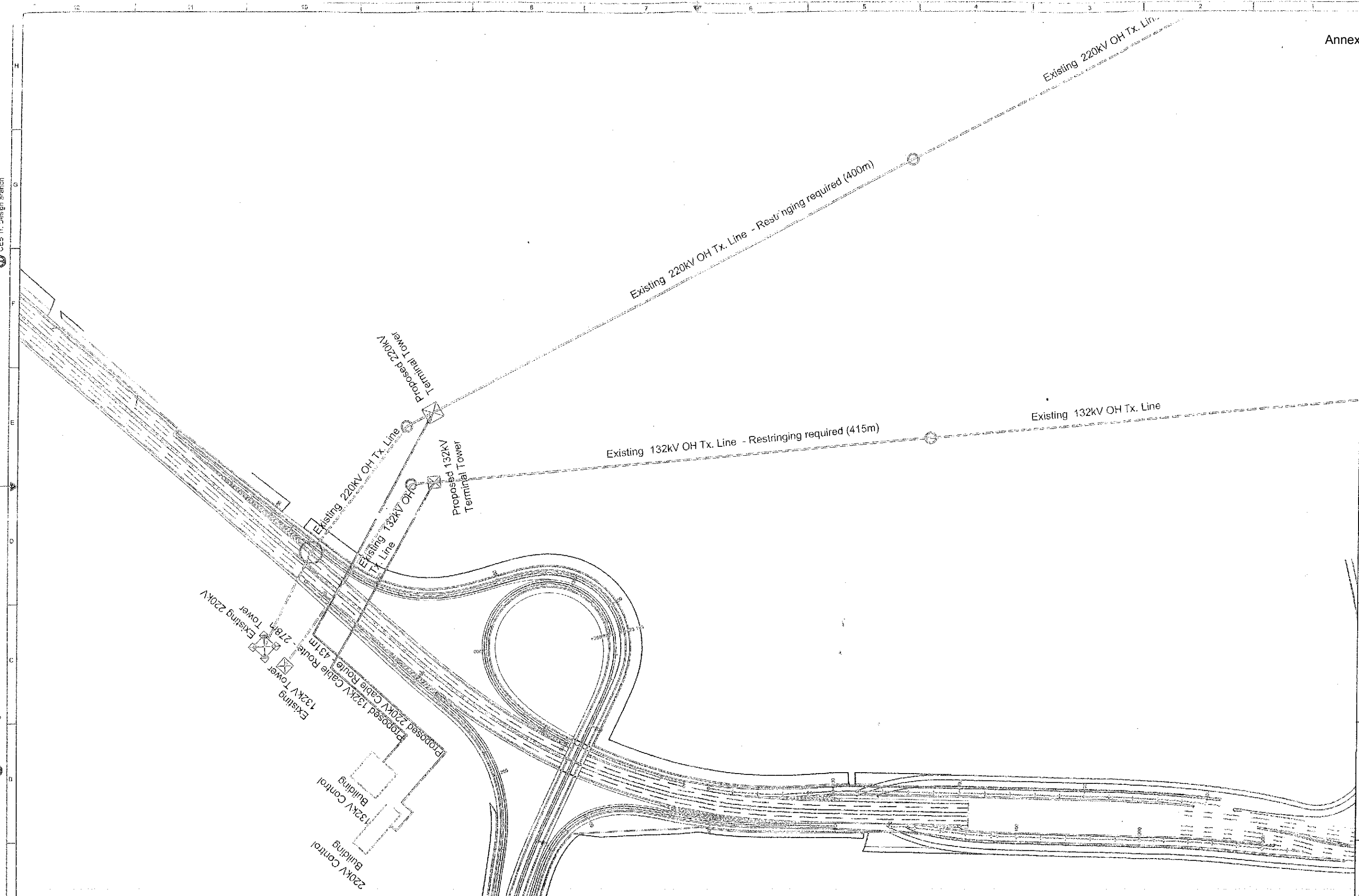
Price Proposal for 220kV Transmission line Shifting

Cable Cost	<u>Rs865,094,993.20</u>	
Over Head Transmission Line Cost	<u>Rs6,098,400.00</u>	Rs871,193,393.20

Proposal for 132kV Transmission line Shifting

Cable Cost	<u>Rs361,259,541.65</u>	
Over Head Transmission Line Cost	<u>Rs8,430,305.00</u>	Rs369,689,846.65

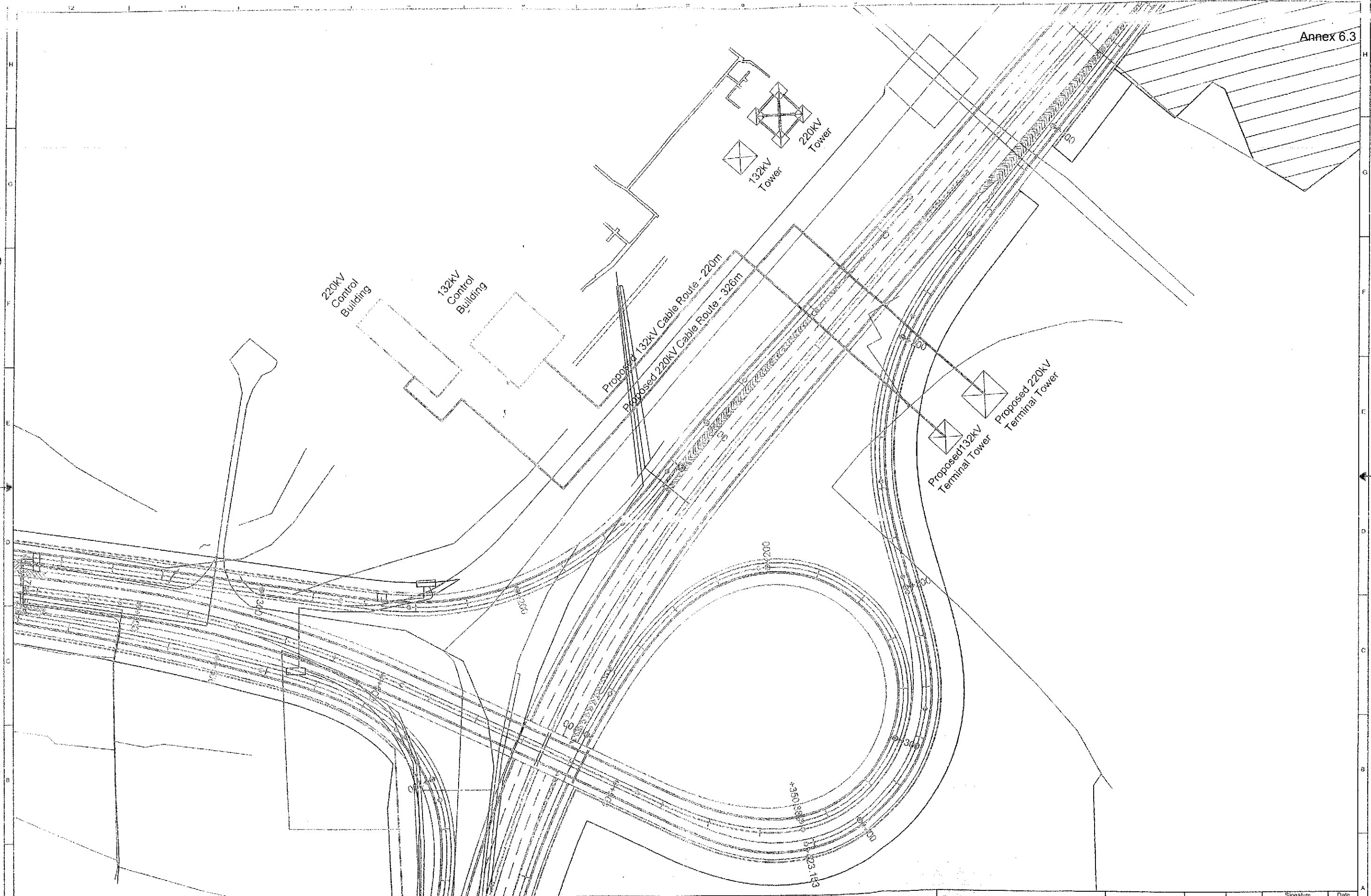
Total Cost (Sri Lankan Rupees)	<u>Rs1,240,883,239.85</u>	
Total Cost (Million Sri Lankan Rupees)		<u>1,240.88</u>




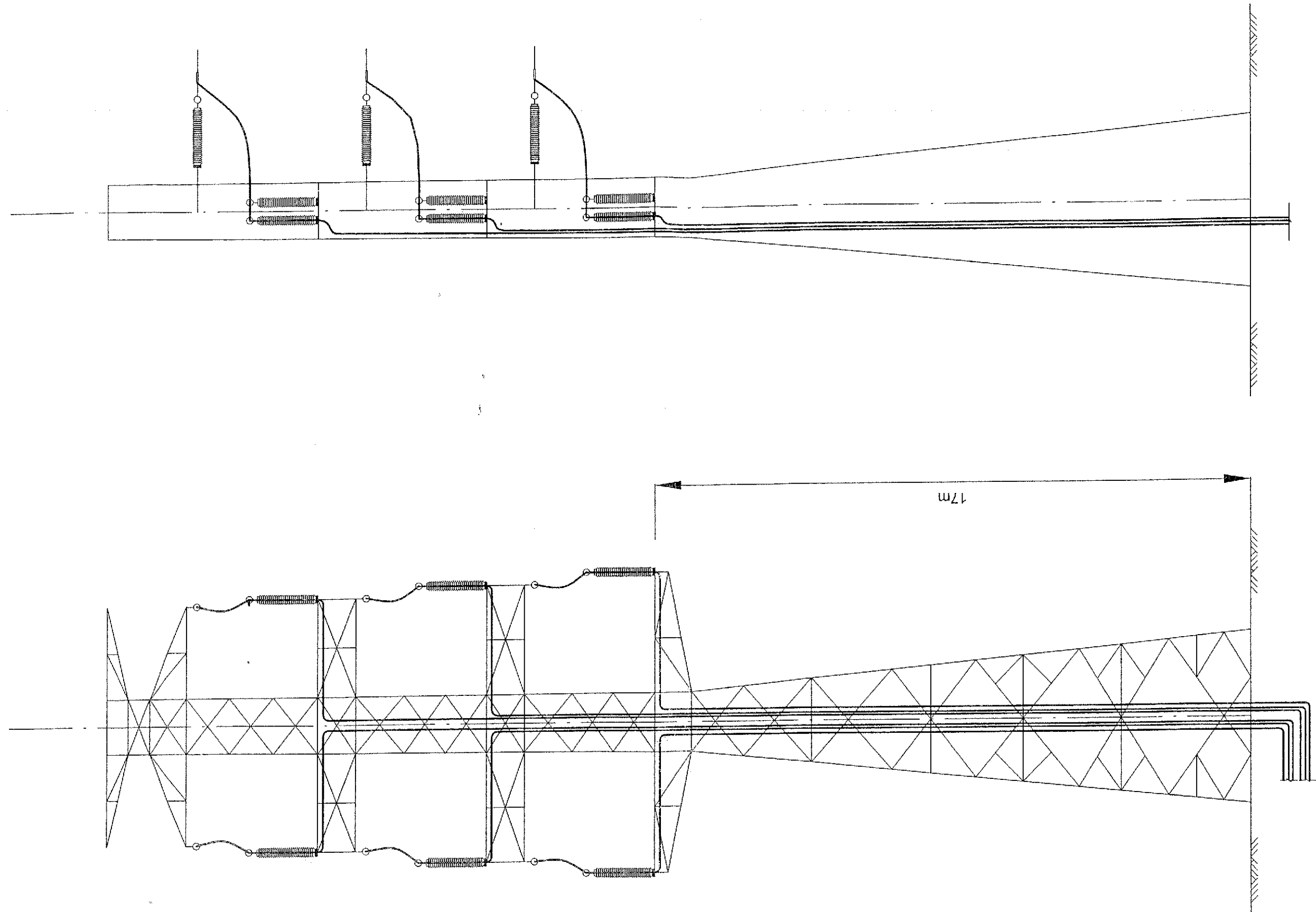
Revision Record						 CEYLON ELECTRICITY BOARD TRANSMISSION DESIGN	Project Title			Funding Agency		Drawing Title		Scale - NTS		Rev. Date		Signature		Date		
							KELANI GRID SUBSTATION			CEB		TRANSMISSION LINE SHIFTING FOR		A3		25.06.2013		Drawn		25.06.2013		
							AUGMENTATION PROJECT					NEW KELANI BRIDGE PROJECT				Checked		Wesantha Chaminda				
																Rev. 0		Approved				
Rev. No.	Date	Description	Drawn	Checked	Approved										Dwg. No.		3		Construction		✓	

Property of
CEB Tr. Design Branch

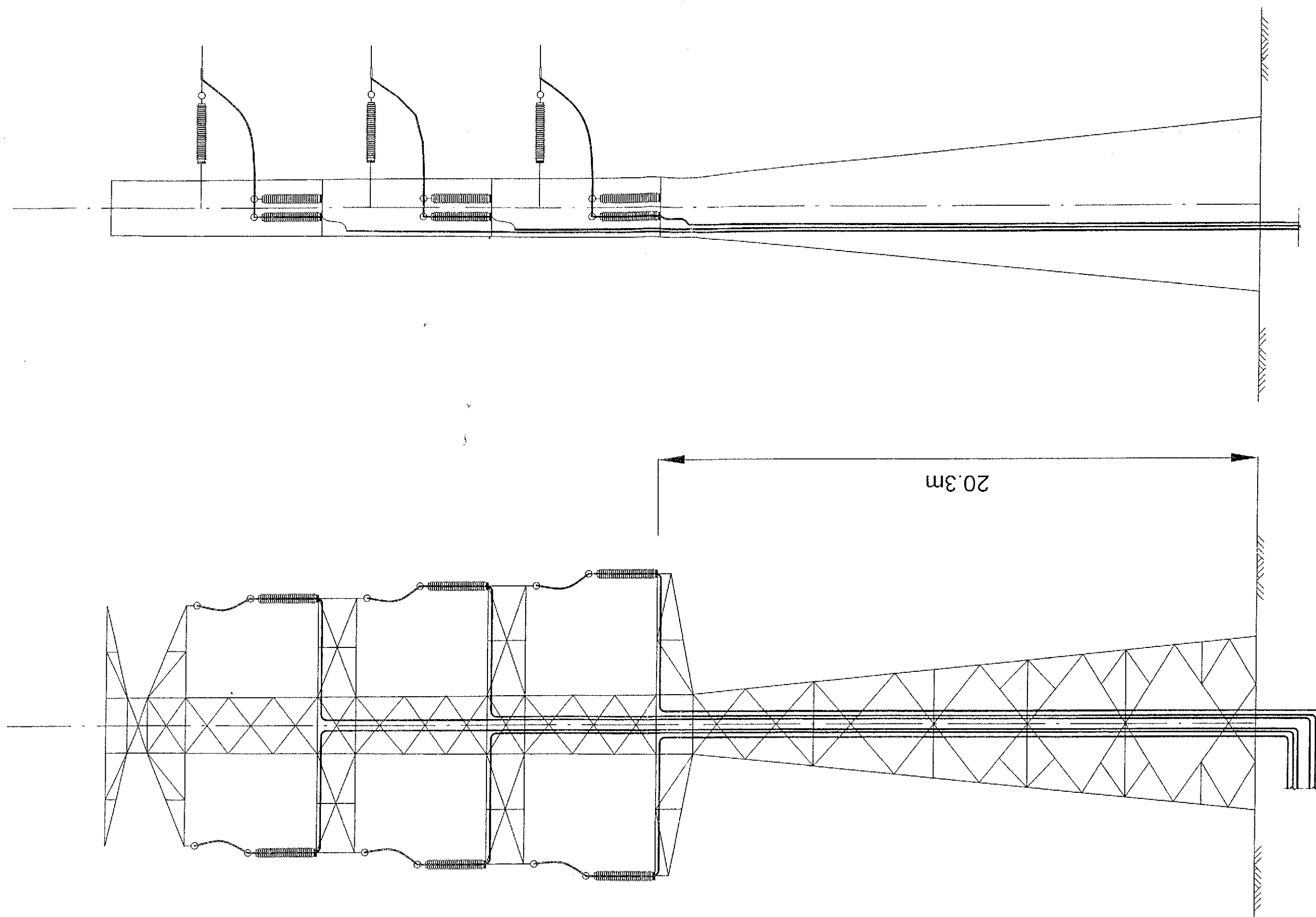
Property of
CEB Tr. Design Branch




Revision Record						 CEYLON ELECTRICITY BOARD TRANSMISSION DESIGN	Project Title KELANIYA GRID SUBSTATION AUGMENTATION PROJECT	Funding Agency RDA	Drawing Title TRANSMISSION LINE SHIFTING FOR NEW KELANI BRIDGE PROJECT	Scale - 1:1250	Rev. Date	Signature		Date
Rev. No.	Date	Description	Drawn	Checked	Approved					Size - A3	17.06.2013	Drawn: Wasantha	Date: 17.06.2013	
										Sheet of	Rev. 0	Designed: Chaminda		
										Dwg. No. TD/CE/1/18/01		Checked: <input type="checkbox"/>		
												INITIAL ESTIMATION		<input checked="" type="checkbox"/>
												Construction		<input type="checkbox"/>



Revision Record						 CEYLON ELECTRICITY BOARD TRANSMISSION DESIGN	Project Title KELANITISSA GRID SUBSTATION PROJECT	Funding Agency CEB	Drawing Title 132KV TERMINAL TOWER KELANITISSA GSS	Scale - NTS	Rev. Date	Drawn	Signature	Date		
Rev. No.	Date	Description	Drawn	Checked	Approved					Size - A3	29.05.2013	Designed	Wasantha	29.05.2013		
										Sheet	of	Rev.	0	Checked	Chandana	
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												Construction				



Revision Record							 CEYLON ELECTRICITY BOARD TRANSMISSION DESIGN	Project Title				Funding Agency		Drawing Title			Scale - NTS		Rev. Date		Signature		Date			
								KELANITISSA GRID SUBSTATION PROJECT				CES		220kV TERMINAL TOWER KELANITISSA GSS			Size - A3		29.05.2013		Drawn		Vissaniha		29.05.2013	
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Annex 7.1
Details of Stakeholder Meetings

Annex 7.1 – Public Consultation and Information Disclosure

Information Flayer



Objectives of the project

Broad Objective of the project is to provide efficient and safe connectivity between CKE, Colombo port and Baseline road while preserving the nature and to assist the needs of the growing economy.

Specific Objectives:

- To construct a new bridge of six lanes to the upstream of the existing Kelani bridge to connect CKE, Colombo Port and Baseline road
- To avoid extra loading of the existing Kelani bridge and increase the durability of the bridge

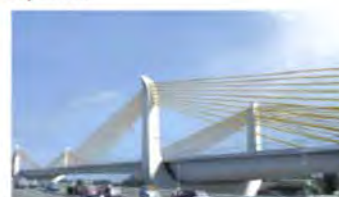
To increase the transportation efficiency within Colombo city.

Key features of the project

Description	Details
Starting point	Peliyagoda Palama Junction (Starting point of the Colombo – Katunayaka Expressway/ CKE)
End point	Orugodawatta Junction
Total length of bridge	Approximate length of the main bridge is 185m.
Number of lanes	The number of lanes of the main line from CKE to Kelanithissa interchange is 6 lanes, from Kelanithissa interchange to Orugodawatta interchange is 4 lanes.
Affected Divisional Secretariat Divisions	Colombo Divisional Secretariat Division, Kollonnawa Divisional Secretariat Division and Kelaniya Divisional Secretariat Division.

Mitigation of adverse environmental and social impacts

Project related land acquisition may cause adverse environmental and social impacts, and it is necessary to address them with adequate mitigation measures mainly in line with Land Acquisition Act, National Involuntary Resettlement Policy and National Environment Act. The aim of this approach is to assure that affected people of the project will be protected from ill effects of this development.



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Paper advertisement

GOVERNMENT OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF PORTS & HIGHWAYS
ROAD DEVELOPMENT AUTHORITY

NOTICE

**PREPARATORY SURVEY ON
TRAFFIC IMPROVEMENT PROJECT AROUND NEW KELANI BRIDGE**

Road Development Authority (RDA) has proposed a construction of a new Bridge across Kelani river close to the existing Kelani Bridge to cater the increased traffic demand due to the proposed development projects around the existing Kelani Bridge, such as Colombo - Katunayake Expressway (CKE) project, which will create a new connection between the international airport and the central area of Colombo, and with completion of Colombo Port Expansion project will introduce significant load of traffic to the existing road network of the project area especially around Peliyagoda Junction. And this will further deteriorate the transportation efficiency at intersections such as Peliyagoda, Ingunakade junctions which are already congested at most of time of the day. This has raised concerns that the new Kelani Bridge may become a major bottleneck for traffic for years to come if nothing is done.

Moreover, no major repair work has been done on the New Kelani Bridge since it was fully renovated in 2001, and further maintenance is an issue. In addition, heavier trucks generated from the port expansion project are expected to transit through the existing bridge, further shortening its lifespan and increasing the risk of its failure.

Therefore RDA is planning to construct an additional bridge across Kelani River.

This project is to construct a new bridge of six lanes to the upstream of the existing Kelani Bridge to connect CKE, Colombo Port and Baseline road.

The main objective of this project is:

- To increase the transportation efficiency within Colombo city.
- To avoid extra loading of the existing Kelani bridge and increase the durability of the bridge.

In order to discuss the issues regarding this project RDA has organized a meeting at 9.30 am on 25th March 2013. The venue is at Sri Lanka Foundation Institute, No. 320, Sri Lanka Padanama Mawatha, Independence Square, Colombo 07.

FOR REPRESENTATION ONLY

Saturday, March 23 2013

1st SHM Meeting – jointly organized with CEA & RDA

on 25.03 2013

Mr. W.A.S. Weerasinghe	Director General (RDA)	Mr. Weerasinghe expressed his views in first stakeholder meeting and highlighted that, two major projects i.e. Colombo – Katunayake Expressway Project and Outer Circular Project are now underway and these two projects will increase the traffic flow towards Colombo and this project has been formulated to increase the capacity of the existing New Kelani Bridge by building an additional bridge with six lane facility parallel to the New Kelani Bridge. RDA has sought the help of JICA to accrue funds and to conduct feasibility studies. He specially stated that the objective of this meeting is to inform the contents of the proposed development to all relevant line agencies and obtain their support and feedback which will contribute to the project's success. He welcomed all the participants at the first stakeholder meeting held on 25.03. 2013
Mr. Bandara	Director (Planning), RDA	Mr. Bandara explained more details about the project at first stakeholder meeting on 25.03.2013. He has mentioned that, only limited entry routes to enter Colombo from the North direction, namely Victoria Bridge and New Kelani Bridge. Traffic volumes have got increased and after the completion of CKE there will be additional traffic congestion expected. Therefore the capacity of New Kelani Bridge should be increased by the proposed project. The completion of the OCH Project, Colombo Harbor Development Project and Port City Project in future will increase the traffic volume in this area further. He further stressed that, during preliminary studies four (4) route alternatives were found and these four alternatives will be further studied.
Mr. Hadson Silva	Director, ESD - RDA	Mr. Hadson explained about the objective of the project and his views about the socioeconomic and environmental impact of the project. He explained that, 98% of the country's land transport is based on the road net work. He highlighted that the need for the project starting that Colombo North is a very important place in the transport network and there is severe traffic congestion in the environs of New Kelani Bridge exerting a burden on the economy as the road net work is used for passenger transport as well as good transport. He has further indicated that, the objective of the project is to increase the transport efficiency in the environs of New Kelani Bridge and to establish the appropriate transport network. He mentioned that, three DS Divisions namely Colombo, Kolonnawa and Kelaniya including several GN Divisions will be involved in this project. According to him, the feasibility studies consist of three stages namely the present status and review of the rough plan, basic plan and project review and preparation of the final report. He explained detailed alternative layouts and viewed that alternative B where the proposed bridge runs parallel and contiguous to New Kelani Bridge has been selected for preliminary design based on the multy criteria comparison. The criteria consist of distance, road network plan, traffic congestion impacts, construction cost time and feasibility and number of buildings to be demolished. According to

		<p>him, the project is classified as category “A” project which is based on the JICA environmental guidelines and National Environmental Act (NEA). He has mentioned that, Basic information to prepare questionnaires for socioeconomic survey has already been submitted to CEA and ToR has been obtained.</p> <p>Further he has stressed that, social impact assessment is a very important part of the EIA. As the number of affected households will be more than 20, it is mandatory to prepare a Resettlement Action Plan (RAP) JICA guideline also requested to prepare the RAP. Accordingly, household surveys, Focus Group Discussions with affected parties and discussions with the officials of the relevant line agencies will be held. Compensation will be provided according to the National Involuntary Resettlement Policy of May 2001. He stated that, all social information will be obtained in collaboration with all line agencies and political authorities concerned. He said that leaflets in main three languages by explaining the project objectives will be distributed to all stakeholders. If there is any grievance or query after distributing of leaflet, it would be absorbed by the RDA. Contact details of the RDA is included into the leaflet (See leaflet in the annex -3 in Social section)</p>
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Key Views Expressed by participants during the discussion time on 25th March 2013. Following key views were expressed by various participants such as members from public, Grama Niladaris of affected GNDs, Municipal Council Members of Urban Councils etc. and the views/questions expressed and the replies by RDA have been listed in following table

Person who expressed views	Explanations and Views Expressed	Replies by RDA Officials
	<p>I am often asked by local people about the compensation package for land acquisition applying to this project. Most of the people living in Wadullawatta are working in Pettah of Colombo, so they hesitate to move to remote places from the original location.</p> <p>Further I wanted to know about what type of survey is going to be held to collect socioeconomic data and what sort of support has to be extended as GN's in the area? How and when affected people will be resettled?</p> <p>According to my experience, there should be some action to be taken to preserve the acquired land for the project. If not people will encroach the acquired land. People in Wadullawatta ask about the width of the affected areas for the road project in terms of land acquisition?</p>	<p>Feasibility studies have just been started and exact widths of the roadway has not been decided as yet. Survey will be conducted to obtain information to arrive at decisions. Access is needed for surveys as generally people oppose to surveys. Socio-economic data will be collected with the help of GS</p> <p>Resettlement method for affected parties will be decided after socioeconomic surveys which will be done house to house</p> <p>Further discussions will be held with the affected parties after socioeconomic data collection.</p>
	<p>I use the bridge daily</p> <p>I think that the reason of traffic congestion from Dematagoda to Kiribathgoda is due to poor road condition which induces the decreasing vehicle speed.</p> <p>Given that the project will be completed at least 2 years ahead, short term mitigation measures for the traffic jam</p>	<p>RDA has been already conducting study on solutions for traffic congestion under JICA's assistance to formulate short, medium and long term plans</p> <p>Land acquisition for widening of Mattakkuliya bridge is underway</p> <p>At present any container truck that goes to the ports have to move along this road section twice as the weigh</p>

	<p>should be proposed, for example the introduction of passage control by “one way operation”</p>	<p>bridge is located on Orugodawatta-Ambatale road.</p> <p>This is greatly affecting the traffic movement along this road</p> <p>A plan is discussed to shift this weigh bridge to a location close to Colombo ports</p> <p>The road condition at the Peliyagoda side will be improved immediately</p>
	<p>It is very important to consider loss of employment as there is lot of pavement hawkers at Dematagoda area.</p> <p>Further it is important to consider the construction of the lake line road which will connect with the project road ahead in order to avoid additional traffic congestion</p>	<p>The survey and initial work for constructing the “Lakeline” road being done and the project will be implemented according to the finance available</p>
	<p>The some affected people are renting their shops or bearing a load of debt for their small business. The project should consider the restoration of the livelihood of those people. As an example Sedawatte timber mill operators should be especially considered.</p> <p>The local transportation of surround are of the project road is in very dangerous condition presently, especially for pedestrians. So, the safety of pedestrians should be considered, for example, the establishment of pedestrian way at the side of the road.</p> <p>Municipality Counselors could help to implement the project, but trust should be established. Many people are squatters and many not have formal land rights. There are also number of people who reside on payment of rent and they will be severely affected</p>	<p>Resettlement will be done based on JICA and Government Policy.</p> <p>Registered Voter’s list will be examined to ascertain the nature of residents. Help from GNs is needed in this regard. Loss of business etc. will be studied case by case.</p> <p>The necessity of having pedestrian crossings was noted and will be included in to the designs.</p> <p>A series of pocket group meetings will be held within the project influence area with the assistance from local politicians and community leaders to socialize the project.</p>
	<p>According to the notions of the President of the country, all resettlers will have better living condition after resettlement than before as was done in past projects. Discussions with APs’ and line agencies before finalizing the project are excellent measures on the part of RDA.</p> <p>Better to resettle people at closer location to the original site in a flat etc. or provide money to resettle at a place on their own choice. A market complex a new city is needed in parallel with the proposed project.</p> <p>It is appropriate to do social consultations in a place closer to their residences.</p> <p>I would like to propose that the RDA coordinates closely with DSs and GNs when the socioeconomic field survey will be carried out to avoid unnecessary social friction with local people</p>	<p>No party will be let down in the process of resettlement. RDA will take all steps towards ensuring better living conditions to all affected communities</p> <p>Resettlement options will be discussed with affected communities, local politicians and community leaders.</p>

1st Stakeholder Meeting on 25th March 2013 at Sri Lanka Foundation Institute jointly organized by RDA and CEA





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NEW KELANI BRIDGE

Date :- 25th March 2013

Venue :- At the Auditorium of Sri Lanka Foundation Institute ,Colombo 07

Time :- 9.30 a.m.

ATTENDANCE

NO	NAME	DESIGNATION	ORGANIZATION	CONTACT DETAILS (TEL:/E-MAIL)	SIGNATURE
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NEW KELANI BRIDGE

Date :- 25th March 2013

Venue :- At the Auditorium of Sri Lanka Foundation Institute ,Colombo 07

Time :- 9.30 a.m.

ATTENDANCE

NO	NAME	DESIGNATION	ORGANIZATION	CONTACT DETAILS (TEL:/E-MAIL)	SIGNATURE
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SHM meetings held on 08th 09th and 10th of April for Kolonnawa, Colombo and Kelaniya respectively

DS Level Awareness Creation Meeting for Preparatory Survey on Traffic Improvement Project Around New Kelani Bridge (Kolonnawa Divisional Secretary Division)

Date : 8 April 2013

Venue: Auditorium (Kolonnawa DS Office)

Time: 2.00 p.m. to 4.00 p.m.

List of Participants:

Name	Designation	Office
Mr. Y. W. Senaratne	Divisional Secretary (Kolonnawa)	Kolonnawa DS Office
Mr.D.A.H.Piyathilaka	Asst Divisional Secretary (Kolonnawa)	Kolonnawa DS Office
Mr.J.A.V.S.Jayakody	Deputy Director	ESD Division, RDA
Mrs. D. A. S. Jayasekara	Chief Engineer	CE Office, Colombo, RDA
Mr.Saman Samarakoon	Engineer	CE Office, Colombo, RDA
Mr. M.D. Senadeera	Senior Technical Officer	CE Office, Colombo, RDA
Mr. C.W Abeyesuriya	Consultant (Land acquisition)	SLLRDC
Mrs. M.B.M.Gunaratna	Survey Superintendent	Department of Surveyor General
Ms. Lakmali Liyanage	Resettlement Officer	ESD Division, RDA
Mr. D. P. Adikari	Resettlement Consultant	CEAA
Mr. G.M.S.W.B.Gajasinghe	Safeguard Consultant	-Do-
Mrs. S . K . K . Ranasinghe	Coordinator- Social Projects	-Do-
Mr. Bernard Perera	Supervisor	-Do-
Mr.S.P.Senarath	Asst Director (Planning)	Kolonnawa DS Office
Ms. Chamila Priyadarshani	Disaster Management Officer	Kolonnawa DS Office
Ms. Amila Wittachchi	Director	
Dr. P.U.Handugala	AMOH	MOH Office (Kolonnawa)
Dr. T.D.Abeywicrama	AMOH	MOH Office (Kolonnawa)
Ms. Gayani Kumarasinghe	Social Service Officer	Kolonnawa DS Office
Miss M.W.D.Sriyani	Social Service Officer	Kolonnawa DS Office
Miss. J.K.K. Ruwanmalee	Land Use -Planning Asst.	Kolonnawa DS Office
Mr. P.H.A.C.P. Hettiarachchi	Public Management Asst.	Kolonnawa DS Office
Mr.M.K.C.Muthukumarana	Samurdhi Development Officer	Kolonnawa DS Office
Miss.W.T.Niroshani	Samurdhi Development Officer	Kolonnawa DS Office
Mr.R.Vinod Sameera	Samurdhi Development Officer	Kolonnawa DS Office
Mr.Y.D.Tenison	Administrative Grama Niladari	Kolonnawa DS Office
Ms.D.K.D.Jayantha	Development Asst.	Kolonnawa DS Office
Ms.K.D.A.M.K. Priyadevi	Development Asst.	Kolonnawa DS Office
Ms. K.M.D.Prasani	Management Asst.	Kolonnawa DS Office
Mr.M.C.D.Coasta	Field Officer	Kolonnawa DS Office
Mr.P.A.J.Perera	Field Officer	Kolonnawa DS Office
Mr. P.T.Wijenasana	Grama Niladari	Wadulla
Mr.Y.Piyasiri	Grama Niladari	

Name	Designation	Office
Mr.K.A.D.S Jayawardana	Grama Niladari	
Ms. N.D.J.Sepalika	PH M	Orugodawatta
Mr.B.Roiston	Grama Sanwardana Samithiya	

Mr. Y. W. Senaratne (DS Kolonnawa) welcomed all participants for the DS level awareness creation meeting jointly organized by CEAA & RDA for Kolonnawa DSD.

Mrs. D. A. S. Jayasekara (CE, Colombo/RDA) presented the details of the proposed project & it's importance for improvement of traffic around Kelani bridge area.

Ms. J. A. V. S. Jayakody (DD, ESDD/ RDA) presented the need of environmental and social considerations in national development projects and how RDA is addressing such issues, focusing experience the past. He also requested the GN's, Samurdi officers and other officers to assist the study team to carry out the environment and social assessment which needs to completed without any delays.

A presentation on land acquisition was done by Mr. C. W. Abeyesuriya, Land Acquisition Consultant of the Land Reclamation and Development Board. He also discussed the clauses in the Land acquisition act pertaining to payment of compensation and Regulations 2009 which nullifies the practice of LARC and Super LARC.

Mrs. M. B. M. Gunaratna, Superintendent of. Surveys explained about the survey procedures for national development projects & requested the support from all parties to carry out the survey without delay, especially at field level making property owners' awareness on their presence and showing boundaries and necessary documents.

Then the DS opened the meeting for discussion and questions.

Grama Niladari of Wadulla, Mr. R.T..Wijenayaka said that the people in his GN division are now asking about how much of land area will be affected by the project and how they will be compensated.

Responding to this issue, Mr. Jayakody DD, ESDD explained that a 100 m corridor has been selected for this study but that does not mean that all the areas within this corridor will be acquired and structures within this corridor will be affected.

Mr. Adikari (Consultant/CEAA) explained that this RP study is being carried out to minimize any adverse impacts to people due to the project, making remedial steps to overcome hardships caused by the project. He stated the importance of developing the entitlement matrix and requested the DS & GN's to consider this date (Date of the meeting) as cut-off date for Kolonnawa DSD. Mr. Adikari also explained the need of such cut-off date to avoid any sudden influx of people in to the project area causing delays in executing the project.

Mr. Gajasinghe (consultant) stated that the final RP will be available in all three languages at the DS office.

DS Kolonnawa thanked all participants & required GN's to provide full support for the study and the meeting was adjourned.

Photographs taken at the meeting



Divisional Secretary Kolonnawa welcoming all participants



A section of the audience



Chief engineer, Colombo - RDA explaining about the project



Deputy Director, ESD Division of RDA explain about environmental and social issues during national projects

DS Level Awareness Creation Meeting for Preparatory Survey on Traffic Improvement Project Around New Kelani Bridge. (Colombo Divisional Secretary Division)

Date : 9 April 2013

Venue: Auditorium (Colombo DSD)

Time: 2.00 p.m. to 4.00 p.m.

List of Participants:

No	NAME	DESIGNATION	ORGANIZATION
1	Mr.K.G.Dharmathilaka	Divisional Secretary	Colombo
2	Mr.B.G.G.Malinda	Assistant Divisional Secretary	Colombo
3	Mr.J.A.V.S.Jayakody	Deputy Director	ESD Division, RDA
4	Mrs. D. A. S. Jayasekara	Chief Engineer	CE Office, Colombo, RDA
5	Mr.M.Sahathevan	Engineer/ P&D- RSCW	NWDB
6	Mr.A.Kalupahana	Electrical Superintendent	
7	Mr. C.W Abeysuriya	Consultant (Land acquisition)	SLLRDC
8	Mrs. M.B.M.Gunaratna	Survey Superintendent	Department of Surveyor General
9	Mr.M.D.Suranga	Scientist /Geo	NBRO
10	Mr D . P . Adikari	RP Consultant/CEA	CEAA
11	Mr G.M.S.W.B.Gajasinghe	Safeguard Consultant	-Do-
12	Mrs. S. Arangala	Social Economist	-Do-
13	Mrs S .K. K. Ranasinghe	Coordinator- Social Projects	-Do-
14	Mr Bernard Perera	Supervisor-CEAA	-Do-
15	Ms. Lakmali Liyanage	Resettlement Officer	ESD Division, RDA
16	Mr.A.P.C.T.Amarasingha	Science & Technology Officer	
17	Sister M.Mehhate	Sister in charge	Home of Compassion, Colombo14
18	Mrs. M.Kathirgamar	Principal/CN Kaleimagal School	
19	Mr.Nimal S Vithanage	Teacher	
20	Mr. D.M.Seneviratna	St.Anns Vidyalaya	Mahawatta -Colombo14
21	Mr.B.N.S.Perera	St.Joshaps Girls School	Grandpass
22	Mr.Asoka Muhandiramge	Rural Development Officer	Grandpass North
23	Mr.Gamini Heenkenda	Management Assistant	District Secretary's Office-Colombo
24	Mrs.I.K.Liyanage		-Do-
25	Mr.G.A.N.S.Mahindaratna	Development Assistant	-Do-
26	Mr. A.Surantith	Community Development Assistant	-Do-
27	Mrs. A.D.Sriya Kanthi		-Do-
28	Mrs. H.D.Presanthi		-Do-
29	Miss Shroni Priyadarshani.		-Do-
30	Miss M.N.F.Rinusha		-Do-
31	Miss Kavnika H.Gamage	S.S.S	-Do-
32	Miss M.J.Priyanka		-Do-
33	Miss.Sureka Fernando	Chair person	Disaster Management Society
34	Miss.Shanthi Priyangani	Secretary	-Do-
35	Mrs.Shanthini J Mohan	Grama Niladari	District Secretary's Office-Colombo
36	Mr.A.A.L.Chathuranga	Grama Niladari	-Do-
37	Mr.S.Urethiran	Grama Niladari	-Do-

Mr. V. G. Dharmathilake (DS Colombo) welcomed all participants for the DS level awareness creation meeting on the proposed project jointly organized by CEAA & RDA for Colombo DSD.

Mrs. D. A. S. Jayasekara (CE, Colombo/RDA) presented the details of the proposed project & its importance for improvement of traffic around Kelani bridge area.

Mr. J. A. S. Jayakody (DD, ESDD/ RDA) presented the need of environmental and social considerations in national development projects and how RDA is addressing such issues focusing to the experience in the past. He stated that ESD division of RDA is responsible to see that environmental and social issues related to road development

projects are addressed in an equitable manner. He stated that the environmental and social studies for this project is entrusted to a team of experts in the area of environmental and social impact assessment and requested all relevant officers of Colombo DSD to give their fullest support to completed the study.

A presentation on land acquisition and valuation of land and assets was done by Mr. C. W. Abeyesuriya, Land Acquisition Consultant of the Land Reclamation and Development Board.

Mrs. M. B. M. Gunaratna, Superintendent of Surveys explained about the survey procedures for national development projects. She explained why most development projects get delayed due to slow progress of survey work which was attributed to deficiency in information. She requested the support from all parties, especially from field level staff to carry out the survey without delay, by making property owners aware the need for their presence during surveys and show boundaries and relevant documents for reference at field level. .

A presentation was done by Mr. M. D. Suranga of NBRO on soil investigation and borehole test.

Mr. Adikari (Consultant) explained that this RP study is to minimize any adverse impacts to people due to the project. He stated the importance of developing the entitlement matrix and requested the DS & GN's to consider this date (Date of the meeting) as cut-off date for Colombo DSD.

Mr. Jayakody explained that a 100 m corridor has been selected for this study. He also said that the land area needed for the project will be within this 100 m corridor but may be less than 100 m. This means that all within this boundary may not necessarily affected by the acquisition.

The meeting was then opened for questions and as there were no questions the meeting was adjourned by DS Colombo after the vote of thanks.

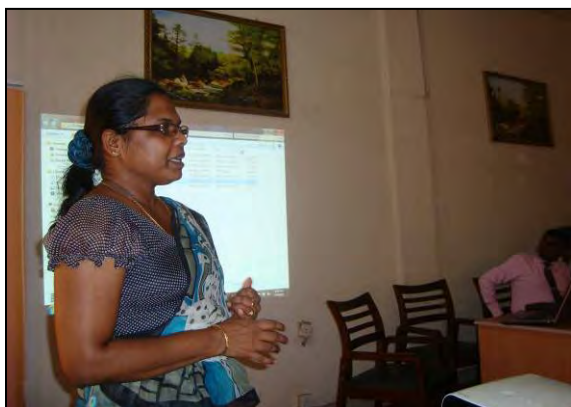
Photographs taken at the meeting



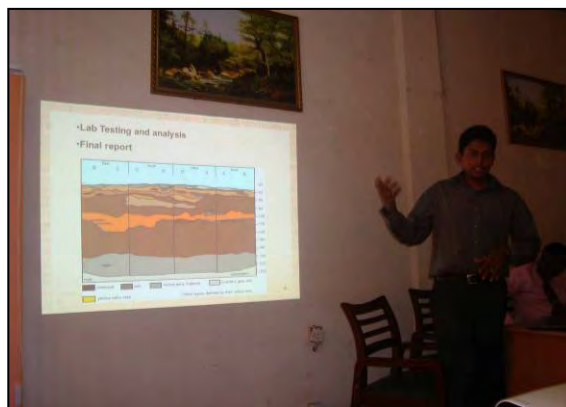
Panel of presenters with Divisional Secretary



A section of the audience



Mrs. Gunaratna presenting on the survey procedure



Mr. Suranga presenting on soil investigation

**DS Level Awareness Creation Meeting for Preparatory Survey on Traffic Improvement Project Around New
Kelani Bridge. (Kelaniya Divisional Secretary Division)**

Date : 10 April 2013

Venue: Auditorium (Kelaniya DSD)

Time : 9.00 a.m. to 11.45 a.m.

List of Participants:

No	NAME	DESIGNATION	ORGANIZATION
1	Mrs.W.H.V.Pushpamala	Divisional Secretary	Kelaniya DS office
2	Mr.J.A.V.S.Jayakody	Deputy Director	ESD Division, RDA
3	Mrs. D. A. S. Jayasekara	Chief Engineer	CE Office, Colombo, RDA
4	Mr. C.W Abeyesuriya	Consultant (Land acquisition)	SLLRDC
5	Mrs. M.B.M.Gunaratna	Survey Superintendent	Department of Surveyor General
6	Mr.M.D.Suranga	Scientist /Geo	NBRO
7	Mr. D. P. Adikari	RP Consultant	Consulting Engineers & Architects Associated(Pvt) Ltd
8	Mr G.M.S.W.B.Gajasinghe	Safeguard Consultant	-Do-
9	Mrs S . Arangala	Socio- Economist	-Do-
10	Mrs S .K. K. Ranasinghe	Coordinator- Social Projects	-Do-
11	Mr Bernard Perera	Supervisor	-Do-
12	Ms. Lakmali Liyanage	Resettlement Officer	ESD Division, RDA
13	Miss.K.W.Piyaseeli	Social Services Officer	District Secretary's Office-Kelaniya
14	Mr.M.B.A.N.Weerasiri	Land Use Admin Officer	-Do-
15	Mr.K.R.W.K.Kalthota	Admin Officer – Grama Niladari	-Do-
16	Miss Lakmali Niroshini	-Do-	-Do-
17	Mr.K.D.A.	-Do-	-Do-
18	Mr.P.D.P.D.Kalanipura	Development Officer	-Do-
19	Mr.S.N.C.Gunasekera	-Do-	-Do-
20	Mr. S.D.N.Hemachandra	-Do-	-Do-
21	Mr.H.A.Lalith Priyankara	-Do-	-Do-
22	Miss.S.K.P.N. Weerasingha	-Do-	-Do-
23	Miss.Roshini Hewage	-Do-	-Do-
24	Mr.P.S.Perera	-Do-	-Do-
25	Miss.M.A.N.Priyadarshini	-Do-	-Do-
26	Mr.G.M.T.Ariyathilaka	-Do-	-Do-
27	Mr.M.A.D.I.Premasiri	-Do-	-Do-
28	Mr.P.A.D.S Ponnampereuma	-Do-	-Do-
29	Mr.R.M.V.P.Karunathilaka	-Do-	-Do-
30	Miss.P.A.G.M.Darshani	-Do-	-Do-
31	Miss.S.S.de Alwis	-Do-	-Do-
32	Miss.S.G.Ratnadiwakara	-Do-	-Do-
33	Miss.D.H.D.Chamari	-Do-	-Do-
34	Miss.R.R.Ratnamali	-Do-	-Do-
35	Mr.M.P.C.T.Pathirana	-Do-	-Do-
36	Mr.P.H.D.P.Bandara	-Do-	-Do-
37	Mr.I.D.P.K.Ranasingha	-Do-	-Do-
38	Miss.Nadeeshani Balasuriya	-Do-	-Do-
39	Miss.J.V.Rajini	-Do-	-Do-
40	Miss.J.Chathurangika	-Do-	-Do-
41	Miss.A.G.P.Sandamali	-Do-	-Do-

No	NAME	DESIGNATION	ORGANIZATION
42	Miss.I.G.A.Krishanthi	-Do-	-Do-
43	Miss.Priyanka Samanmalee	Agriculture Research & Production Asst.	-Do-
44	Miss.Jayantha Padmini	-Do-	-Do-
45	Miss. Indrani Weerasingha	-Do-	-Do-
46	Mr.H.P.Pushpa Kumara	-Do-	-Do-
47	Mr.P.D.Samantha	-Do-	-Do-
48	Mr.G.D.Sunil Shantha	Grama Niladari	-Do-
49	Mr.Sugath Lal Fernando	Samurdi Niladari	-Do-
50	Mr.U.S.S.Karunaratna	Management Assistant	-Do-

Mrs. W. H. V. Pushpamala (DS Kelaniya) welcomed all participants for the DS level awareness creation meeting jointly organized by CEAA & RDA for Kelaniya DSD.

Mrs. D. A. S. Jayasekara (CE, Colombo/RDA) presented the details of the proposed project & it's importance for improvement of traffic around Kelani bridge area.

MR. J. A. V. S. Jayakody (DD, ESDD/ RDA) presented the need of environmental and social considerations in national development projects and how RDA is addressing these issues focusing to the experience in the past projects. He discussed the importance of GN's, Samurdi officers and other officers in assisting the study team to carry out the environmental and social assessments including the resettlement plan. He also stated that a 100 m corridor has been selected for this study.

Mr. C. W. Abeysuriya, Land Acquisition Consultant of Land Reclamation and Development Board discussed about the procedures to be followed when a land is considered suitable for a national development project and explained provisions of Land acquisition act on payment of compensation. He also described the new regulations to LAA that would consider payment of compensation on market price and how it relates to replacement cost.

Mrs. M. B. M. Gunaratna, Superintendent of Surveys explained about the survey procedures for national development projects & requested the support from all parties to carry out the survey without delay, especially supporting to field level arrangements.

A presentation on soil investigation and borehole test was done by Mr. M. D. Suranga of NBRO.

Mr. Adikari (Consultant) explained that this RP study is to minimize any adverse impacts to people due to the project. He stated the importance of developing the entitlement matrix and requested the DS & GN's to consider this date (Date of the meeting) as cutoff date for Kelaniya DSD.

The meeting was opened for discussions.

Mr. Sunil Shantha, Grama Niladari Peliyagoda (174B) asked whether the survey carried out about a month back was related to this project, how the encroachers will be compensated need of a simple questionnaire as the people in the area are mostly not educated.

Mrs Jayasekera (CE, RDA) explained that the survey carried out previously was for the traffic survey for this project.

Mr. Adikari stated that the entitlement matrix proposed for this project will be the base for compensation along with provisions of LAA.

Mr. Jayakody stated that RDA will not deprive the rights of any person due to the project.

Mr. Sunil Shantha, GN requested photographs of the project to be displayed in his office as a means of educating the public about the project, to which the RDA and consultant team agreed.

The meeting was adjourned after the vote of thanks by DS Kelaniya.

Photographs taken at the meeting



Divisional Secretary addressing the meeting



A section of the audience



Mr. Adikari explaining about the cut-off date



A question from the audience

Awareness creation & Focused Group Discussion on 25.04.2013

Venue : Community Hall at Wadullawatta (Gramaniladari Office) of Kollonnawa DS division.

Attendance :

No	Name	Position	Represent from
01	Mr. Sajith Colambage		ESDD of RDA
02	Mr. R.T. Wijenayake	GN, Wadullawatta	DS office, Kolonnawa
03	Dr. M. Tatsumi	Team leader	survey team –Oriental Consultants
04	Mr. S. Sai	Resettlement specialist	survey team –Oriental Consultants
05	Mr. Yonezawa	Road Engineer	survey team –Oriental Consultants
06	Mr. Kitazawa	Representative of Colombo office	survey team –Oriental Consultants
07	Mr. D.P. Adikari	Team Leader	Local survey team of CEA
08	Mr. C.A. Abesuriya	Resettlement Consultant	Local survey team of CEA
09	Mrs. S.K. Ranasinghe	Coordinator	Local survey team of CEA
10	Mr. L.S.P.B. Bernard	Supervisor	Local survey team of CEA
11	Mr. A.S. Gunarathna	Supervisor	Local survey team of CEA
12	Mr. R.P. Lokuratna	Managing Director	CEA

Note: Around 120 members from the affected community attended the meeting including religious leaders and 10 office bearers of various community organizations based in affected GN divisions. The attendance sheets which were signed by the participants is attached in annex- 02 (Social)

General : As per the agenda of the meeting, activities commenced with religious observances; Seenipelle Ariyadamma Thero administered for Buddhists while persons of other religions made their observances individually.

An informal self-introduction session was conducted so that the JICA Team Members, Local Survey Team and the members of the community could come to know each other prior to commencement of discussion sessions.

Session with Key speeches:

Mr. R.T. Wijenayake, GN Wadullawatta – Welcomed all participants at the meeting. Objective of the meeting was briefly explained. GN wished that this awareness session will enhance affected people understanding in this direction and invited audience for active participation at the meeting.

Mr. Sajith Colambage, who is supervising Census on Land Acquisition and Resettlement at field level, representing RDA, briefed about RDA's past experience in resettlement planning, and its considerations for mitigation adverse environmental and social impact in road development projects. As observed by Mr. Colambage, the collaboration extended by the affected people of the area and the field staff of DS office, Kolonnawa is very encouraging. He requested participants' views, observations and comments either as representing their organizations or as individuals and pointed out that this information will be very valuable to the resettlement planning process.

Dr. Tatsumi, head of Project Team briefed about the project explaining how it came to the present stage in detailed.

Mr. Adkari, Resettlement Consultant of CEAA, drew attention to the ongoing Census on Land Acquisition and Resettlement. The government Policy regarding resettlement is to protect people from adverse impact caused by development projects, and ensure that no one fall below their previous socioeconomic situations as a result of

new projects. For preparation of resettlements plans to protect people from adverse impact, it is necessary to assess their present socioeconomic situation go through each and every person, and this is done through the present census carried out in the area. Mr. Adikari urged all participants to cooperate with the study team giving correct information and also their views, ideas and suggestions. This assessment is the information base for developing resettlement Action Plans. The people living in the area should support preventing of new comers to the areas for sake of receiving resettlement benefits. As can be foreseen, new comers will only result in reducing level of relief the people already living in the area will receive due the reason that the funds available for resettlement benefits are limited.

Mr. C.A. Abeysuriya, Land Acquisition and Resettlement Consultant, explained Land Acquisition procedure's of the Land Acquisition Act. He explained that, according to the act, only title holders are entitled to receive compensation following ownership inquiries and valuation process. According to Land Acquisition Act encroachers and unlawful occupants of government land are not eligible to receive government compensation. They have to be dealt in a different manner, outside to the Land Acquisition Act. This area comes under the responsibility of project implementing agency. The past experience shows that RDA has taken adequate steps through special aid packages to cover these circumstances. He expected similar arrangement for this project too.

Name of the person raising the question	Question/issue	Team response
	<p>I see road congestion is due to the location of four container yards operating with Colombo port and also act as bonded warehouses for customs purposes in Orugodawatte. The large number of container trucks plying between the Colombo port and the Orugodawatta junction is the main culprit causing traffic congestion in the area.</p> <p>This problem can be easily solved by relocating these container yards to the large empty space in Bloemendhal area earlier used as a rubbish tip.</p> <p>Mr. Priyankara also requested that the facilities, such as access roads, for residents who lives outside the affected area should also be improved.</p>	<p>Consultant will include his suggestions in the report so that further investigations can be made by relevant authorities.</p> <p>People who lose access roads or other infrastructure as a result of the implementation will be provided with alternative facilities.</p>
	<p>There are people who pay taxes but do not live here. They also should be benefited.</p>	<p>GN Wadullawatte explained that, the survey is to take a census of people living and carrying out lively hoods in the affected area. The purpose is to identify those affected by the project.</p>
	<p>I wish to know, when physical resettlements are done, do we get permanent settlement in a single step or temporary settlements first, till permanent settlements are made later</p>	<p>This depends on many factors such as availability of new lands, need for urgent evacuation, availability of funds and construction requirements etc. Project planners prefer to support permanent resettlement, if physical resettlement is needed, If other conditions permit to do so. It is too early to give a definite answer.</p>

	Stated that, they support the development. When needed, we have no objection to demolishing our houses as a long as we are provided with better facilities.	The aim of the Resettlement Plan is to provide new and better facilities
	I have a cleaning service and need a place, especially an office in addition to an alternative house.	The household questionnaire has specific questions related to self-employment and small business. If correct answers are given these issues can be considered when preparing the Resettlement Plans.
	Myself and a number of people make in cent stickers as a cottage industry. We need space for drying this product. If we are shifted to a flat, there will be no space to carry out our livelihood.	Pl. inform your requirements when the enumerators visit you and you answer the questionnaire. Suitable provisions can be made in the Resettlement Plan
	Same as above	See above
	The project is commendable and warrants every one's support. Today's meeting is successful and all present got a good idea of the project and had opportunity to state their views. Rev. Thero also wanted to know as the elevated road will be constructed on piers, whether the piers can be located in a way to avoid demolition of any features of the temple.	This can be considered in the detailed design stage and precautions taken to minimize effects on the temple structure when possible.
	Will the building close to the site be affected by construction work, especially pile driving	Whether there will be any effects on close by structures due to construction activities will depend on a number of factors. The contractors will be taking insurance. There will be procedures in place to ensure any damages to building close to the site are identified properly compensated.
	We have a small shop in my premises. How can I continue my livelihood.	This will be taken in to notice in the ongoing Census and Resettlement Plan will include income restoration provisions.

After finishing of the above key speeches, the time was allocated for open discussion. During that time, participants of the meeting raised questions and the consultants of the meeting gave the answers.

Preparatory Survey on Traffic Improvement Project around 2nd New Kelani Bridge**[Impacted properties of public sector and religious organizations]**

Meeting Minutes

Subject	Impact on public sector and religious organizations caused by the proposed second new Kelani Bridge
Venue	Ministry of Ports and Highways, 9 th Floor, “Sethsiripaya”, Battaramulla
Date & Time	10 th May 2013, 11.00 AM

Following were present;

Name	Designation	Organization
1. Rev. Heenipelle Ariyadhamma	Chief Incumbent	Sanchi Viharaya, Nawagampura
2. Rev. Shiwasri. K.L.M. Sarma	Chief Incumbent	Badraamman Kali Kovil, Nawagampura
3. Mr.R.W.R.Pemasiri	Secretary	Ministry of Port and Highways
4. Mr.W.A.S. Weerasinghe	Director General	RDA
5. Mr.P.G.Kumarasinghe	General Manager	State Timber Corporation
6. Mr.S.Wijayabandara	General Manager	State Development and Construction Corporation
7. Mr.R.A.D.U. Rathnayake	Head of the Department of Electrical Engineering	Automobile Engineering Training Institute
1. Mr.D.Ganesan	Director Highway Design	RDA
2. Mr.S.Opanayaka	Director Land	RDA
3. Ms.D.K.R. Swarna	Director Engineering Service	RDA
4. Mr.G.M.P.A. Gallage	Director/administration and HR	NAITA
5. Mr.N.S.D.Nawantha	Director	Vocational Training Authority
6. Mr.D.L.L.Wickramanayake	Director	Atomic Energy Authority
7. Mr.H.S.Kariyawasam	Director/principal	Automobile Engineering Training Institute
8. Mr.G.Jayasinghe	Additional Director	Vocational Training Authority
9. Mr.M.M.P. Wijesekara	SDD	Atomic Energy Authority
10. Ms.D.N. Siyambalapitiya	Deputy Director Planning	RDA
11. Ms.S.Kaluarachchi	Deputy Director - Highway Design	RDA
12. Mr.J.A.V.S. Jayakodi	Deputy Director	RDA - ESD
13. Mr.Anura Malagala	Deputy principal	Automobile Engineering Training Institute
14. Mrs.D.A.S. Jayasekara	Chief Engineer – Colombo Office	RDA

15. Mr.U.S. Pilanavithan	Engineer	RDA (Planning)
16. Mr.J.A. Disanayake	Engineer	RDA (Planning)
17. Mr.S.M.S.K. Samarakoon	Engineer	CC's Office
18. Ms.Lakmali Liyanage	Resettlement Officer	RDA - ESD
19. Mr.C.Weerawardhana	T.O	RDA - CE's office
20. Mr.D.P. Adikari	Resettlement Consultant	CEAA
21. Mr.N.K. Thanh	Bridge Engineer	Oriental Consultant
22. Mr.Shin Hisaoa	Construction Planer	Oriental Consultant
23. Mr.S.Sai	Resettlement Expert	Oriental Consultant
24. Mr.H. Tashima	Environmentalist	Oriental Consultant

Mr.R.W.R.Pemasiri, Secretary/Ministry of Ports and Highways chaired the meeting.

01. Mr. Premasiri welcomed all participants attended for the meeting, and briefed about the need for a new bridge to ease unbearable traffic congestion of the area at present, and also to meet future traffic requirements to avoid a traffic bottleneck just at the main entering point to Colombo city. The bridge will connect Colombo-Katunayka Expressway, Colombo-Kandy Road, Peliyagoda-Puttalam Road, Baseline Road and Colombo Port Access Road. The Ministry of Ports and Highways is well aware about the inconvenience and hardships causing to public organizations and religious organizations by the project, but still, it is not possible to stay away from the project as it would cause more problems by worsening traffic situation in the capital, as well as in the country.

As stated by S/MP&H, project needs collaborative support of all public sector organizations and others. The hardships and inconvenience encountered by individual organizations have to be managed to ease those situations collectively, helping to each other. One of the objectives of this meeting is to share information with everyone to have best possible solutions to overcome hardships caused by the project, based on reliable information, within the overall context of the project. S/MP&H assured his support to public sector organizations and religious organizations for finding such solutions, in all possible manners.

02. Mr. Jayakpody, Deputy Director/ESD of RDA made a well prepared power point presentation with necessary maps and drawings, showing details of affected areas along proposed access roads leading to new bridge. His presentation drew attention to following;

1. Background
2. Project area
3. Surveys
4. Affected buildings
5. Environment
6. Resettlement planning

03. **Public sector organizations**

National Apprentice and Industrial Training Authority (NAITA)

(The Automobile Engineering Training Institute, located in Wadullawatta GND of Kolonnawa DS division)

This Automobile Engineering Training Institute located in Wadullawatta is one of the apprentice training centers administered by National Apprentice and Industrial Training Authority (NAITA), and it is the only apprentice training centre of NAITA in automobile engineering training. NAITA comes under Ministry of Youth Affairs and Skills Development.

This training institute has been established with a grant aid of the Government of Japan. This assistance included construction of buildings, installation of machinery and training of staff, costing of Rs. 500 million approximately. The institute commenced activities in November 1989. Institute's building area covers nearly 4 acres of land, and has 2.5 acre bare land for vehicle testing track and other training purposes. Training center has three training batches in a given time, 400 hundreds in each, of which one batch is trained inside the center for one year, and two batches are undergoing training at selected industrial sites.

The project impact will be severe for this location. Training centre will lose all most all land area it has now. Most appropriate solution for NAITA is to find an alternative site somewhere else. S/P&H wished to have a meeting with the Ministry of Youth Affairs and Skills Development separately to discuss matters related to NAITA training center at Waddullawatta.

Atomic Energy Authority (AEA) Sri Lanka

Functions under the purview of Ministry of Science and Technology and implement regulatory programs conforming to international standards on radiation safety, to ensure protection of workers, public and the environment from potentially harmful effects of ionizing radiation. AEA Head office located in Urugodawatta will be affected severely, losing around 50% of its land. The representatives of AEA wished to shift the premises to alternative site, even away from congested city limits, like Battaramulla or Malabe.

Ministry expects to take this matter in a separate meeting with the Ministry of Science and Technology and senior staff of AEA. EE/Colombo will take actions on this.

State Timber Corporation

The impact on State Timber Corporation Depot located in Orugodawatta is limited to access road. However, State Timber Corporation premises is in the verge of changing its location as its area is needed by UDA for a construction project. Representatives of State Timber Corporation suggested discussing this matter with UDA too. Ministry agreed with this and accordingly, a meeting will be arranged with UDA regarding these premises and the involvement of the access road.

SD&CC

The affected land is limited to a staff quarters. SD&CC wished to have an alternative land for this lost.

Sri BadraKali Amman Kovil, Nawagampura

As shown by maps and drawings, around 95% of the premises will be affected. Rev. Shiwasri. K.L.M. Sarma, the incumbent priest of the Kovil wished to know whether area of shrine stone in the center could be saved. This may need detail ground surveys to exactly know the position, but the remaining land may not sufficient to accommodate this shrine stone at the same place. He wished to know whether only the hall which is used for weddings and ceremonies can be taken, leaving shrine area to remain for the Kovil. This need further studies.

Alternatively, Rev Sharma requested to rebuild a Kovil in nearby premises where alternative accommodation is provided for the people who need relocation elsewhere. Further, Rev. Sharma requested to have a meeting with Kovil devotees too to share information in this regard. CE/Colombo will arrange this meeting with Rev. Sharma, the chief priest of the Kovil.

Buddhist temple, Sancvhi Viharaya, Nawagampura

The impact on the temple is not severe. It is limited to a smaller area and the boundary wall including the gate. In case of buildings, it will affect only the building under construction now. The chief incumbent, Rev. Heenipelle Ariyadhamma thero, the chief incumbent agreed with the situation and expects reasonable compensation to make necessary adjustments. The reverent thero will arrange a meeting with temple devotees (Members of Dayaka Sabawa).

Sample- Attendance of male female participation at FGD meeting on 25.04.2013

PREPARATORY SURVEY ON TRAFFIC IMPROVEMENT PROJECT AROUND NEW KELANI BRIDGE

(Focus Group Meeting)

For APs of Wadullawatte GN Division (509 D)

Venue : Community Hall at wadullawaththa G.N. Division

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[Participating of wadullawaththa G.N. Division]

Date : 25. 04. 2013

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Time : 10.30 am. + 12.00 P.m

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Attendance පැමිණීම

No අංකය	Name නම	Designation තනතුර	Institution/Organization ආයතනය/ සංවිධානය	Signature අත්සන

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**PREPARATORY SURVEY ON TRAFFIC IMPROVEMENT PROJECT AROUND NEW KELANI BRIDGE
FOR EIA STUDY AND RESETTLEMENT ACTION PLAN**

Minutes of 2nd Stakeholder Meeting

Date: 11 July 2013 from 9:30AM-12:00AM

Venue: Sri Lanka Foundation Institute – 100, Independent Square, Colombo 7.

Organized by: Road Development Authority

Participants: Cabinet Ministers, Officials of RDA (Director General, Officials of Planning Division , Environment and Social Development Division , Chief Engineer's Office Colombo) , Officials from Central Environmental Authority, Sri Lanka Land Reclamation and Development Corporation, Atomic Energy Authority, UDA, Ministry of Defense, Sri Lanka Police, Colombo Municipal Council, Ceylon Petroleum Corporation, NWS&DB, Provincial Council MP's, Municipal Council MP's ,Divisional Secretaries, Grama Niladari's , Government MP's from Colombo Districts, Officials from JICA, Officials from Oriental Consultants (Design Consultant) , Clergy from Amman Kovil & Sanchi Temple, and Consultants from Consulting Engineers and Architects Associated Pvt. LTD .

Stakeholders from affected GN Divisions i.e. Wadullawatte/Sedawatte, Navagampura, Granspadss, Peliyagoda Gangabada and Bloemandhal with their representatives and affected business owners and media personnel.

(List of Participants given in Attachment- A)

Presentation Material: Two PowerPoint Presentations were made by Mr. H M K G G Bandara, Director Planning Division and Mr. Hudson Silva – Director ESD RDA is outlining the main features of the project, its objectives, project benefits, social impacts (resettlement issues) etc. Latest findings of the EIA and RAP in terms of social impacts were presented to the stakeholders.

(English Leaflet is given in Attachment- B)

Speeches & Presentations

Cabinet Minister A H M Fowzie addressed the stakeholders and stated that when a project such as these are implemented to develop and beautify Colombo there could be temporary impacts. Colombo District is a vast area with many ongoing and proposed projects. All Government development work should be implemented in collaboration with the stakeholders to achieve success. Traffic jams in Peliyagoda area are severe and this projects underway to ease that traffic jam. About 450 houses will be affected and alternative resettlement will provided to the affected parties through RDA with the help of the Minister Mr. Nirmla Kotalawala without any inconvenience to the stakeholders. He said that although there will be some dissatisfaction of stakeholders during the project implementation everybody will praise the outcome.

Secretary to the Ministry of Ports & Transport Mr. R W Ranjith Premasiri provided an introduction to the project and stated that RDA has invited the Japanese Government to carry out this study on the instructions of the President who is the Minister of Ports and Highways. JICA survey team who carried out initial studies have studied for alternative routes and selected one alternative route for implementation. A bridge will be constructed across the Kelani River. This process will cause temporary inconvenience to public. Government usually informs the public of the details of the project as their ideas are important. Before this meeting there were other official discussions with MP's, Government officials and representative of the clergy of

affected Buddhist Temple and Kovil. The concurrence of all the parties is expected to successfully implement the project.

Mr. Bandara Director Planning Division RDA- Said that providing an efficient transport system to public is a duty of the government such as construction of an expressway network is now underway. The Colombo Kandy expressway is one such project. This will be connected to New Kelani Bridge shortly. Roads are mainly used for good and commuter transportation against other media such as train or waterways. He showed that average traffic entry amounts to New Kelani Bridge increases gradually until 2030 horizon. After discussions with UDA , RDA and Ministry of National Planning Government with the help of Japanese Government started the Colombo Transport Study and this project is a sub project emanated through that study. He said that 4 alternative routes were studied and one was selected for implementation. The proposed bridge across the Kelani River is a special bridge which will serve as the northern gate to Colombo city, serves as the nexus between the Bandaranayaka International Airport and Colombo city. The bridge will have an iconic value in Colombo City.

Mr. Hudson Silva Director ESD-RDA made a presentation consisting Introduction, Selection of Routes and Environmental/Social Impacts and the social impacts identified from the EIA and RAP. Road transport usage amounts to 98% over other transport media, hence an efficient transport network is important.

A New Kelani Bridge will be constructed parallel to the existing New Kelani Bridge and the project's network will be connected to Colombo Road and Colombo Puttlam Road. He showed the traffic forecast for the project area and stated that the project is needed to cater to increased future traffic flow.

He briefly indicated the EIA process for the project and stated that the EIA study is being carried out to the Terms of Reference provided by CEA as this project is a "Prescribed Project" in terms of CEA regulations. He stated the RAP was carried out an entitlement matrix was prepared for the assessment of compensation. He said that totals 449 families and 54 business premises will be affected and 360 families will be affected in the GN Divisions of Sedawatte and Wadullawatte alone. Total number of affected people will be 1915. He said that Amman Kovil, Sanchi Temple, Atomic Energy Authority and Automobile Workshop of NAITA would be affected.

He indicated the proposed tentative resettlement plan as follows.

Affected people with land titles will be provided alternative places for resettlement and/or compensation according to the entitlements.

1. For persons without titles action will be taken to resettle them in close proximity.
2. The workshop of NAITA will be reestablished in a UDA land.
3. Atomic Energy Authority will be shifted to a UDA land at Malabe
4. Seventy percent (70%) of Amman Kovil will be affected and its rehabilitation or reestablishment is still being worked out.

Key Views Expressed by participants During the Discussion Time:

Following key views were expressed by various participants such as members from affected stakeholder groups, Grama Niladari's, public officials and the views/questions expressed and the replies by RDA officials Ministers and MP's have been listed in the following Table

Views Expressed by Line Agency and Public Participants	Replies by RDA Officials/MP's and Ministers
<p>GN of Navagampura Stage 2</p> <p>It is said that extra 25 houses will be affected because of the shifting of Amman Kovil. The shifting of Kovil's decision has been taken yet.</p> <p>People will be inconvenienced because of this latest development.</p> <p>In the affected area there are title holders, persons with no land titles, renters etc. and all of them should be suitably considered. Renters should be especially considered as they are very innocent people.</p>	
<p>Residents of Navagampura Stage 2</p> <p>Do not demolish extra 25 houses to make room for the Kovil. The other kovil nearby could be used instead of Amman Kovil for worshipping.</p>	<p>No firm decision has been taken yet regarding the demolition of extra 25 houses.</p>
<p>Residents Kamkarupura</p> <p>We do not know exactly know how many houses will be affected in Kamkarupura. Resettlement should be in close proximity. If resettled at a far off place our livelihood will be affected. Please relocate us around Orugodawatte Junction.</p>	<p>None will be resettled at far off places. All will be resettled at close proximity according to the decision taken by the Ministry of Port and Highways.</p>
<p>Residents Wadullawatte</p> <p>We need resettlement at a nearby place. If we will be resettled at a far off place our livelihood would be affected our children's schooling will be affected as they go to nearby schools. Some houses are used as divided houses and several family units dwell in them. When compensation or resettlement is considered these subdivisions should be considered. We need resettlement in Kollonnawa electorate itself. We need facilities like electricity, toilet water supply etc.</p>	<p>None will be resettled at far off places. All will be resettled at close proximity according to the decision taken by the Ministry of Port and Highways. Title holders and non-title holders will be suitably considered.</p>
<p>Atomic Energy Authority</p> <p>We would like to be relocated in the land at Malabe only.</p>	<p>Please contact UDA to get further information</p>
<p>Affected Businessman</p> <p>They wanted to know approximately when the project starts. If the affected area could be marked it will help us identify the acquisition boundaries in advance.</p>	<p>Only preliminary designs are available now. Exact boundaries will be marked after the detailed designs.</p>
<p>Residents Sedawatte 3rd Stage</p> <p>Twenty one houses will be affected. For these houses land titles are available and they are not illegal constructions. We want to know the starting date of construction and compensation payment time.</p>	<p>No concrete answer could be provided as the project is still in feasibility stages. Address of RDA Environmental and Resettlement Division may provide to the participants for direct any grievance or a complaint regarding any issue affecting them.</p>

Minister of Ports and Highways Mr. Nirmala Kotelawala, MP Thilanga Sumathipala, MP Prabha Ganeshan and Mr. Duminda Siva also spoke.

MP Mr. Thilanga Sumathipala- We have very good relations with the Ministry of Ports and Highways and the ministry takes all actions to muster public views. He also said this development will help smooth container transport from Colombo Port and Bandaranayaka International Airport. There could be traffic, dust and vibration impacts from the project during construction. These impacts should be reduced with the help of all parties.

MP Mr. Duminda Silva- I work very closely with the public of Kollonnawa area and I will take the responsibility of providing alternative houses in a close by location.

MP Mr. Prabha Ganeshan- Sacrifices have to be made during development. People will be temporarily affected.

Minister Mr. Nirmala Kotelawala – As a responsible ministry we have considered public views. Dedication of people is needed to successfully implement the project. The willingness of people should be obtained from the project implementation without hindering their livelihood. Still the project is in the planning stage and time is available to resolve issues. Even transmission lines will be affected. Stakeholders should not have any suspicion to the effect that they will be resettled at a far off place affecting their livelihood and schooling of children. The final plan will be discussed with people.

Vote of Thanks was proposed by RDA Chief Engineer Colombo Ms. Darshika Jayakodi.

Photographs of various stages of the meeting are given below.

Attachment A- List of Participants

Attachment B- Leaflets in Different Languages

Photographs





Attachment A- List of Participants

NO	NAME	DESIGNATION	ORGANIZATION
1	Miss. Namal Ralapanawa	Senior Project Specialist	JICA
2	Mr. H Tashima	Environmental Specialist	Oriental Consultants
3	Mr. Eiji Yonezawa	Bridge Engineer	Oriental Consultants
4	Mr. Thakuma Oguni	Highway Engineer	Oriental Consultants
5	Mr. Kumi Okayama	Environment Specialist	Oriental Consultants
6	Mr. Hiroko Sakai	Highway Engineer	Oriental Consultants
7	Mr. Shigeru Sai	Environment Specialist	Oriental Consultants
8	Mr.Ranjith Premasiri	Secretary	Ministry of Ports & Highways
9	Mr. D.D. Mathraarachchi	Director	Ministry of Ports & Highways
10	Mr.U W Senarathna	Divisional Secretary	Kolonnawa
11	Mrs. W H V Pushpamala	Divisional Secretary	Kelaniya
12	Mr. J.A.V.S. Jayakody	Dy Director –ESD	RDA
13	Mr. S.H.U.De Silva	Director -ESD	RDA
14	Mrs. D.A.S . Jayasekara	Chief Engineer (Colombo)-ESD	RDA
15	Mr. B.A.R. Premarathna	Project Director-WP	RDA
16	Mr. T.L.M. Fernando	Project Director D-OCH	RDA
17	Mr. M.P.K.L. Gunarathna	Project Director -OCH	RDA
18	Mr. V.G. Liyanagamage	EE-Colombo	RDA
19	Mr. D. Ganeshan	Director -Highway	RDA
20	Mr. T.S..H. Abewickrama	Project Director OCH2	RDA
21	Mr. M.D,Saman Samarakoon	Engineer –CE Office	RDA
22	Brig. N D S P Niwunnella	Brigadier	Ministry of Defense
23	Maj. A N S K Wijewardana	Major	Ministry of Defense
24	Mr.Budhika Ranawaka		Ministry of Defense
25	Mr.A Senarathna	D I G Traffic	S L Police
26	Mr.Jayantha A.Gamage	Director Engineer	L M C
27	Mr.D.A.J.Ranwala	Specialist(EIA)	Consulting Engineers & Architects Associated Pvt (Ltd)
28	Mr. D.P,Adhikari	Specialist(RP)	-do-
29	Mr.Saranga Gajasingha	Specialist(Environment)	-do-
30	Mrs. S.K.K.Ranasingha	Project Coordinator	-do-
31	Mr. W.L.S.B. Perera	Supervisor	-do-
32	Mr.P S L Gajanayaka	Sup. of Surveyors	Survey Department
33	Mr.E Dayasena	Deputy Chief Valuer	Valuation Dept.
34	Mr.K K D U Bandara	Deputy Chief Valuer	Valuation Dept.
35	Mr.N H N Madushanka	Engineer	Sri Lanka land reclamation development Corporation
36	Mr.P Wijerathna	A G M	-do-
37	Mr.S T D O Warapitiya	Engineer	National water supply & Drainage Board
38	Mr.K L Edirisingha	C E(CMB)	-do-
39	Mr.M T D Abewardana	CE (P&D)	-do-
40	Mr. H S Kariyawasam	Director	National Institute of Training Authority
41	Mr. G M P A Bellana	Director	-do-
42	Mr.Anura Malagala	Deputy Principal	-do-
43	Mr.P.L. Dahanayake	Project Engineer	Sri Lanka Ports Authority
44	Mr.A L M Noufer		-do-
45	Mr. D L L Wickramasingha	Director	Atomic Energy Authority
46	Mr.M M P Wijesekara	SDD (FSA)	-do-
47	Mr.Chamal Menaka	Environment Specialist	MCUDA / MODUI
48	Mrs.Swarna Kusumseeli	-	Urban Development Authority
49	Mr.B A R A Kumara	PO	-do-
50	Mr.Hemal Lakpathum	PA	-do-

51	Mr.K A N Kumara	Manager	National Housing Development Authority
52	Mr.H M K A Bandara	Manager	-do-
53	Mr.M.M.Iqbal	D. Manager	State Timber Corporation
54	Mr.M.K.Gunasingha	Manager (Dev)	Ceylon Petroleum Corporation
55	Mr.Nissanka Jayawardana	MS/MI	C P S T L
56	Mr.A R Jahan	AD/DP	
57	Mr.Sujeewa Godage	Asst. Secretary	
58	Mrs.Shanthini J Mohan	Grama Niladari	Bluemandal
59	Mr.S Uruthiran	Grama Niladari	Nawagampura
60	Mr.K.D.A.S. Jayawardana	Grama Niladari	Sedawatta
61	Mr.Ranjith karunadasa	Grama Niladari	Orugodawatta
62	Mr. M.D. Senadeera	Senior Technical Officer	RDA
63	Mr. C. Weerawardhana	Technical Officer	RDA
64	Mrs. K.D.D. Mihirani	Graduate Trainee	RDA
65	Mr. K.A.S.K. Gamage	Graduate Trainee	RDA
66	Mr. G.A.D. Gunasekara	Management Assistant	RDA
67	Mrs. H.G.M. Madushani	Management Assistant	RDA
68	Mrs. W.G.N. Dilushini	Management Assistant	RDA
69	Mrs. S. Suji	Management Assistant	RDA
70	Mr. K.M.A.S. Bandara	Management Assistant	RDA
71	Mr. C.K. Thotawatta	Technical Assistant	RDA
72	Mr. R.D.A.M.H.K. Niyangoda	Administrative Assistant	RDA
73	Mr. G.I. Ossman	Account Assistant	RDA

Priests

1		Chief Priest -Sanchi Viharaya	Wadullawatta
2		Priest –Somaloka Viharaya	Stace Road
3		Priest- Badra Amman Kovil	Wadullawatta

APS of Wadullawatta Grama Niladari Division

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APS of Sedawatta Grama Niladari Division

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APS of Nawagampura Grama Niladari Division

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33		AP	Nawagampura

APS of Grandpass (North) Grama Niladari Division

1		Osaka Car Sale	Grandpass
2			Grandpass
3		Technician	Grandpass
4			Grandpass
5			Grandpass
6			Grandpass

APS of Bluemandhal Grama Niladari Division

1			
2		Group Finance Manager	K.Duwin & Company
3			K.Duwin & Company

APS Peliyagoda – Gangabada Niladari Division

1			Peliyagoda – Gangabada
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11			Peliyagoda – Gangabada

Others

1		Journalist	“Sunday Times”
2		Executive Director	Sena Mills
3		Managing Partner	Suravi International
4		Manager	Wijaya Graphics
5		Manager	Piyachan work
6			SOS Motors
7			
8		Manager	Ston Logistics
9			Smart Logistics
10			Ganis Motors
11			Pala Auto Electricals
12		General Manager	Ganis Motors
13		Consultant	
14		Salesman	

15		Businessman	
16		Businessman	
17		Executive	J L Morrison's Company
18		Program Manager	Green Movement
19		Civil Engineer	Univision Lanka
20		Businesswoman	

Politicians-	Ministers - Parliament Ministers	-	02
	Members of Parliament	-	03
	Members of Provincial Council (WP)	-	02
Media	10 Persons		

Attachment B- Leaflets in Different Languages

**Objectives of the project**

Broad Objective of the project is to provide efficient and safe connectivity between Colombo Katunayake Expressway (CKE), Colombo Kandy Road, Peliyagoda Puttalam road, Colombo port and Baseline road while preserving the nature and to assist the needs of the growing economy.

Specific Objectives:

- To construct a new bridge of six lanes on the upstream of the existing Kelani bridge, elevated viaducts and interchanges to connect CKE, Colombo Port and Baseline road.
- To avoid extra loading on the existing new Kelani bridge and increase the durability of the bridge.
- To increase the transportation efficiency within Colombo city.

2

Key features of the project

Description	Details
Starting point	Peliyagoda Palama Junction (Starting point of the Colombo – Katunayake Expressway)
End points	Orugodawatta Junction and Ingurukade Junction
Total length of bridge	Approximate length of the main bridge is 415 m.
Number of lanes	The number of lanes of the main line from CKE to Kelanithissa interchange is 6 lanes, from Kelanithissa interchange to Orugodawatta interchange is 4 lanes and Port access road (Ingurukade Junction) is 4 lanes.
Affected Divisional Secretariat Divisions (D S Divisions)	Colombo D S Division, Kollonnawa D S Division and Kelaniya D S Division.

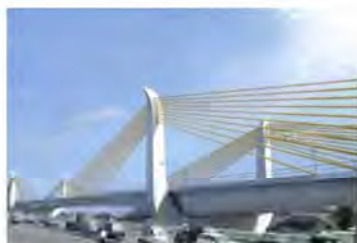
Mitigation of adverse environmental and social impacts

Project related land acquisition may cause adverse environmental and social impacts, and it is necessary to address them with adequate mitigation measures mainly in line with Land Acquisition Act, National Involuntary Resettlement Policy and National Environment Act. The aim of this approach is to assure that affected people of the project will be protected from ill effects of this development.

Identifying the affected persons (APs)

- Socio Economic Survey and an Inventory of Loss (IOL) Survey will be conducted to identify the socio-economic profiles of APs including whether they hold titles to the lands they occupy.
- A Resettlement Plan will be prepared based on above information.

3

**Compensation for the affected persons**

All affected persons will be compensated based on Land acquisition act, its regulations and policies of the government in this regard.

For any assistance or clarification please contact:

For further information on the proposed development project you could contact Director, Deputy Directors or Resettlement Officer of Environmental and Social Development Division of RDA and the Chief Engineer, Colombo Region of the RDA

Address: Director, Environment and Social Development Division, Road Development Authority "Sethsiripaya", Battaramulla.	Chief Engineer, Colombo Region, No 05, Manthre Place, Park Road, Colombo 05
T.P. No: 011-2862443, E. Mail: esd.rda@gmail.com	T.P. No: 011- 2590744

Date: 8/4/2013

4

PREPARATORY SURVEY ON TRAFFIC IMPROVEMENT PROJECT AROUND NEW KELANI BRIDGE



The 2nd New Kelani Bridge is proposed to be built as an elevated bridge to the existing New Kelani bridge. This bridge will cross the Kelani River upstream of the present bridge, and connect the Colombo – Katunayake Expressway (E02), Colombo – Kandy road (A001), Peliyagoda – Puttalam road (A003), Baseline road and Colombo Port Access road.

Present situation

The existing 'New Kelani bridge' is located at the cross roads of Colombo – Kandy (A001) road, Peliyagoda – Puttalam (A003) road, Colombo – Katunayake Expressway (E02) and the Baseline Road. This bridge is one of main North South links across the Kelani River.

- Currently there is severe traffic congestion at Peliyagoda and Ingurukade Junctions at peak periods of the day.
- Colombo – Katunayake Expressway Project and Colombo Port Expansion Project are major development projects around the existing New Kelani bridge. After completion of these projects, traffic will significantly increase and New Kelani bridge will become a bottleneck for traffic.
- Therefore, a new bridge is urgently needed to relieve traffic loading on the existing bridge ensuring reliability and the safety of road users. Road Development Authority (RDA) has proposed to build a 'Second New Kelani Bridge' as an elevated bridge to the existing New Kelani Bridge upstream of the river. This bridge will reduce the traffic congestion at the city entrance providing a fast and reliable access while extending the lifespan of the existing New Kelani Bridge as well.

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[illegible]

വിജ്ഞാപനം

දාර්ශනික සංවර්ධනයේ අවසානතාවයේ සපුරාලීම, ස්වභාව ගිරිමය දී සංරක්ෂණය කරමින් කොළඹ - කටුනායක අධිවේගී මාර්ගය (CKE), කොළඹ - මහනුවර මාර්ගය, පළමුවෙනි - ද්විත්වමු මාර්ගය, කොළඹ ටොරා හා කේප්ලන්ඩ් මාර්ගයේ සැදුනා සාරාංශයක් වූයේ, දාර්ශනික වූයේ මාර්ග සම්බන්ධතාවයන් සලසා දීම මෙම විකාශනයේ මුල්කා සංමුඛය වේ.

විශේෂිත කරුණු

- **සෑයුම්** ගෙය හරහා දකුණු දූෂණ පාලමට වඩා ගෙය ඉස්මත්තෙන් මංගල් 5 ක පාලමක් ද කොළඹ - කටුනායක අඩවිවේ මාර්ගය, කොළඹ වරාය ප්‍රවේශය හා වෙස්ලයින් මාර්ගය සමීපවත් කරමින් හුවමාරු ස්ථාන සහ යුධ පාලම් ද ඉදි කිරීම.
- පාලම් ඉදිකිරීමෙන් දකුණු දූෂණ නව සෑයුම් පාලමට වාහන ගමනාගතයෙන් වන හානිය අඩුවීම සහ වත් දිව්‍ය කාලීන පවත්නම් ද හසුවරු කිරීම.
- මෙම ව්‍යාපෘතියෙන් කොළඹ නගරයේ ගමනාගත කරාගැනීමට වඩා කිරීම.

විකල්පයක් ලබාදීම අංක

කොටස	විස්තරය
අරමුදා වන ස්ථානය	පැළුමකොටු පාලම කන්දිය (කොළඹ 4 - කදුකොටු) අතිරේකී මාර්ගය පවතින (කන්දා ස්ථානය)
අවසන් වන ස්ථානය	මිරිසවෙහෙරවත්ත කන්දිය සහ ඉඳුරුකඩ කන්දිය
පාලමේ මුළු දිග	ප්‍රධාන පාලමේදී දිග මීටර් 4.5; පළමුවැනි
මංතීරය; සංකීර්ණ	<ul style="list-style-type: none"> කොළඹ කදුකොටු අතිරේකී මාර්ගය අවසන් වන සහ සිටි කැලණිගල්ලේ පුළුමාරුවට මංතීරය සේ; කැලණිගල්ලේ පුළුමාරුවේ සිට මිරිසවෙහෙරවත්ත මංසන්ධිතයට ඉඳුරුකඩ කන්දියට මංතීරය; 4 වැනියි
බිලපමරි කොටුකොටු දක්වන ප්‍රාදේශීය ලේඛන	<ul style="list-style-type: none"> කොළඹ ප්‍රාදේශීය ලේඛන කොටුකොටු කොළඹකොටු ප්‍රාදේශීය ලේඛන කොටුකොටු කැලණි ප්‍රාදේශීය ලේඛන කොටුකොටු

අධිකාරී පාරිසරික හා සමාජික විලාසයේ සහතිකය

විනයායකයාට අවසාන ඉඩවේ ඉඩයා ගෙවීමේ දී අතිශයයෙන් පාර්ශ්වික හා සමාජය බලපෑම් අතින් වමිට ඉඩ අයන. මේ නිසා මෙම කාර්යාල වල බලපෑම් සන්සිදුවමින් ක්‍රියාකරනු ලැබූය. මේ සමීක්ෂණය ක්‍රියාවන් ඉඩවේ අතිපත් කර ගෙවීමේ පහත (1990), පරාගික අනුච්ඡාදනය ලක්ෂ්‍යකර්මය (2001) සහ පරාගික පාර්ශ්වික පහත (1980) ට අනුකූල වනු ඇත. ප්‍රධාන පරමාර්ථය වන්නේ බලපෑමට ලක්වන පහත විනයානුකූලයන් වන අතිශයයෙන් බලපෑම් වලින් ආරක්ෂා කිරීමයි.


മിത്രവാരിയ്ക്ക് രണ്ട് വിവിധ വസ്ത്രങ്ങൾ കയ്യടക്കി

- සමාජීය ආර්ථික සම්බන්ධතා සහ පාර්ශ්ව ශ්‍රේණිගතයෙහි බැරීම් තුළින් මෙම විභාගයන් නිසා බලපෑමට ලක් වන අයගේ සමාජීය ආර්ථික පක්ෂිකයින් (විශේෂයෙන්) හඳුනා ගැනීම සඳහා බලපෑමට ලක් වන පුද්ගලයන්ගේ ලැබීම්වලට අයත් අයිතිකරු සිටිනාදින කළමනාකරු බවට ද බලපෑම පවතී. මේදී,
- ලෙසත් තොරතුරු වලට අනුව ප්‍රතික්ෂේපයක් සහතික කරන, අයුතු,

திட்டத்தின் முக்கிய பிரிவு	
பிரிவு	வெறும்
ஆரம்பிக்கும் இடம்	வெவிகொண்ட பாலம் சந்தி (கொழும்பு) - கட்டுநாயக்க ஆதிலேக (நெடுஞ்சாலை ஆரம்பிக்கப்படும் இடம்)
நிறைவுபெறும் இடம்	ஐரகொட வத்தை சந்தி மற்றும் இங்குதுகடை சந்தி
பாலத்தின் மொத்த நீளம்	பிரதான பாலத்தின் நீளம் சுமார் 415 மீட்டர் ஆகும்.
வாழ்ப்பாலை எண்ணிக்கை	<ul style="list-style-type: none"> ➤ கொழும்பு - கட்டுநாயக்க ஆதிலேக நெடுஞ்சாலை நிறைவு பெறும் இடத்திலிருந்து களனிதிலைஸ் பரிமாற்றத்திற்கு 6 வழிப்பாதைகள் ➤ களனிதிலைஸில் பரிமாற்றத்திலிருந்து ஐரகொடவத்தை சந்திக்கும் இங்குதுகடை சந்திக்கும் 4 வழிப்பாதை வீதம்.
நாகர்க்காளுக்கு உள்ளாகும் பிரதேச செயலக பிரிவு	<ul style="list-style-type: none"> ➤ கொழும்பு பிரதேச செயலகப் பிரிவு ➤ களனிதிலைஸ் பிரதேச செயலகப் பிரிவு ➤ களனி பிரதேச செயலகப் பிரிவு

பாதிக்கும் சுற்றாடல் மற்றும் சமூக தாக்கத்தினை தவிர்த்துக் கொள்ளல்

திட்டத்திற்கு தேவையான காலவிரிவான பெற்றுக்கொள்ளும் போது பாதிக்கும் சுற்றாடல் மற்றும் சமூக தாக்கம் ஏற்படுவதற்கு சந்தர்ப்பம் உண்டு. துணைத் துள்ளல் துள்ளல் தாக்கத்தினை தவிர்த்துக் கொள்வதற்கு பெறப்பட வேண்டும், அது உயர்ந்ததாக நடவடிக்கைகள் களனிதிலைஸ் கைப்பற்றும் சட்டம் (1950) , தேசிய வீழ்ப்புற கொள்கை (2000) மற்றும் தேசிய சுற்றாடல் சட்டம் (1980) க்கு இணங்குகளும், தாக்கங்களுக்கு உள்ளாகும் மக்களுக்கு திட்டத்தினால் ஏற்படும் பாதிப்பு தாக்கங்களில் இருந்து பாதுகாத்தல் பிரதான இலக்கமாகும்.



Annex 9.1
Environmental Management Plan & Monitoring Plan

Annex 9.1 Environmental Management Plan(EMP) and Environmental Monitoring Plan(EMoP)

Annex 9.1A- 1 Environmental Management Plan(EMP)

This Environmental Management Plan (EMP) is developed based on the information available at Feasibility Study stage of the project. This EMP to be updated during the Detail Design stage especially with location details before incorporating it to the tender documents of the project. Environmental and Social Development Division of RDA will assist the Detail design team to incorporate such information to update the EMP.

Item	Proposed Mitigation Measures			Monitoring Plan	Monitoring Agency/ Division
	Before construction	During construction	During operation		
Social Environment					
Involuntary Resettlement (impacts of relocation)	<ul style="list-style-type: none">● Minimizing the affected area in the design.● Developing awareness among the public about the project.● Carry out census survey on all affected persons and developing a Resettlement Plan with a project specific “Entitlement Matrix”. Acquiring land and paying compensation as per Land Acquisition act, Regulations 2008 and entitlement matrix of the project.”	<ul style="list-style-type: none">● Further assistance to affected persons as per guidelines of “entitlement matrix” (if required).	<ul style="list-style-type: none">● Not required.	Before construction Monitoring and evaluation of the implementation of resettlement plan (Refer to RAP)	RDA (ESD) ,PMU UDA
Local economy such as employment and livelihood etc.	<ul style="list-style-type: none">● Payment of compensation as per the entitlement matrix.● Assisting Affected persons to restore the livelihood activities through Income Restoration Programs.	<ul style="list-style-type: none">● Providing adequate parking areas for private institutions which lose land from their parking lots.	<ul style="list-style-type: none">● Providing adequate parking areas for private institutions which lose land from their parking lots.	Before and during construction Monitoring and evaluation of resettlement plan (refer to RAP)	RDA (ESD) PMU

Item	Proposed Mitigation Measures			Monitoring Plan	Monitoring Agency/ Division
	Before construction	During construction	During operation		
Disruption of existing infrastructure facilities	<ul style="list-style-type: none"> Relocation of Automobile Training Institute, Atomic Energy Authority Building, 132 KV power lines in consultation and satisfaction of relevant line agencies. 	<ul style="list-style-type: none"> Risks of accidental disruption can be reduced by ensuring that machinery such as excavators, cranes are operated by trained personnel and that operations are adequately supervised. A layout plan having location details of all utility lines should be given to the work supervisor/s. 	<ul style="list-style-type: none"> Not required. 	<p>During construction</p> <p>Monitor the shifting of the facilities and other utility supply lines</p>	RDA(ESD)P,PMU,Local Authorities
Possible nuisance to neighborhood	<ul style="list-style-type: none"> Not required. 	<ul style="list-style-type: none"> Strict labor supervision will be implemented to avoid any conflicts arising due to migrant labor. Awareness programs will be conducted at worker camps on sanitation and diseases to avoid any worker camp waste being disposed near settlement areas. Providing temporary bypasses during construction, advance notice to the public will reduce the inconvenience caused to the public during the construction stage. To avoid nuisance to neighbors, will be study the traffic diversion plan 	<ul style="list-style-type: none"> Not required. 	<p>During construction</p> <p>Monitoring of labor camp facilities at least once a month</p>	RDA (ESD), PMU,CEA
Material transportation	<ul style="list-style-type: none"> Not required. 	<ul style="list-style-type: none"> Use of covers over transported materials to guard against dust blow. 	<ul style="list-style-type: none"> Not required. 	<p>During construction</p> <p>Monitor the compliance of contractor</p>	RDA (ESD), PMU,CEA
Natural Environment					
Hydrological situation	<ul style="list-style-type: none"> Planning of construction schedule coinciding with the dry flow period of Kelani river. 	<ul style="list-style-type: none"> Contractor to continually liaise with Irrigation Department and obtain their flood warnings for the use of evacuation and withdrawal from the site. 	<ul style="list-style-type: none"> Maintenance of all drainage structure such as canals, culverts so as to avoid any 	<p>During construction and operation</p> <p>Monitoring of the maintenance of drainage</p>	RDA (ESD), PMU,Irrigation Department, Local Authorities, SLLRDC

Item	Proposed Mitigation Measures			Monitoring Plan	Monitoring Agency/ Division
	Before construction	During construction	During operation		
			blockage of drainage	structures	
Flora, Fauna and Biodiversity	● Not required	● Replant adequate number of trees based on recommendation from a landscape specialist.	● Study of recovery degree of the natural environment	During construction/operation Site verification survey operation	RDA (ESD), PMU,CEA and DS
Landscape	● Not required	● Adoption of a design that matches the existing landscape	● Maintaining the green belt		
Pollution					
Water quality (surface/ground water)	● Not required.	<ul style="list-style-type: none"> ● Contractor will make employees aware on water conservation and waste minimization in the construction process. ● The contractor shall protect sources of water (portable or otherwise) such as water sources used by the community so that continued use these water sources will not be disrupted by the work. ● Installation of oil and grease traps at vehicle service station and yard. ● Avoid any direct discharge of waste water from worker camps on to nearby water bodies. ● All cement, bitumen (barrels), oil and other chemicals will be stored and handled on an impervious surface (concrete slab) above ground level with roof and ridge around the structure to avoid any storm water flowing in to the facility. 	● Not required.	During construction Measuring selected water quality parameters as per the EMoP r.	RDA (ESD), PMU,CEA and Local Authority, WRB
Air quality	● Not required.	● Construction vehicles to be serviced and maintained on a regular basis.	● Regular cleaning of road surface to	During construction Measure dust level at	RDA (ESD), PMU,CEA and Local Authority

Item	Proposed Mitigation Measures			Monitoring Plan	Monitoring Agency/ Division
	Before construction	During construction	During operation		
		<ul style="list-style-type: none"> ● Regular sprinkling of water over construction surface. ● Transporting aggregate, gravel and other construction material with proper cover. ● Storage of cement and other chemicals in an enclosed environment with adequate ventilation ● Use of tarpaulin to separate construction area from residential areas and other sensitive areas such as temple, Hindu Kovil. ● All plants to be operated as per the stipulated guidelines in EPL. 	remove dust.	<p>locations where air quality was measured for baseline once a month.</p> <p>During Operation Measuring air quality at same locations for confirmation of effects.</p>	
Noise and vibration	<ul style="list-style-type: none"> ● Not required. 	<ul style="list-style-type: none"> ● All machinery and equipment will be well maintained and fitted with noise reduction devices in accordance with manufacturer's instructions. ● Construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing and batching, mechanical compaction, etc., will be stopped between 20.00 hours to 06.00 hours. In silence zone (areas up to 100 m around such premises as schools and religious places) no hot-mix, batching or aggregate crushing plant will be allowed. No construction shall take place within 100m around noise sensitive sites, such as educational institutional religious places, noisy equipment shall not be used during noise sensitive times of the day. ● Noise limits for construction equipment used in this project (measured at one meter from the edge of the equipment in free field) such as compactors, rollers, front loaders, concrete mixers, 	<ul style="list-style-type: none"> ● Not required. 	<p>During construction</p> <p>To monitor any cracks appearing on the walls of structures.</p> <p>Measurement of noise levels at sensitive locations such as Sanchi Temple, Hindu Kovil on New Kelani bridge road</p> <p>During operation</p> <p>Measure noise level at same locations for confirmation of effects.</p>	RDA (ESD), PMU,CEA and Local Authority

Item	Proposed Mitigation Measures			Monitoring Plan	Monitoring Agency/ Division
	Before construction	During construction	During operation		
		<p>cranes (moveable), vibrators and saws shall not exceed 75 dB(A).</p> <ul style="list-style-type: none"> ● All vehicles and equipment used in construction shall be fitted with exhaust silences. During routine servicing operations, the effectiveness of exhaust silencers shall be checked and if found to be defective shall be replaced. ● Workers in vicinity of strong noise, and workers working with or in crushing, compaction, batching or concrete mixing operations shall be provided with protective gear. ● Contractor shall take appropriate action to ensure that construction works do not result in damage to adjacent properties due to vibration. ● Contractor shall carry out monitoring at the nearest vibration sensitive receptor during blasting or when other equipment causing vibration are used. ● The contractor shall modify the method of construction until compliance with the criteria, if vibration levels exceed the relevant vibration criteria. 			
Contamination of soil and ground subsidence	<ul style="list-style-type: none"> ● A precondition survey of the properties within a 25 m corridor on either side to the proposed ROW to be carried out before the construction works. 	<ul style="list-style-type: none"> ● Vehicles/ machinery and equipment servicing and maintenance work shall be carried out only in designated locations/ service stations approved by the engineer. ● Bentonite used for pile operations will not be disposed on to nearby lands and surface water bodies. ● Waste oil, other petroleum products and untreated wastewater shall not be discharged to 	<ul style="list-style-type: none"> ● Not required 	<p>During Construction</p> <p>Monitoring waste quantity and quality, such as excavated soil, waste soil and so on.</p>	RDA (ESD), PMU,CEA and Local Authority, Contractor

Item	Proposed Mitigation Measures			Monitoring Plan	Monitoring Agency/ Division
	Before construction	During construction	During operation		
		the ground so that to avoid soil pollution. Adequate measures shall be taken against pollution of soil by spillage of petroleum/oil products from storage tanks and containers.			
Accidents, worker health and safety	<ul style="list-style-type: none"> Informing the public about the project. 	<ul style="list-style-type: none"> Awareness programmes for all worker groups on sanitation and diseases. At every workplace, first aid kit shall be provided as per the regulations. At every workplace an ambulance room containing the prescribed equipment and nursing staff shall be provided. Contractor shall comply with the provisions in Health and Safety regulations under the Factory Ordinance with regard to provision of health and safety measures and amenities at work place(s). All workers employed in hazardous activities shall be provided with the necessary protective gear. These activities include mixing asphalt material, cement, lime mortars, concrete etc., welding work, work at crushing plants, blasting work, operators of machinery and equipment such as power saws, etc. All electrical wiring and supply related work will confirm to British Standards (BS) or relevant Sri Lankan Standards. Adequate precautions will be taken to prevent danger of electrocuting from electrical equipment and power supply lines including distribution boards, transformers, etc. Measures such as danger signboards, danger/red lights, fencing and lights will be provided to protect the public and workers. 	<ul style="list-style-type: none"> Not required 	<p>During construction stage</p> <p>Monitor and record the frequency of Accidents of workers and traffic accidents</p> <p>Construction site confirmation</p> <p>Complaints related to the environment</p>	ESD RDA, PMU, Local Authority, (Public Health Inspector Chief's Engineer, and Police Department, Factory Inspection Engineer, Labour Department

Item	Proposed Mitigation Measures			Monitoring Plan	Monitoring Agency/ Division
	Before construction	During construction	During operation		
		Enforcement of traffic control plan.			
Waste	<ul style="list-style-type: none"> ● Not required 	<ul style="list-style-type: none"> ● Contractor prior to the commencement of work shall provide lists of harmful, hazardous and risky chemicals/ material that will be used in the project work to the Engineer. ● Labor camps shall be provided with adequate and appropriate facilities for disposal of sewerage and solid waste. The sewage systems shall be properly designed, built and operated so that no pollution to ground or adjacent water bodies/watercourses takes place. ● Waste, oil and grease from service yards and workshop area should only be disposed at approved locations after treatment. ● Used cement bags should not be burned, they should be returned to the manufacturer. ● Contractor shall also provide the list of places where such chemicals/materials or their containers or other harmful materials have been dumped as waste at the end of the project. ● The contractor shall clean up any area including water-bodies affected/contaminated (if any) as directed by the engineer at his own cost. 	<ul style="list-style-type: none"> ● Not required 	<i>During construction</i> Periodical monitoring once a month	ESD RDA CEA and Local Authority, SLLRDC
Traffic congestion	<ul style="list-style-type: none"> ● Not required 	<ul style="list-style-type: none"> ● Setup diversion for minimization of construction traffic congestion ● Setup of sidewalk along the construction area ● The contractor shall follow the relevant labor law 	<ul style="list-style-type: none"> ● Not required 	<i>During construction stage</i> Monitoring of traffic congestion	RDA (ESD), PMU, CEA and Local Authority, Police Department

RDA= Road Development Authority ESD= Environmental and Social Division, WRB= Water Resources Board, PMU= Project Management Unit, CEA= Central Environmental Authority SLLRDC= Sri Lanka Land Reclamation and Development Corporation

Annex 9.1B-Environmental Monitoring Plan(EMoP)

Environmental component	Project Stage	Parameters to be Monitored	Location	Frequency	Standards	Rate (Rs.)	Amount (Rs.)	Implementation and Supervision
Air Quality	Before construction stage	SPM, PM10, NO ₂ , CO, SO ₂ , Pb (including wind direction and velocity at time of measurement)	8 locations (Sri Bhoopala Vinayaker Kovil, Peliyagoda; Sri Lanka Cement Cooperation Outlet, Peliyagoda; Jayantha saw mills, Sedawatta road; Premises of Minimuthu Suppliers, Wellampitiya; Shanchi Viharaya, New Kanani Bridge Road; Near premises of Near premises of Sri Somaloka Viharaya, No. 150, States Road) Note: Baseline monitoring of air quality parameters was done at the above locations.	Once	NAAQS of Sri Lanka	Per sample 40,000	320,000	Contractor (to take measurement using an organization acceptable to CEA) RDA through Supervision consultant with close consultation with ESD Division
	During construction stage	SPM, PM10, NO ₂ , CO, SO ₂ , Pb (including wind direction and velocity at time of measurement)	8 locations (Sri Bhoopala Vinayaker Kovil, Peliyagoda; Sri Lanka Cement Cooperation Outlet, Peliyagoda; Jayantha saw mills, Sedawatta road; Premises of Minimuthu Suppliers, Wellampitiya; Shanchi Viharaya, New Kanani Bridge Road; Near premises of Near premises of Sri Somaloka Viharaya, No. 150, States Road)	Construction - 4 times/Yr for 3 Yrs (however, additional measurements may need to be taken in case there are complaints of deterioration of air quality)	NAAQS of Sri Lanka	Per sample 40,000	3,840,000	Contractor(to take measurement using an organization acceptable to CEA) RDA through Supervision consultant with close consultation with ESD Division
	During operation stage	SPM, PM10, NO ₂ , CO, SO ₂ , Pb (including wind direction and velocity at time of measurement)	3 locations (Should be decided during detail design stage)	On any complaint basis	NAAQS of Sri Lanka	Per sample 40,000	120,000	RDA through ESD Division CEA
Water Quality	Before construction stage	Temperature, pH, Electrical Conductivity, DO,	5 locations including 2 locations on Kelani river (upstream and downstream)	Once	CEA Water Quality Regulation	Per sample 10,000	50,000	Contractor(to take measurement using an organization acceptable to CEA

Environmental component	Project Stage	Parameters to be Monitored	Location	Frequency	Standards	Rate (Rs.)	Amount (Rs.)	Implementation and Supervision
		BOD, Total Suspended Solids, Oil and grease, Total Coliform count.						RDA through Supervision consultant with close consultation with ESD Division
	Before construction stage	Temperature, pH, Electrical Conductivity, DO, BOD, Total Suspended Solids, Oil and grease, Total Coliform count.	5 locations including 2 locations on Kelani river (upstream and downstream)	Construction – 4 times/Yr for 3 Yrs	CEA Water Quality Regulations	Per sample 10,000	600,000	Contractor(to take measurement using an organization acceptable to CEA RDA through Supervision consultant with close consultation with ESD Division
	During Operation stage	Temperature, pH, Electrical Conductivity, DO, BOD, Total Suspended Solids, Oil and grease, Total Coliform count.	5 locations including 2 locations on Kelani river (upstream and downstream) –Should be decided during detail design stage	On any complaint basis	CEA Water Quality Regulations	Per sample 10,000	50,000	RDA through ESD Division CEA
	Before construction stage	Leq 90 and Leq 50 values and ground vibration levels	8 locations (Sri Bhoopala Vinayaker Kovil, Peliyagoda; Sri Lanka Cement Cooperation Outlet, Peliyagoda; Jayantha saw mills, Sedawatta road; Premises of Minimuthu Suppliers, Wellampitiya; Shanchi Viharaya, New Kanani Bridge Road; Near premises of Near premises	Once	CEA Regulations on ambient noise levels and permissible ground vibration levels	Per sample 10,000	80,000	Contractor(to take measurement using an organization acceptable to CEA RDA through Supervision consultant with close consultation

Environmental component	Project Stage	Parameters to be Monitored	Location	Frequency	Standards	Rate (Rs.)	Amount (Rs.)	Implementation and Supervision
Noise and vibration			of Sri Somaloka Viharaya, No. 150, States Road) Note: Baseline monitoring of noise levels and vibration were done at above locations.					with ESD Division
	During construction stage	Leq 90 and Leq 50 values and ground vibration levels	8 locations (Sri Bhoopala Vinayaker Kovil, Peliyagoda; Sri Lanka Cement Cooperation Outlet, Peliyagoda; Jayantha saw mills, Sedawatta road; Premises of Minimuthu Suppliers, Wellampitiya; Shanchi Viharaya, New Kanani Bridge Road; Near premises of Near premises of Sri Somaloka Viharaya, No. 150, States Road)	Construction - 4 times/Yr for 3 Yrs (however, additional measurements may need to be taken in case there are complaints of high noise and vibration levels).	CEA Regulations on ambient noise levels and permissible ground vibration levels	Per sample 10,000	960,000	Contractor(to take measurement using an organization acceptable to CEA RDA through Supervision consultant with close consultation with ESD Division
	During operation stage	Leq 90 and Leq 50 values and ground vibration levels	3 locations (Should be decided during detail design stage)	On any complaint basis	CEA Regulations on ambient noise levels and permissible ground vibration levels	Per sample 10,000	30,000	RDA through ESD Division Central Environmental Authority
Flora, Fauna & Biodiversity	During construction stage	Diversity of species	50 m up and down stream of the new bridge construction location. Area within ROW for the new approach roads	2 visits/year for 3yrs		Per sample 30,000	180,000	Contractor(to take measurement using an organization acceptable to CEA RDA/ESD Division

Environmental component	Project Stage	Parameters to be Monitored	Location	Frequency	Standards	Rate (Rs.)	Amount (Rs.)	Implementation and Supervision
	During Operation stage	Survival of trees	Land available within interchange areas	2 visits/ year for 2 years	Percentage of survival	Per sample 30,000	120,000	Chief Engineer's office RDA (ESD)
Total Cost							5,750,000	

Note:

CO=carbon monoxide, HC=hydrocarbons,

LA= Local authority, NAAQS= National Air Quality Standards, NO₂= Nitrogen Dioxide, Pb=lead, PM10= Reparable particulate matter<10micrometers diameter,

RDA=Road Development Authority, SO₂=Sulphur dioxide, SPM= suspended particulate matter, ESD – Environmental and Social Division,CEA = Central Environmental Authority

Above Environmental Monitoring Plan should be updated during project detail design stage before including into tender documents. The update EMoP should include rates and total cost for the monitoring program during the construction period. The contractor should secure monitory budget to cover the expenses for carrying out the monitoring program during the construction period.



DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF PORTS AND HIGHWAYS
ROAD DEVELOPMENT AUTHORITY (RDA)



**PROPOSED SECOND NEW KELANI BRIDGE PROJECT
A PROJECT FOR TRAFFIC IMPROVEMENT AROUND EXISTING
NEW KELANI BRIDGE**



**ENVIRONMENTAL IMPACT ASSESSMENT
(Final Report)**

August 2013

Volume II B – NBRO Reports

Submitted to;
Central Environmental Authority
Ministry of Environmental and Renewable Energy

Submitted By;
Road Development Authority
Ministry of Ports and Highways

Prepared By:
Oriental Consultants Co., Ltd, Japan
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**REPORT ON
THE MONITORING OF BASELINE AIR QUALITY FOR THE
EIA STUDY FOR TRAFFIC IMPROVEMENT PROJECT
AROUND NEW KALANI BRIDGE**

(For Consulting Engineering & Architects Association (Pvt) Ltd)

(April 2013)



**ENVIRONMENTAL STUDIES & SERVICE DIVISION
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**REPORT ON THE MONITORING OF BASELINE AIR QUALITY FOR
THE EIA STUDY FOR TRAFFIC IMPROVEMENT PROJECT AROUND
NEW KALANI BRIDGE**

(For Consulting Engineering & Architects Association (Pvt) Ltd)

(APRIL 2013)

Date of Issued : 28th April 2013

**Report No : NBRO/ENV/26201/2013/084a
AQP/2013/084a**

Issued To:

**Senior Project Coordinator,
Consulting Engineering & Architects Association (Pvt) Ltd.,
No. 500/5, Thalapathpitiya Road,
Madiwela,
Kotte.**

Issued By:

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This report contain ten pages



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திகதி } 26th April 2013
Date }

Client: Senior Project Coordinator
Consulting Engineering & Architects Association (Pvt) Ltd.
No. 500/5, Thalapathpitiya Road,
Madiwela,
Kotte.

**REPORT ON THE MONITORING OF BASELINE AIR QUALITY
FOR THE EIA STUDY FOR TRAFFIC IMPROVEMENT PROJECT AROUND NEW
KALANI BRIDGE**

(April 2013)

(For Consulting Engineering & Architects Association (Pvt) Ltd)

1. SCOPE

Request was made by the client, Senior Project Coordinator, Consulting Engineering & Architects Association (Pvt) Ltd. No. 500/5, Thalapathpitiya Road, Madiwela, Kotte to the Environmental Studies & Service Division (ESSD) of National Building Research Organisation (NBRO) to measure the baseline air quality levels with respect to Nitrogen Dioxide (NO₂), Sulphur Dioxide (SO₂), Carbon Monoxide (CO), Carbon Dioxide (CO₂), Total Suspended Particulate Matter (SPM) and Particulate Matter Aerodynamic Diameter is less than 10µm in size (PM10) at selected locations around the Project area of the Traffic Improvement Project Around New Kalani Bridge to assess the baseline environmental condition for the Environmental Impact Assessment Study of the Project.

In this regard, the following officers of Environmental Division of NBRO carried out the air sampling program on 5th– 6th and 22nd-23rd April 2013.

Staff Involved:

Mr. H.D.S Premasiri	- Senior Scientist	- Air Quality Studies
Mr. D.M.M.R.Dissanayaye	- Scientist	- Air Quality Studies
Mr. W.A.Weerasinghe	- Field Assistant	- Air Quality Studies
Mr. N.Krishnamoorthi	- Field Assistant	- Air Quality Studies
Mr. A.S.Premarathna	- Field Assistant	- Air Quality Studies
Mr. M.Fasmil	- Field Assistant	- Air Quality Studies

Cont.....2

2. DESCRIPTION OF THE PROJECT

The project has been initiated by Road development authority of Ministry of Port and Highways to study a situation to relieves the traffic loading and traffic congestion around the new Kelani bridge area. As a result it is proposed to construct another bridge parallel to the existing bridge. Since the project is prescribed project under the National environmental Act and category A project under JICA (the funding agency to the project) Environmental and Social Consideration, it is require to Environmental Impact Assessment Study report for the project. This monitoring programme is scheduled to monitor baseline air quality date to assess the existing air quality levels around the project area to assess the existing environmental condition.

The project study area is area around the New Kalani Bridge within the Colombo Municipal Council area and Kelaniya Pradesiya Shaba area. The area can be considered as an urban area which industrial, commercial, residential activities and commercial & residential buildings, shanties, state office buildings etc are seen in the vicinity. The main sources that contribute to air pollution levels are vehicular, industrial, commercial and domestic emissions in the area.

3. WEATHER CONDITION

The monitoring day was a sunny day with fair scattered wind. The prevailing wind direction and speeds are given in table 1.

Table 1. Wind speed and direction during the sampling time.

Time	05 April 2013		06 April 2013		22 April 2013		23 April 2013	
	Wind Direction	Wind Speed (km/hr)	Wind Direction	Wind Speed (km/hr)	Wind Direction	Wind Speed (km/hr)	Wind Direction	Wind Speed (km/hr)
02:30	Calm	0	Calm	0	Calm	0	Calm	0
05:30	Calm	0	S	3.8	Calm	0	E	3.0
08:30	SSE	1.8	SW	2.0	SE	4.6	NE	4.2
11:30	W	6.4	WNW	10.6	S	8.4	SW	4.4
14:30	SW	6.0	W	10.6	SW	10.6	W	5.2
17:30	W	5.0	W	10.8	SW	8.2	NW	4.2
20:30	W	5.6	SW	4	Calm	0	NE	3.6
23:30	Calm	0	SW	2.8	Calm	0	Calm	0

Cont...3

4. AMBIENT AIR QUALITY MONITORING

4.1 AIR QUALITY SAMPLING LOCATIONS

Eight locations were selected by the client by consultation with the consultant for the monitoring of air quality to represent project activities. Location description is given in Table 2 and attached area map (Figure 1 & 2).

Table 2: Ambient air quality sampling location description

Location No.	GPS Coordinates	Location Description
Laq1	06° 57' 20.01" N 079° 53' 03.61" E	At the roadside of Kandy Road, in front of Sri Bhoopala Vinayaker Kovil, Peliyagoda
Laq2	06° 57' 24.89" N 079° 52' 57.38" E	At the roadside of Nigambo Road, Peliyagoda, in front of the Sir Lanka Cement Cooperation Outlet
Laq3	06° 57' 13.21" N 079° 52' 56.50" E	At the roadside of Seedawatha Road, Wellampitiya, close to the Jayantha saw mills
Laq4	06° 57' 15.49" N 079° 52' 52.02" E	At the Premises of Minimuthu Suppliers, No 43/1, Seedawatha Road, Wellampitiya
Laq5	06° 57' 00.96" N 079° 52' 39.74" E	At the premises of Shanchi Viharaya, New Kanani Bridge Road, Wellampitiya.
Laq6	06° 56' 53.90" N 079° 52' 44.60" E	At the roadside, close to the premises of
Laq7	06° 56' 41.17" N 079° 52' 42.77" E	At the premises of
Laq8	06° 58' 36.66" N 079° 52' 38.95" E	At the premises of Sri Somaloka Viharaya, No. 150, States Road, Colombo 14

- Refer attached layout map for further detail

4.2. SAMPLING AND ANALYTICAL CONDITIONS

Air samples were collected from selected locations as per the methods stipulated in National Ambient Air Quality Standards on eight (08) hour basis for the analysis of CO & CO₂ to cover 24 hours. Sampling duration for the analysis of SO₂, NO₂, SPM and PM₁₀ were 24 hours. The sampling receiver height was about 3 m from the ground level and the sampling rates were 0.7 l/min for SO₂, NO₂ and 1 l/min for CO & CO₂. The sampling rate for SPM, PM₁₀ & Pb sampling were 18 l/min. CO & CO₂ levels were measured at the site. After the sampling period, samples collected for the analysis of SO₂ and NO₂ were stored in a cooler box and SPM and PM₁₀ samples were stored in filter cassettes and sent to the NBRO laboratory for the analysis.



Cont...4

Laboratory was received samples at 15:00 hrs on 05th April and 23rd April 2013 in satisfactory condition and they were analyzed on the same day for SO₂ and NO₂. SPM and PM10 samples were analysed on 10th April and 26rd April 2013 after drying to a constant weight in a dessicator. Sampling and analytical methods used for each parameter is given in table 3 below.

4.3 SAMPLING AND ANALYTICAL METHODS

Table 2: Description of the analytical methods for each parameter for ambient sampling

Parameter	Testing Method	Minimum Detection Limits of the Method	CEA Recommended method	Instrumentation
SO ₂	ASTM D 2914 - 78, 1987 West-Gaek & Pararosaniline Spectrometric method	4 µg/m ³ (0.0015 ppm)	Pararosaniline method or equivalent (pulsed fluorescent method)	*Standard Personal Air Samplers * UV-Visible Spectrophotometer
NO ₂	ASTM D 1607 - 76, 1987, Griess – Saltzman Reaction Method	4 µg/m ³ (0.002 ppm)	Colorimetric using Saltzman method or equivalent (gas phase Chemiluminescence)	*Standard Personal Air Samplers * UV – Visible Spectrophotometer
CO & CO ₂	ASTM D 3162 – 78, 1987 Non - dispersive infrared Spectrometric method	1 ppm	Non - dispersive infrared(IR) spectroscopy	*REAIQA analyser
SPM	ASTM D 4096 - 82, 1997 High - Volume Sampling and Gravimetric Analysis	2 µg/m ³	Hi - volume sampling, and Gravimetric	* High Volume Sampler * Sartorius analytical balance
PM10	ASTM D 4096 - 82, 1997 High - Volume Sampling and Gravimetric Analysis	2 µg/m ³	Hi - volume sampling, and Gravimetric	* High Volume Sampler with size selective sample inlet * Sartorius analytical balance



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4.4 AMBIENT AIR QUALITY MONITORING RESULTS

Table 3: Concentration of each parameter at sampling location

Location	Sampling Date	Date of Analysis	Time average	Concentration ($\mu\text{g}/\text{m}^3$)					
				SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	CO (ppm)	CO ₂ (ppm)	SPM ($\mu\text{g}/\text{m}^3$)	PM ₁₀ ($\mu\text{g}/\text{m}^3$)
Laq1	22.04.2013	22.04.2013	8 hrs	-	-	6.7	1120	-	-
		23.04.2013	24 hrs	24	28	4	670	-	-
		26.04.2013	24 hrs	-	-	-	-	72	43
Laq2	05.04.2013	06.04.2013	8 hrs	-	-	6.7	1080	-	-
		06.04.2013	24 hrs	12.7	25	4	650	-	-
		10.04.2013	24 hrs	-	-	-	-	157	68
Laq3	05.04.2013	06.04.2013	8 hrs	-	-	5	960	-	-
		06.04.2013	24 hrs	19	33	3	580	-	-
		10.04.2013	24 hrs	-	-	-	-	168	67
Laq4	05.04.2013	06.04.2013	8 hrs	-	-	3.3	970	-	-
		06.04.2013	24 hrs	12	18	2	580	-	-
		10.04.2013	24 hrs	-	-	-	-	91	55
Laq5	22.04.2013	22.04.2013	8 hrs	-	-	6.7	1030	-	-
		23.04.2013	24 hrs	31	33	4	620	-	-
		26.04.2013	24 hrs	-	-	-	-	66	39
Laq6	05.04.2013	06.04.2013	8 hrs	-	-	3.3	990	-	-
		06.04.2013	24 hrs	13	17	2	600	-	-
		10.04.2013	24 hrs	-	-	-	-	117	44
Laq6	22.04.2013	22.04.2013	8 hrs	-	-	5	940	-	-
		23.04.2013	24 hrs	17	16	3	560	-	-
		26.04.2013	24 hrs	-	-	-	-	52	31
Laq8	22.04.2013	22.04.2013	8 hrs	-	-	5	920	-	-
		23.04.2013	24 hrs	18	22	3	540	-	-
		26.04.2013	24 hrs	-	-	-	-	49	30

4.5 AMBIENT AIR QUALITY STANDARDS

Table 4a. The permissible Ambient Air Quality standards stipulated under the Extraordinary Gazette, No. 1562/22, August 15, 2008 by the Ministry of Environmental and Natural Resources of Sri Lanka.


POLLUTANT	TIME AVERAGE	CONCENTRATION ($\mu\text{g}/\text{m}^3$)
Sulfur Dioxide (SO_2)	24 hrs	80
Nitrogen Dioxide (NO_2)	24 hrs	100
Carbon Monoxide (CO)	8 hrs	10,000
Respirable Particulate Matter (PM10)	24 hrs	100

Table 4b. As specified in ambient Air Quality Standards stipulated under the Extraordinary Gazette, No. 850/4, December 20, 1994, by the Central Environmental Authority of Sri Lanka.

POLLUTANT	TIME AVERAGE	CONCENTRATION ($\mu\text{g}/\text{m}^3$)
*Suspended Particulate Matter (SPM)	24 hrs	300

5. CONCLUSIONS

1. Measured existing ambient air quality levels with respect to SO_2 , NO_2 , CO and PM 10 were below the Ambient Air Quality Standards stipulated by the Ministry of Environment & Natural Resources of Sri Lanka (Extraordinary Gazette No. 1562/22, August 15, 2008).
2. Measured existing ambient air quality levels with respect to SPM was within the Ambient Air Quality Standards stipulated under the Extraordinary Gazette, No. 850/4, December 20, 1994, by the Central Environmental Authority of Sri Lanka.


.....
H.D.S. Premasiri
Coordinator/Air Quality
Environmental Division

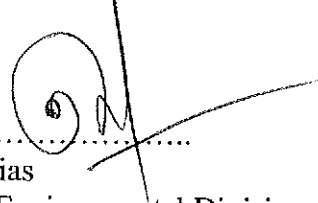

.....
S.V. Dias
Head/Environmental Division
National Building Research Organisation

Figure I: Air quality monitoring locations map

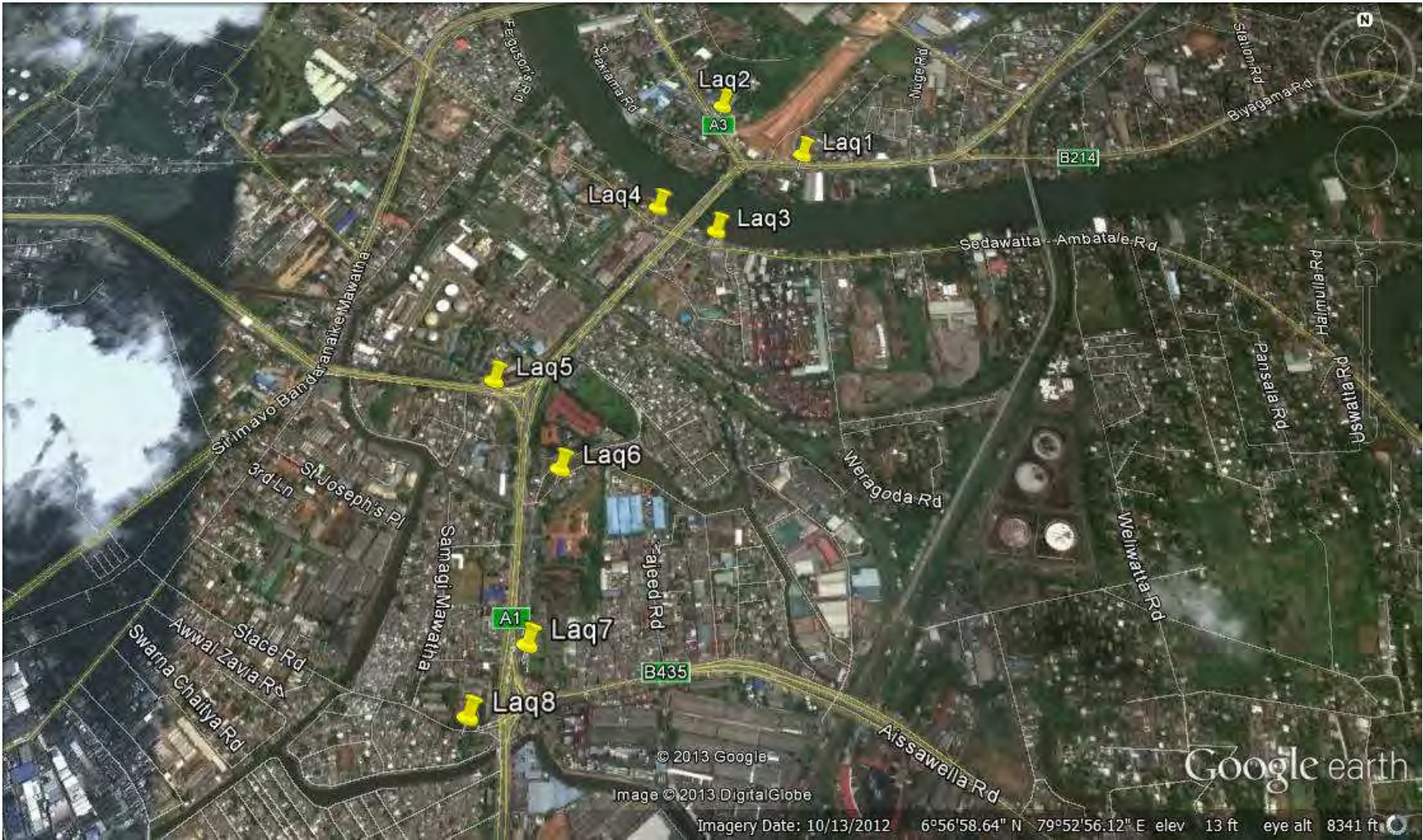




Figure 2; Air Quality monitoring locations images

					
Laq1	06 ⁰ 57' 20.01" N 079 ⁰ 53' 03.61" E	At the roadside of Kandy Road, in front of Sri Bhoopala Vinayaker Kovil, Peliyagoda			
					
Laq2	06 ⁰ 57' 24.89" N 079 ⁰ 52' 57.38" E	At the roadside of Nigambo Road, Peliyagoda, in front of the Sir Lanka Cement Cooperation Outlet			
					
Laq3	06 ⁰ 57' 13.21" N 079 ⁰ 52' 56.50" E	At the roadside of Seedawatha Road, Wellampitiya, close to the Jayantha saw mills			

					
Laq4		06° 57' 15.49" N 079° 52' 52.02" E	At the Premises of Minimuthu Suppliers, No 43/1, Seedawatha Road, Wellampitiya		

 A photograph showing three men in a field. One man in a white shirt is holding a large map or document, while two other men, one in a pink shirt and one in a yellow shirt, look on. In the background, there are palm trees, a utility pole with a light fixture, and a large wooden signpost.	 A photograph of a road scene. On the right, a white container truck is parked. On the left, there is a decorative wall with a statue of a person on top. A person is standing near the truck, and a tripod is visible on the road.
<p>Laq5</p> <p>06° 57' 00.96" N 079° 52' 39.74" E</p>	<p>At the premises of Shanchi Viharaya, New Kanani Bridge Road, Wellampitiya.</p>

	
Laq6 06 ⁰ 56' 53.90" N 079 ⁰ 52' 44.60" E	At the roadside, close to the premises of

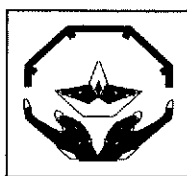
		
Laq7	<p>06° 56' 41.17" N 079° 52' 42.77" E</p>	At the premises of

		
Laq8	<p>06° 58' 36.66" N 079° 52' 38.95" E</p>	At the premises of Sri Somaloka Viharaya, No. 150, States Road, Colombo 14

**REPORT ON
THE MONITORING OF BASELINE NOISE LEVELS FOR
THE EIA STUDY FOR TRAFFIC IMPROVEMENT PROJECT
AROUND NEW KALANI BRIDGE**

(For Consulting Engineering & Architects Association (Pvt) Ltd)

(April 2013)



**ENVIRONMENTAL STUDIES & SERVICE DIVISION
NATIONAL BUILDING RESEARCH ORGANISATION
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**REPORT ON THE MONITORING OF BASELINE NOISE LEVELS FOR
THE EIA STUDY FOR TRAFFIC IMPROVEMENT PROJECT AROUND
NEW KALANI BRIDGE**

(For Consulting Engineering & Architects Association (Pvt) Ltd)

(APRIL 2013)

Date of Issued : 28th April 2013

**Report No : NBRO/ENV/26201/2013/084b
AQP/2013/084b**

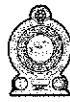
Issued To:

**Senior Project Coordinator,
Consulting Engineering & Architects Association (Pvt) Ltd.,
No. 500/5, Thalapathpitiya Road,
Madiwela,
Kotte.**

Issued By:

***Environmental Studies & Service Division
National Building Research Organisation
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Sri Lanka.***

This report contain ten pages



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அனர்த்த முகாமைத்துவ அமைச்சு
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தேசிய கட்டிட ஆராய்ச்சி நிறுவனம்
NATIONAL BUILDING RESEARCH ORGANISATION

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99/1, ஜாவத்தை வீதி, கொழும்பு 5.
99/1, Jawatta Road, Colombo 5.

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Our Ref. } AQP/2013/084b

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உமது இல }
Your Ref. }

දිනය } 26th April 2013
திகதி }
Date }

Client: Senior Project Coordinator
Consulting Engineering & Architects Association (Pvt) Ltd.
No. 500/5, Thalapathpitiya Road,
Madiwela,
Kotte.

REPORT ON THE MEASUREMENT OF BASELINE NOISE LEVELS
FOR THE EIA STUDY FOR TRAFFIC IMPROVEMENT PROJECT AROUND NEW
KALANI BRIDGE

(April 2013)

(For Consulting Engineering & Architects Association (Pvt) Ltd)

1. SCOPE

Request was made by the client, Senior Project Coordinator, Consulting Engineering & Architects Association (Pvt) Ltd. to the Environmental Studies & Service Division (ESSD) of National Building Research Organisation (NBRO) to measure the baseline noise levels at selected locations around the Project area of the Traffic Improvement Project Around New Kalani Bridge to assess the baseline environmental condition for the Environmental Impact Assessment Study of the Project.

In this regard, the following officers of Environmental Division of NBRO carried out the air sampling program on 5th & 6th April 2013.

Staff Involved:

Mr. H.D.S Premasiri	- Senior Scientist	- Air Quality Studies
Mr. D.M.M.R.Dissanayake	- Scientist	- Air Quality Studies
Mr. W.A.Weerasinghe	- Field Assistant	- Air Quality Studies
Mr. N.Krishnamoorthi	- Field Assistant	- Air Quality Studies
Mr. A.S.Premarathna	- Field Assistant	- Air Quality Studies
Mr. M Fasnil	- Field Assistant	- Air Quality Studies

Cont.....2

2. DESCRIPTION OF THE PROJECT

The project has been initiated by Road development authority of Ministry of Port and Highways to study a situation to relieves the traffic loading and traffic congestion around the new Keleni bridge area. As a result it is proposed to construct another bridge parallel to the existing bridge. Since the project is prescribed project under the National environmental Act and category A project under JICA (the funding agency to the project) Environmental and Social Consideration, it is require to Environmental Impact Assessment Study report for the project. This monitoring programme is scheduled to monitor baseline noise levels to assess the existing noise levels around the project area to assess the existing environmental condition.

The project study area is area around the New Kalani Bridge within the Colombo Municipal Council area and Kelaniya Pradesiya Shaba area. The area can be considered as an urban area which industrial, commercial, residential activities and commercial & residential buildings, shanties, state office buildings etc are seen in the vicinity. The main sources that contribute to noise levels are vehicular, industrial, commercial and domestic activities in the area.

3. WEATHER CONDITION

The monitoring day was a sunny day with fair scattered wind. The prevailing wind direction and speeds are given in table 1.

Table 1. Wind speed and direction during the sampling time.

Time	05 April 2013		06 April 2013	
	Wind Direction	Wind Speed (km/hr)	Wind Direction	Wind Speed (km/hr)
02:30	Calm	0	Calm	0
05:30	Calm	0	S	3.8
08:30	SSE	1.8	SW	2.0
11:30	W	6.4	WNW	10.6
14:30	SW	6.0	W	10.6
17:30	W	5.0	W	10.8
20:30	W	5.6	SW	4
23:30	Calm	0	SW	2.8



Cont.....3

4. NOISE LEVEL MEASUREMENTS

4.1 NOISE MEASURING LOCATIONS

In this regard, ten (10) locations were identified for the baseline survey by the client and NBRO officers for the measurement of noise levels. Location description is given in Table 1 and attached area map (Figure 1 and 2).

Table 1: Ambient Noise Level Measuring Location Description


Location No.	GPS Coordinates	Location Description
N1	06° 57' 20.01" N 079° 53' 06.60" E	At the roadside of Kandy Road, Close to the Keleniya CTB Deport, Peliyagoda
N2	06° 57' 24.89" N 079° 52' 57.38" E	At the roadside of Nigambo Road, Peliyagoda, in front of the Sir Lanka Cement Cooperation Outlet
N3	06° 57' 15.74" N 079° 52' 51.48" E	At the Premises of Minimuthu Suppliers, No 43/1, Seedawatha Road, Wellampitiya
N4	06° 57' 13.14" N 079° 52' 56.60" E	At the roadside of Seedawatha Road, Wellampitiya, close to the Jayantha saw mills
N5	06° 57' 08.05" N 079° 52' 51.46" E	At the Nawaloka Ground, Wellampitiya, Close to the residential houses
N6	06° 57' 09.46" N 079° 52' 49.87" E	At the roadside, New Kalani bridge road, Wellampitiya, Close to the Nawaloka Ground
N7	06° 57' 01.14" N 079° 52' 40.02" E	At the roadside of the New Kanani Bridge Road, Close to the Shanchi Viharaya, Wellampitiya.
N8	06° 56' 53.90" N 079° 52' 44.60" E	At the roadside, close to the premises of
N9	06° 56' 41.17" N 079° 52' 42.77" E	At the premises of
N10	06° 58' 36.66" N 079° 52' 38.35" E	At the premises of Sri Somaloka Viharaya, No. 150, States Road, Colombo 14

- Refer attached layout map for further detail

4.2 MEASURING INSTRUMENTS

Sound level meter : RION NA 28
Calibrator : RION NC 74 – IEC 60942:2003, class I
Calibration due : November 2013

The sound level meter conforms to the requirements of both IEC 61672-1:2002 class I and JIS C 1509-1:2005 class 1.



Cont.....4

4.3 METHOD OF MEASUREMENTS

The sound level measurements were carried out in accordance with the methods laid down in International Organisation for Standardization (ISO) 1996 (part 1,2,3) and BS 4142; 1990, as stipulated in National Environmental Noise Control Regulations stipulated under the Extraordinary Gazette No. 924/12- Thursday, May 23, 1996 by the Central Environmental Authority (CEA) of Sri Lanka. The chosen method was the direct method, is that by measuring the equivalent continuous A weighted sound pressure level (Leq,T) was measured for a periods of T (5 minute) with the integrated time of one (1.0) second in the fast selection mode of the meter.

4.4 MEASURING CONDITIONS

A set of 5-minute continuous time integrated noise levels was taken at selected locations to cover morning, afternoon, evening and night time of a day. The measuring time was done during, for about:

- taken at 08.00 represent 06.00 – 09.00 - Morning
- taken at 12.00 represent 11.00 – 13.00 - Afternoon
- taken at 19.00 represent 17.00 – 22.00 - Evening
- taken at 23.00 represent 22.00 – 24.00 - Night

It was noticed that localised noise sources such as vehicular movements, commercial, domestic & industrial activities etc. were contribute to measured noise levels.

4.5 NOISE MEASURING RESULTS

Table 2: Noise Levels at each monitoring location on 5th – 6th April 2013

Location	Measuring Date	Morning			Afternoon			Evening			Night		
		Leq	L ₅₀	L ₉₀	Leq	L ₅₀	L ₉₀	Leq	L ₅₀	L ₉₀	Leq	L ₅₀	L ₉₀
N1	6/04/2013	80	76	73	81	76	74	79	75	73	72	68	62
N2	6/04/2013	78	74	69	75	71	67	77	74	70	74	71	72
N3	6/04/2013	69	63	58	64	59	54	61	57	52	53	47	45
N4	6/04/2013	78	71	68	64	57	52	63	56	51	58	53	49
N5	6/04/2013	68	65	62	66	62	60	67	64	61	66	59	54
N6	5/4/2013	79	74	71	78	74	70	80	72	67	75	71	65
N7	5/4/2013	80	75	71	77	74	70	78	70	67	75	71	65
N8	5/4/2013	66	64	61	65	61	58	64	61	58	59	58	57
N9	5/4/2013	71	69	66	70	68	66	73	71	69	71	69	62
N10	5/4/2013	69	66	63	70	67	65	72	67	68	64	59	53



Cont.....5

Where;

- **Leq** :- The equivalent continuous noise level over the measuring period (Measured Residual Noise Level).
- **L90**:- The continuous noise level that exceed over the 90% of measuring period (Background Noise Level).
- **L50**:- The continuous noise level that exceed over the 50% of measuring period.

4.6 MAXIMUM PERMISSIBLE NOISE LEVELS

The monitoring locations are around the Project area of the Traffic Improvement Project Around New Kalani Bridge of where the proposed construction work to be undertaken. The maximum permissible noise levels stipulated under the Extraordinary Gazette No. 924/12- Thursday, May 23, 1996 by the Central Environmental Authority (CEA) of Sri Lanka for the construction activities are as follows.

- 75 dB Leq(A) during Day time
- 50 dB Leq(A) during Night time

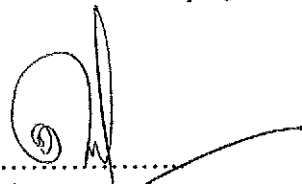
However, the Schedule II (Regulation 3) of the Gazette No. 924/12, May 23 1996 provides that the addition of 3 dB (A) will be allowed to the measured levels when the background noise level exceeds or is marginal to the permissible levels given in Schedule I.

5.0 CONCLUSION

The baseline noise level at the project area is relatively high due to the noise contribution by the vehicles on the nearby roads and other commercial and residential activities. At almost all locations, measured baseline noise levels are marginal or above the day time as well as nighttimes maximum permissible noise levels stipulated under the Extraordinary Gazette No. 924/12- Thursday, May 23, 1996 by the Central Environmental Authority (CEA) of Sri Lanka for the construction activities without any construction activities of the project is started.



H.D.S. Premasiri
Senior Scientist, Coordinator/Air Quality



S.V. Dias
Director/Environmental Division

Figure I: Noise Measuring Locations Map

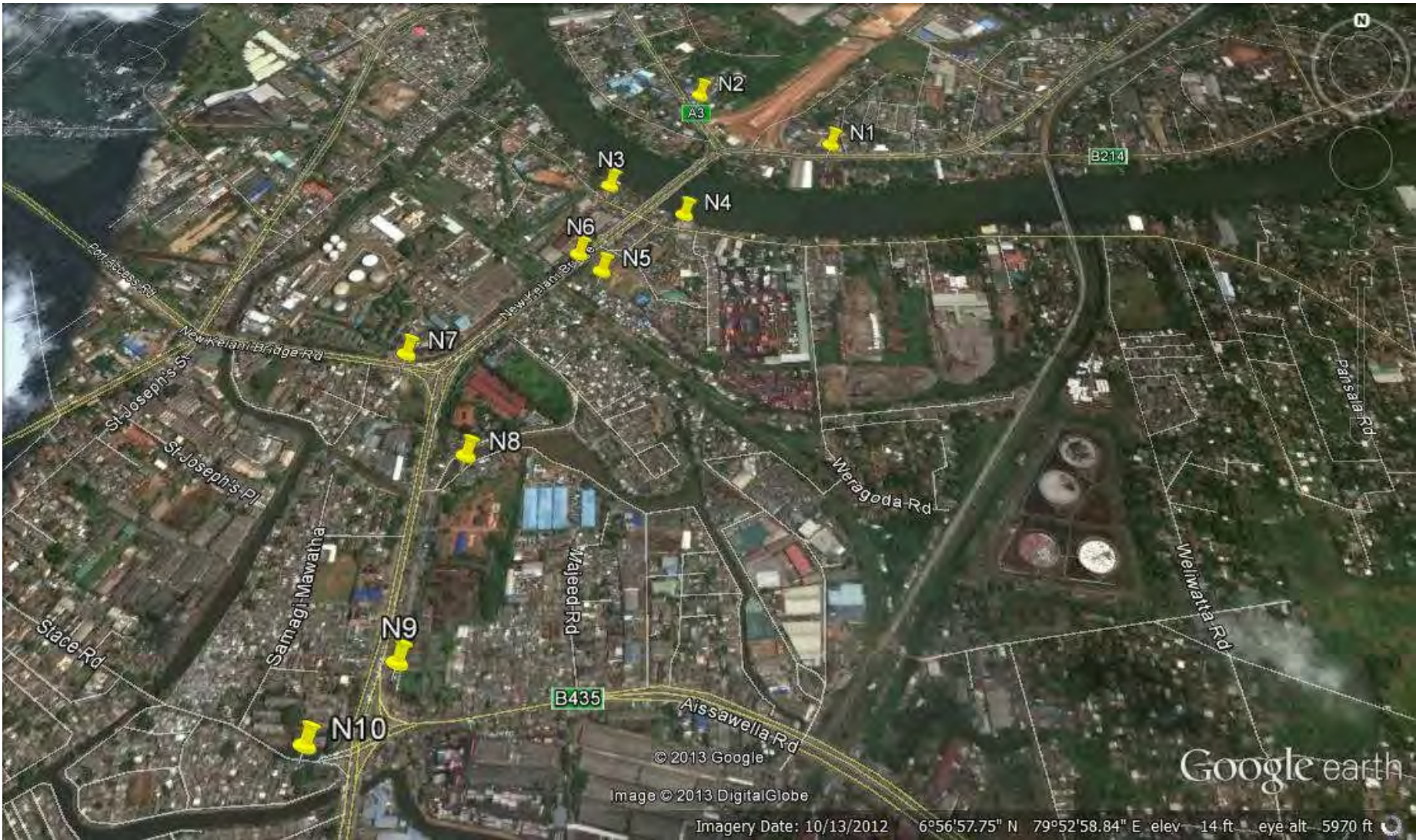



Figure 2. Noise Measuring Locations Images

N1	$06^{\circ} 57' 20.01'' \text{ N } 079^{\circ} 53' 06.60'' \text{ E}$ At the roadside of Kandy Road, Close to the Keleniya CTB Depot, Peliyagoda
N2	$06^{\circ} 57' 24.89'' \text{ N } 079^{\circ} 52' 57.38'' \text{ E}$ At the roadside of Nigambo Road, Peliyagoda, in front of the Sir Lanka Cement Cooperation Outlet
N3	$06^{\circ} 57' 15.74'' \text{ N } 079^{\circ} 52' 51.48'' \text{ E}$ At the Premises of Minimuthu Suppliers, No 43/1, Seedawatha Road, Wellampitiya

		
N4	06° 57' 13.14" N 079° 52' 56.60" E	At the roadside of Seedawatha Road, Wellampitiya, close to the Jayantha saw mills

		
N5	06° 57' 08.05" N 079° 52' 51.46" E	At the Nawaloka Ground, Wellampitiya, Close to the residential houses

		
N6	06° 57' 09.46" N 079° 52' 49.87" E	At the roadside, New Kalani bridge road, Wellampitiya, Close to the Nawaloka Ground



N7	06° 57' 01.14" N 079° 52' 40.02" E	At the roadside of the New Kanani Bridge Road, Close to the Shanchi Viharaya, Wellampitiya.
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N8	06° 56' 53.90" N 079° 52' 44.60" E	At the roadside, close to the premises of
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N9	06° 56' 41.17" N 079° 52' 42.77" E	At the premises of
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N10	06 ⁰ 58' 36.66" N 079 ⁰ 52' 38.35" E	At the premises of Sri Somaloka Viharaya, No. 150, States Road, Colombo 14

**REPORT ON
THE MONITORING OF VIBRATION LEVEL FOR THE EIA
STUDY FOR TRAFFIC IMPROVEMENT PROJECT AROUND
NEW KALANI BRIDGE**

(For Consulting Engineering & Architects Association (Pvt) Ltd)

(April 2013)



**ENVIRONMENTAL STUDIES & SERVICES DIVISION
NATIONAL BUILDING RESEARCH ORGANISATION
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**REPORT ON THE MONITORING OF VIBRATION LEVEL FOR THE
EIA STUDY FOR TRAFFIC IMPROVEMENT PROJECT AROUND
NEW KALANI BRIDGE**

(For Consulting Engineering & Architects Association (Pvt) Ltd)

(APRIL 2013)

Date of Issued : 28th April 2013

**Report No : NBRO/ENV/26201/2013/084c
AQP/2013/084c**

Issued To:

**Senior Project Coordinator,
Consulting Engineering & Architects Association (Pvt) Ltd.,
No. 500/5, Thalapathpitiya Road,
Madiwela,
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Issued By:

***Environmental Studies & Services Division
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This report contain four pages



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அனர்த்த முகாமைத்துவ அமைச்சு
Ministry of Disaster Management



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எனது இலக்கம் NBRO/ENV/26201/2013/084c
Our Ref. AQP/2013/084c

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உமது இல.
Your Ref.

දිනය 26th April 2013
திகதி 26th April 2013
Date

Client: Senior Project Coordinator
Consulting Engineering & Architects Association (Pvt) Ltd.
No. 500/5, Thalapattpitiya Road,
Madiwela,
Kotte.

**REPORT ON THE MONITORING OF VIBRATION LEVEL FOR THE EIA
STUDY FOR TRAFFIC IMPROVEMENT PROJECT AROUND NEW KALANI
BRIDGE**

(April 2013)

(For Consulting Engineering & Architects Association (Pvt) Ltd)

1. SCOPE

Request was made by the client, Senior Project Coordinator, Consulting Engineering & Architects Association (Pvt) Ltd. No. 500/5, Thalapattpitiya Road, Madiwela, Kotte to the Environmental Studies & Service Division (ESSD) of National Building Research Organisation (NBRO) to measure the baseline Vibration levels at selected locations around the Project area of the Traffic Improvement Project Around New Kalani Bridge to assess the baseline environmental condition for the Environmental Impact Assessment Study of the Project.

In this regard, the following officers of Environmental Division of NBRO carried out the vibration monitoring program on 5th - 6th April 2013

Staff Involved:

Mr. H.D.S Premasiri	- Senior Scientist	- Air Quality Studies
Mr. W.A. Weerasinghe	- Field Assistant	- Air Quality Studies
Mr. M Fasnil	- Field Assistant	- Air Quality Studies

2. DESCRIPTION OF THE PROJECT

The project has been initiated by Road development authority of Ministry of Port and Highways to study a situation to relieves the traffic loading and traffic congestion around the new Keleni bridge area. As a result it is proposed to construct another bridge parallel to the existing bridge. Since the project is prescribed project under the National environmental Act and category A project under JICA (the funding agency to the project) Environmental and Social Consideration, it is require to Environmental Impact Assessment Study report for the project.

Cont.....2

This monitoring programme is scheduled to monitor baseline vibration data to assess the existing vibration condition around the project area to assess the existing environmental condition.

The project study area is area around the New Kalani Bridge within the Colombo Municipal Council area and Kelaniya Pradesiya Shaba area. The area can be considered as an urban area which industrial, commercial, residential activities and commercial & residential buildings, shanties, state office buildings etc are seen in the vicinity. The main sources that contribute to vibration levels are movement of heavy vehicles in the road network of the area

3. WEATHER CONDITION

Dry weather with fair scattered wind prevailed during the monitoring period.

4. VIBRATION MEASUREMENTS

4.1 DESCRIPTION OF MONITORING LOCATIONS

Six sensitive locations were selected as per the client's requirement within the study area of the project area of the Traffic Improvement Project Around New Kalani Bridge. The location description is given in Table 1 and refer attached figure 1 & 2 for more information.

Table 1: Vibration Monitoring Location Description

Location	Type of Measurement	Chain age	Distance from the Source (m)	Description of Locations
V1	Structural Vibration	K3. + 350	25m	
V2	Structural Vibration	K3. + 350	32	
V3	Structural Vibration	K3. + 355	40	
V4	Structural Vibration	K3. + 350	47	
V5	Structural Vibration	K3. + 350	47	
V6	Structural Vibration	K3. + 332	37	
V7	Structural Vibration	K3. + 320	29	
V8	Structural Vibration	K3. + 305	20	
V9	Structural Vibration	K3. + 300	28	

Cont....3



4.2 METHOD OF MEASUREMENTS

Continuous vibration levels were recorded at selected locations in accordance with the methods laid down in International Organisation for Standardization - ISO - 4966: 1990E, as stipulated in the interim vibration standard stipulated by the Central Environmental Authority of Sri Lanka.

4.3 MEASURING INSTRUMENTS

Vibration meter : InstanTel BlastMate III
Calibration due : November 2011
Minimum Detection Limit : PPV of 0.07 mm/s

4.4 MEASURING CONDITIONS

Continuous vibration levels (peak particulate velocity levels) were recorded at selected location when the compaction activities are undertaken for the construction of Colombo-Katunayake Expressway. The recording time of the instrument is 5 sec. at 1024 sps in continuous mode and at geo range of 31.7 mm/s.

4.5 VIBRATION MOINTORING RESULTS :

Table 2: Vibration levels at each measuring location on 1st of February 2011

Location	Measuring Condition	Type of Vibration	Start Time	Run Time (min)	Frequency Range (Hz)	Vibration in ppv (mm/sec)
VI	compaction	Intermittent (Structural)	14:06	3	10 - 50	1.05
V2	compaction	Intermittent (Structural)	14:10	3	10 - 50	0.840
V3	compaction	Intermittent (Structural)	14:12	3	10 - 50	0.839
V4	compaction	Intermittent (Structural)	14:17	3	10 - 50	0.976
V5	compaction	Intermittent(Structural)	14:19	3	10 - 50	1.78
V6	compaction	Intermittent (Structural)	14:22	3	10 - 50	0.532
V7	compaction	Intermittent (Structural)	14:24	3	10 - 50	0.708
V8	compaction	Intermittent (Structural)	14:27	3	10 - 50	1.27
V9	compaction	Intermittent (Structural)	14:30	3	10 - 50	1.51



Cont.....4

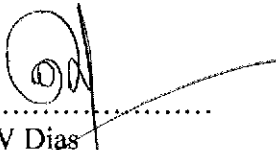
4.6 MAXIMUM PERMISSIBLE VALUES

Table 3. The maximum permissible interim vibration levels stipulated by the Central Environmental Authority of Sri Lanka for different type of structures summaries below.

Structure Type	Type of Vibration	Frequency of Vibration (Hz)	Vibration in ppv (mm/sec)
Type 1 structures – Multi story buildings of reinforced concrete or structural steel, with filling panels of block work, brick work or precast units not designed to resist earthquakes	Continuous	0 - 10	5.0
		10 - 50	7.5
		Over 50	15.0
	Intermittent	0 - 10	10.0
		10 - 50	15.0
		Over 50	30.0
Type 2 structures – Two-storey domestic houses and buildings constructed of made of reinforced block work, precast units, and reinforced floor & roof construction, or wholly of reinforced concepts or similar, not designed to resist earthquakes.	Continuous	0 - 10	2.0
		10 - 50	4.0
		Over 50	8.0
	Intermittent	0 - 10	4.0
		10 - 50	8.0
		Over 50	16.0
Type 3 structures – Single and two storey houses and buildings made of lighter construction, using lightweight materials such as bricks, cement blocks etc, not designed to resist earthquakes.	Continuous	0 - 10	1.0
		10 - 50	2.0
		Over 50	4.0
	Intermittent	0 - 10	2.0
		10 - 50	4.0
		Over 50	8.0
Type 4 structures – Structures that, because of their sensitivity to vibration, do not correspond to those listed above 1,2 & 3, & declared as archeologically preserved structures by the Department of Archaeology	Continuous	0 - 10	0.25
		10 - 50	0.5
		Over 50	1.0
	Intermittent	0 - 10	0.5
		10 - 50	1.0
		Over 50	2.0

5. CONCLUSION:

Measured vibration levels at all locations during the compaction activities were well within the intermittent vibration levels stipulated for type 3 structures in the Interim Vibration Standard stipulated by the Central Environmental Authority of Sri Lanka.



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**Report on Assessment of water quality of EIA Survey
for Traffic Improvement Project around New Kelani Bridge Project**

May 2013



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Report on Assessment of water quality of EIA Survey for Traffic Improvement Project around New Kalani Bridge

Report No: WQ/2013/66

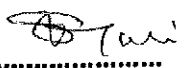
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தேசிய கட்டிட ஆராய்ச்சி நிறுவனம்
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Date }

05.05.2013

Client: Senior Project Coordinator
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Report on Assessment of water quality of EIA Survey for Traffic Improvement Project around New Kelani Bridge

1.0 Introduction

A preparatory study has been initiated by Road Development Authority (RDA) of Ministry of Ports and Highways to study a solution to relieve the traffic loading and traffic congestion around the new Kelani bridge area. As a result, it is proposed to construct another bridge parallel to the road, Colombo - Kandy and Peliyagoda - Puttalam roads. This study is funded by Japan International Cooperation Agency (JICA).

2.0 Scope of the work

The project is considered as a prescribed project under the National Environmental Act and Category A project under JICA Environmental and Social Considerations. Hence the Terms of Reference stipulated for the Environmental Impact Assessment (EIA) requires establishing a set of baseline values of selected environmental parameters of air, water quality and noise and vibration levels.

Consulting Engineers & Architects Associated – CEA (Pvt) Ltd, the EIA consultancy team involved in the study requested Environmental studies and service division of the National Building Research Organization (NBRO) to measure the baseline values of the selected environmental parameters.

The table below indicates the parameters and locations to be monitored for the baseline water quality assessment.

Table 1: Parameters and locations for water quality monitoring

Water quality survey	Parameters	Locations
Surface water	pH, Temperature, Turbidity, DO, BOD, SS,	Upstream and downstream from the New Kelani Bridge
Ground water	pH, Temperature, BOD, Total Coliform, Conductivity	Project site and 100m either side of the project side

The surface water quality to be carried out twice and the measurement interval to be one week.

3.0 The study area

The study belongs to Colombo District Western Province. Ongoing road construction activities were observed in the area. Commercial buildings, shanties, container yards and government buildings were seen in the vicinity. The study area can be considered as an urban area.

4.0 Sampling date, sample collection and analysis, sampling locations

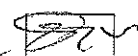
4.1 Sampling date

The 1st and 2nd water quality monitoring programme were carried out on 04th and 19th April 2013 respectively. Samples were collected from predetermined locations by the ToR as indicated in Table 1.

Following officers of the Environmental Division of NBRO involved in sampling programme

Mr. V. D. W. Sumanasekara	-	Scientist
Ms. P H D Silva	-	Technical Assistant
Mr. A.S. Premaratne	-	Field Assistant
Mr. W. A. Weerasinge	-	Field Assistant

The monitoring was witnessed by Mr Saranga Gajasinghe, Environment Safe Guard Officer, CEA



4.3 Method of analysis

Measurements on pH, Temperature, Turbidity and Electrical conductivity (EC) were determined on site. Other parameters specified in the table 2 were analysed in the laboratory of Environmental Studies and Services Division.

Table 2 : Methods followed in the analysis

Parameter	Principle of measurement	Test Method
pH	Electrometric	APHA 4500-H ⁺ -B
Temperature	Electrometric	APHA 2550-B
Electrical Conductivity (EC)	Conductometry	APHA 2510-B
Turbidity	Nephelometric method	APHA 2130 B
Dissolved Oxygen (DO)	Azide modification	APHA-5210-B
Biological Oxygen Demand (BOD)	5 Day BOD Test	APHA-5210-B
Total Suspended Solids (TSS)	Gravimetry	APHA-2540-D
Total Coliforms	Membrane Filter Method	SLS 614: 1983 Part 2

APHA : Standard Methods for the Examination of water and wastewater
APHA, AWWA, WEF-20th Edition-1998

SLS : Sri Lanka Standard Institute: Specification for potable water,
Bacteriological requirements Part II 614: 1983

4.4 Sampling locations

Annexure I: Google map indicating sampling locations

Annexure III: Photographs of sampling locations

Location reference	Sample reference	Description of the location
Surface water		
Downstream Kelani Bridge	WQ1 - D	Water sample was taken from the Kelani river and is about 50m from the new Kelani bridge towards the right hand side of the Peliyagoda - Colombo road. The flow rate was moderate and the water level was about 2 to 4 m high. The water appeared clear. Unauthorized settlements (shanties) and a container yard were observed in the vicinity of the sampling location. Kottamba trees were dominating in the bank vegetation. A laundry was located about 200m downstream from the bridge. Water is used for fishing and bathing.
Upstream Kelani Bridge	WQ2 - U	Water sample was taken from the Kelani river and is about 50m from the new Kelani bridge towards the left hand side of the Peliyagoda - Colombo road. Saw dust disposal site could be seen in the close proximity into Kelani river from a saw mill. No bank vegetation was observed. Water level was approximately 2 to 4 m high.
Ground water		
D A C Sanjeewa Minimutu Suppliers 43/1, Sedawatte	WQ3	Water sample was collected from a open dug well located about 50m away from the Kelani river. No floating materials were observed. Water depth from the ground surface was about 3.5m and the water column was about 3.5m high. The well was bordered by a concrete wall. Appearance of water was clear. Water is used for the formation of concrete bricks.
Lafarde Ready mixed Cement Plant Orugodawatte	WQ4	Water sample was collected from a closed dug well and is boarded by a wall. Floating materials were observed. Water depth from the ground surface was 2.5m and the water column was 2m high. Appearance of water was clear. Water is used basically for washing purposes. Industrial buildings were observed in the vicinity.
Deccan Tire Service Avissawella road, Orugodawatte	WQ5	Water sample was collected from a 20m deep tube well. Well was constructed closer to the main road.

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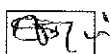
5. 0 Status of water quality

Sampling Date – 04.04.2013 – 1 st monitoring								
		Parameter						
Sample reference	Time of collection	* pH and Temperature	* EC (dS/m)	* Turbidity (NTU)	DO DO, mg/l	BOD ₅ at 20°C,mg/l	TSS TSS, mg/l	Total Coliform (count/100ml)
WQ1- D	11.00 hrs	7.8 at 27.95 °C	2.10	9.8	7.8	2.6	3.5	NM
WQ2 -U	11.30 hrs	7.7 at 27.52 °C	1.41	8.6	7.0	2.8	7.1	NM
WQ3	11.45 hrs	7.7 at 26.46 °C	0.240	3.7	3.2	2.3	NM	3000
WQ4	12.15 hrs	8.4 at 26.04 °C	0.429	9.7	2.5	2.0	NM	4100
WQ5	12.40 hrs	7.4 at 28.7 °C	0.806	21.2	5.6	<1	NM	680

Sampling Date – 19.04.2013 – 2 nd monitoring (Location description are similar to 1 st monitoring event)							
		Parameter					
Sample reference	Time of collection	* pH and Temperature	* EC (dS/m)	* Turbidity (NTU)	DO, mg/l	(BOD ₅ at 20°C,mg/l)	TSS,(mg/l)
WQ1- D	09.45 hrs	6.5 at 28.8 °C	1.24	6.0	7.7	2.2	3.5
WQ2 -U	10.00 hrs	6.3 at 29 °C	2.18	5.4	6.0	1.3	2.3

*Measured on site

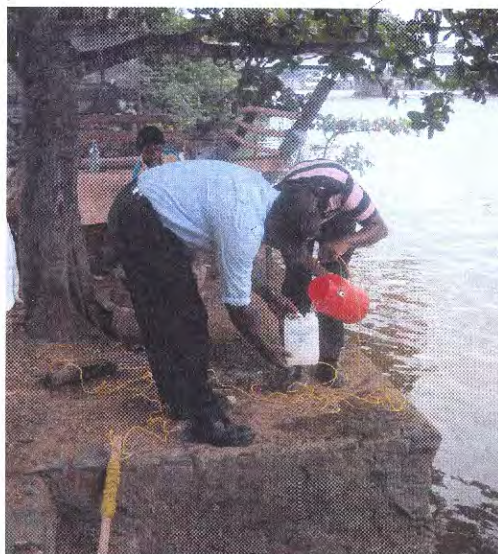
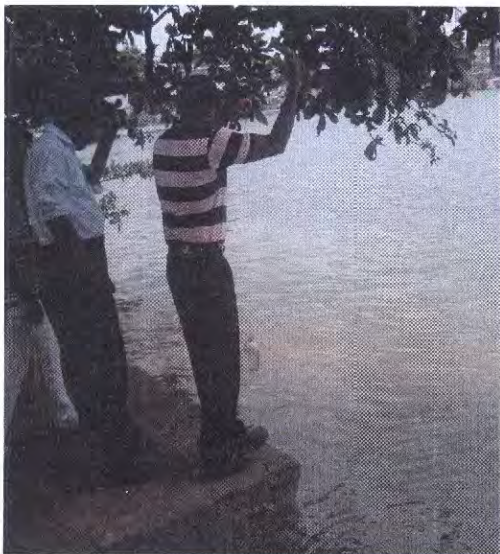
NM – Not Measured



Annex 1: Google map indicating sampling locations



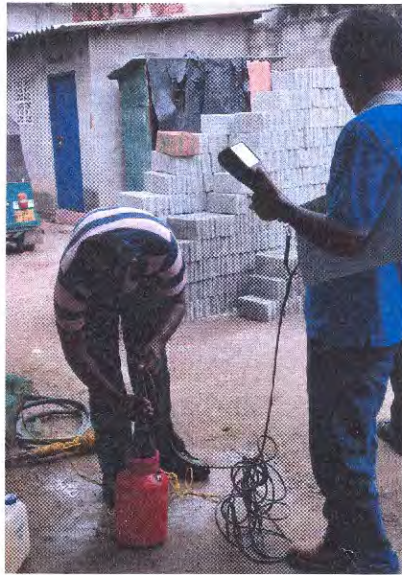
Annexure II: Photographs of the Sampling Locations of New Kelani Bridge Project



WQ 1- Downstream Kalani River



WQ 2- Upstream Kalani River



WQ 3- Minimuthu Suppliers Dug Well



WQ 4- Cement ready Mixed Plant Dug Well



WQ 5- Decarn Tyre Service Tube Well