#### Ramco Institute of Technology (RIT) Rajapalayam

### EC Compliance Status Report (Oct. 2014)

Sub: Raja Charity Trust-Ramco Institute of Technology-**Expansion of Engineering College** (Phase II) at North Venganallur Village, Krishnapuram Panchayat, Rajapalayam Taluk, Virudhunagar District in TN.

Ref. : Environmental Clearance (EC) awarded by TNSEIAA vide Letter No. SEIAA/TN/F.1055/EC/8(a)/187/2013 dated 05.07.2013.

# Specific Conditions for Construction Phase

SI.	EC Conditions	Compliance Status
No. i.	'Consent for Establishment' shall be obtained from the Tamilnadu Pollution Control Board' and a copy shall be submitted to the SEIAA Tamil Nadu before taking up any construction activity at the site.	The Raja Charity Trust is constructing the Engineering College by name Ramco Institute of Technology (RIT) in 2 Phases viz. Construction of the facilities that are adequate for the initial 2 years operations of the College in <b>Phase-I</b> and the Construction of additional Buildings for the operations of the College from 3 <sup>rd</sup> Year onwards in <b>Phase-II</b> .
		Phase-I involves the Construction of Academic Building of Ground+2 Floors (2 Blocks) and other infrastructure facilities with a built-up area of 16,576.72 sq. m. Phase-II involves the Construction of additional 2 Blocks of Academic Building with a built-up area of 13,524.87 sq. m.
		The Trust has applied and obtained the Plan Approval for total construction of 30101.59 sq.m (Phases I & II) from the Directorate of Town & Country Planning (DTCP) vide Letter RC No. 2619/2012 mm 3 dated 25.03.2013.
		The Trust has also applied to the Tamil Nadu State EIA Authority (TNSEIAA) for the Expansion Activity viz. Construction area of 30101.59 sq.m (say 30102 sq. m) for the Environmental Clearance under EIA Notification 2006 and obtained the EC vide Letter No. SEIAA/TN/F.1055/EC/8(a)/187/2013 dated 05.07.2013.
		Consents for Establishment for Phase I were obtained from TNPCB vide Orders 1067 under Air and Water Acts on 23.08.2013.
		The Phase-I constructions are completed and the first year Courses are commenced for the Year 2013-14.
ii.	The entire water requirement during construction phase shall be met from the Panchayat Supply after getting permission as committed.	During Phase-II construction, The water requirement for curing and domestic uses is about 20 cu.m/day which will be met from local supply. The Trust has requested the Krishnapuram Panchayat to supply the 20 cu.m/day water for which they have also obliged.
iii.	Provision shall be made for the housing labour within the site will all necessary	About 100-150 labours per day were involved for Phase-I construction. Predominantly, local labours were pooled for

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SI. No.	EC Conditions	Compliance Status
	infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	the construction works. However, temporary structures for housing about 30-50 migrant labours were created in the northern part of the site. They were provided with water, septic tank, canteen facility, provisional store, etc. The same temporary housing facilities will be retained till the completion of Phase-II construction.
	project.	As STP plant is in operation now, the domestic sewage from these facilities will be treated in the STP and treated sewage will be utilized for Green Belt development.
		These temporary structures will be removed after the completion of the project.
iv.	The height and coverage of the constructions shall be in accordance with the existing FSI/FAR norms as per Costal Regulation zone Notification, 2011.	CRZ Notification 2011 is not applicable to the Project.
V.	The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National Building Code including protection measures from lightening, etc.	The structural stability certificate for Phase-I construction was issued by the Superintending Engineer-PWD, Construction and Maintenance Circle, Tirunelveli vide Letter No. 292 M/C.39/2013/AE(T) dated 22.05.2013. The structural stability certificate for Phase-II will also be obtained on completion.
vi.	All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.	A 200 cu.m/day capacity STP-Diffused Aeration System, as certified by the Anna University, Chennai has been installed (Supplier: M/s.Lakshmi Industries and Agencies Ltd., LMW Group, Coimbatore) at a cost of Rs.60.00 lakhs. The STP is in operation since Aug. 2014 to treat the sewage from the Campus for Phase-I operations and Phase-II construction.  An Organic Waste Converter (OWC) of 300 kg/day has been installed in July 2014 (Supplier: M/s.Lakshmi Industries
		and Agencies Ltd., LMW Group, Coimbatore) at a cost of Rs.7.50 lakhs. The OWC is to be commissioned in 15 days time. Thus, facilities exist in the Campus to maintain the sanitary and hygienic measures in compliance with Norms.

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		STP:
		OWC:
vii.	A First Aid Room shall be provided in the project site during the entire construction phase of the project.	A First Aid Room with all required facilities is provided in the project Site Office.
viii.	Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The safe disposal of waste water and solid wastes generated during the construction phase should be ensured.	met from local supply. The Trust has requested the Krishnapuram Panchayat to supply the 20 cu.m/day water
	555 50 51.64.64.	The STP is in operation now to treat the sewage from the Campus for Phase-I operations and Phase-II construction.
		The entire excavated soil from the construction site during Phase-I were fully utilized for filling ups for the elevation (from ground level to an average +1 m). There will not be any excavated soil during Phase-II as additional buitups are proposed on the same structures developed in Phase-I.
ix.	All the labourers to be engaged for construction should be screened for health and adequately treated before and during their employment on the work at the site.	undertaken periodically.
X.	The solid waste in the form of excavated earth excluding the top soil generated from the project activity shall be scientifically utilized for construction of	l

SI.	EC Conditions	Compliance Status
No.	approach roads and peripheral roads as	,
xi.	reported.  All the top soil excavated during construction activities should be stored for using in horticulture / landscape development within the project site.	The top soil was fully utilized for periphery green belt development during Phase-I construction. No top soil removal for Phase-II construction.
xii.	Disposal of other construction debris during construction phase should not create any adverse effect on the neighboring communities and be disposed off only in approved sites with the approval of Competent Authority with necessary precautions for general safety and health aspects of the people.	There was no significant construction spoils/debris. A meager 1.85 tons debris was utilized for the access road laying.
xiii.	Construction spoils, including bituminous materials and other hazardous materials must not be allowed to contaminate water courses. The dump site for such materials must be secured so that they should not leach into adjacent land / lake / stream etc.	As such, there is no construction spoils unutilized in Phase-I construction and thus, no storage or disposal at the site/Campus and thus, no contamination of land and water courses due to it.
xiv.	Low Sulphur Diesel shall be used for operating diesel generator sets to be used during construction phase. The air and noise emission shall conform to the standards prescribed in the Rules under the Environment (Protection) Act, 1986 and the Rules framed thereon.	The College has 3 Nos. DG sets for standby operations:  600 KVA DG Set: 1 No. 250 KVA DG Set: 1 No. 62.5 KVA DG Set: 1 No.  In an average 25-20 lits./day HSD is being used for the operation of standby DGs. Low Sulphur Diesel (<1% sulphur) is only used.  The DG sets are housed in sound proof enclosures so as to comply with MoEF Noise Norms. Stack emissions is in compliance with TNPCB Norms.
XV.	The diesel required for operating DG sets shall be stored in underground tanks and if required clearance from Chief Controller of Explosives shall be taken.	HSD usage is about 750 lits. in a month; thus, HSD storage in about 4 barrels (maximum) of 200 lits. capacity is being maintained in the Campus. The storage quantity is being less than the Threshold quantity (<1000 lits.), required clearance from the Chief Controller of Explosives is not warranted. Also, it is not feasible to have underground tank to store the diesel.
xvi.	Vehicles hired for bringing construction materials to the site should in good condition and shall conform to air and noise emission standards prescribed by TNPCB / CPCB. The vehicles should be operated only during non-peak hours.	The following measures were/going to be implemented for the transportation of construction materials:  V BT roads are provided to access the Campus.No overloading of transport vehicles with materials.  V Vehicles with valid 'Pollution under Control' Certificates are only permitted.  Also, the transport vehicles were permitted only during nonpeak hours.

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xvii.	Ambient air and noise levels should conform to residential standards prescribed by the TNPCB both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during the construction phase.	Monitored Ambient Air Quality and Noise levels were found to be in compliance with TNPCB/NAAQ Norms for Industrial, Residential, Rural and other areas, revised as per GSR 826(E) dated 16.11.2009.
xviii.	Fly-Ash bricks should be used as building material in the construction as per the provision of Fly-Ash Notification of September 1999 and amended as on 27 <sup>th</sup> August 2003.	Fly-Ash bricks were only used for Phase-I constructions. About 19,70,000 Nos. Fly Ash bricks were purchased from M/s.SMS Bricks-Rajapalayam, M/s.Akalya Fly Ash Bricks-Ottanchathiram and M/s. Sri Veera Fly Ash Works, Vallakovil and used for the construction.
		Required 12,30,000 Nos. FA Bricks for Phase-I construction will be purchased from the same sources and used.
xix.	Ready-mix concrete of high quality should be used in building construction and necessary cub-tests should be conducted to ascertain their quality.	Only high quality Ready-mix concrete (M20 Grade) was used for Phase-I construction. Cub tests 7/28 days strength were periodically conducted satisfactorily which are to be followed during Phase-II construction also.
XX.	Storm water control and its re-use shall be as per CGWB and BIS standards for various applications.	The design of storm water drain has been made for the project site. The width of the open drain, side slope effective depth, wetted area, wetted perimeter, velocity and discharge has been designed:
		Carrying Capacity of Drain
		Width of drain (m) 0.60
		Side slope 1:N 0.70
		Effective Depth (m) 0.65
		Wetted Area (sq.m) 0.686
		Wetted Perimeter (m) 2.187
		Coefficient of roughness (n) 0.013
		Slope 1:N 600
		Velocity (m/sec) 1.444
		Area (sq.m) 0.686
		Discharge (cum/sec) 0.990
		Discharge (Ips) 990.145
		The carrying capacity of the designed drain is 990.145 lps. When compared with the storm water generated after root top collection and artificial recharge from the College site the carrying capacity of the designed drain is much higher and hence, there would not be any impact in and around the project site due to storm water.
xxi.	Water demand during construction should be reduced by use of pre-mixed concrete curing agents and other best practices prevalent.	Curing agents in pre-mix concrete were used to reduce water demand by about 20%.
ххіі.	Fixtures for showers, toilet flushing and drinking water should be of low flow type by adopting the use of aerators / pressure reducing devices / sensor based control.	Installed fixtures for showers, toilet flushing and drinking water are of low flow type.
xxiii.	Use of glass shall be reduced up to 40% to reduce the electricity consumption and load on air-conditioning. If necessary, high quality double glass with special reflecting coating shall be used in windows.	High quality glass with special reflecting coatings are used in windows. The glass usage percentage is about 20% in Phase-I construction.
xxiv.	Roofs should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill the requirement.	Roof tops/terraces are with thermal insulation materials as energy conservation measure.

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XXV.	Adequate measures to reduce air and noise pollution during construction shall be adopted, confirming to norms prescribed by the TNPCB on noise limits.	Monitored Ambient Air Quality and Noise levels were found to be in compliance with TNPCB/NAAQ Norms for Industrial, Residential, Rural and other areas.
xxvi.	Opaque walls should meet prescribed requirements as per Energy Conservation Building Code which is mandatory for all air-conditioned spaces by use of appropriate thermal insulation material to fulfill the requirement.	Gypboard wall partitions and lining systems were used fully for partition walls. They are fire resistant, have thermal insulation and dimensional accuracy.
xxvii.	The project proponent is requested to indicate the probable date of commissioning of the project supported with necessary bar charts.	Phase-I constructions were completed in Apr. 2013. As it is addition of structures to the existing ones, Phase-II constructions will not take much construction period. It is expected to be completed within 6 months from the date of establishment.
xxviii.	Adequate fire protection equipments and rescue arrangements should be made as per the prescribed standards.	Fire protection equipments are installed and rescue arrangements are in place as per the prescribed standards. A Fire Hydrant System has been provided which cover the entire Academic Buildings.

Additionally, the following Fire fighting equipments are installed at vantage locations in the College :

Frequent Mock Drills are being conducted (and the last one conducted on 29.07.2014).

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No.	EC Conditions	Compliance Status
xxix.	Proper approach road for fire fighting vehicles and for rescue operations in the event of emergency shall be made.	A 800 m long 14 m wide Access Road has been laid to the College from Rajapalayam-Ayyanar Koil Road. Also, all internal roads are 7 m wide for easy access to all the buildings.
XXX.	Design of buildings should be in	The area falls in Seismic Zone-II area. The foundation of
xxxi.	conformity with the Seismic Zone Classifications.  All ECBC norms have to be adopted.	various structures/buildings are designed to suit the geo- technical conditions of the area.  Buildings are designed to increase the efficiency of the
		buildings and for better energy & environmental conditions as detailed below:  V Energy efficiency – Integrated design. V Sustainable material selection. V Lighting efficiency – Optimizing artificial and natural lighting. V Solar energy in a large measure particularly in regard to illumination, street lighting and along the road networks. V Energy efficient CFL lamps. V Transformers efficiency will be grater that 98%.
xxxii.	The proponent should also ensure to keep necessary road width as per O.M dated 7-2-12 of MoEF, GOI, New Delhi with respect to high rise buildings.	Traffic Circulation System and connectivity with a view to ensure adequate parking, conflict free movements, Energy efficient Public Transport as per the MoEF Office Memorandum dated 07.02.2012 (as updated) has been considered and provided for the College.

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xxxiii.	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	during Phase-II constructions and Ready Mix concrete is only to be used. Thus, there will not be any dusty conditions.
xxxiv	Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personal protective measures such as masks, gloves, boots etc.	records are available,

## **Specific Conditions for Operation Phase**

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i.	The entire water requirement during entire operation phase shall be met through ground water throughout the operation after obtaining required permission from CGWA as committed in the affidavit.	Existing Phase I requires 20 cu.m/day raw water (for 300 students and 40 staff) for initial 2 years period. The Trust has requested the Krishnapuram Panchayat to supply the 20 cu.m/day water for which they have also obliged vide their Consent Letter dated 11.02.2013. An Agreement is also executed in this regard on 27.03.2013.
		The water demand on Expansion (after 2 years) will be 200 cu.m/day (fresh water 148 cu.m/day & treated sewage 50 cu.m/day). The Trust is to draw 150 cu.m/day ground water from 4 borewells and 1 dugwell in addition to the proposed Rain Water Harvesting measures in the Campus.
		As per TN PWD(R2) GO (Ms) No. 142 dated 23.07.2014-Para I(1)(b), Drawl and Transportation of ground water to educational institutions is exempted from applying for No Objection Certificate.
ii.	The proponent as committed shall utilize 50 KLD for flushing and 120 KLD for gardening as committed scientifically throughout the period of operation. The area allotted for gardening shall not be used for any other construction activity.	20 cum/day wastewater/domestic sewage. After treatment,
		On Expansion, domestic sewage to the tune of 108 cum/day, 55 cum/day wastewaters from Canteen, 10 cum/day wastewaters from Labs and 2 cum/day neutralised wastewater from WTP, thus, a total of 175 cum/day sewage & wastewaters will be generated from the Engineering College. As directed by SEAC, 2 x 100 cu.m/day STP is proposed to treat the sewage/wastewaters. The treated sewage of 175 cum/day will be recycled/reused for toilet flushing (50 cum/day), Green Belt development (120 cum/day) and Dust Control Measures like road wetting, etc. (5 cum/day). Thus, Zero Effluent Discharge will be practiced/adopted.
		As the 200 cu.m/day STP should be in place within 2 years from the commencement of the College, it has been decided by the Trust to install the 2 x 100 cu.m/day STP in the beginning itself so as to treat and utilize the domestic sewage in Phase-I.  Accordingly, a 200 cu.m/day capacity STP-Diffused Aeration System, as certified by the Anna University, Chennai has been installed (Supplier: M/s.Lakshmi Industries and Agencies Ltd., LMW Group, Coimbatore) at a cost of Rs.60.00 lakhs. The STP is in operation since Aug. 2014 to treat the sewage from the Campus for Phase-I operations and Phase-II construction.
		Dedicated pipelines from STP are made to convey the treated sewage for toilet flushing and green belt development.
iii.	The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.	During the EIA Study Period (Jan. 2013), 4 surface water and 4 ground water locations were identified and the water quality monitoring was carried out. Ground Waters were monitored with agreeable colour, taste and odour. pH value was monitored in the range 7.59-7.72. TDS values were ranging from 350 mg/l to 480 mg/l. Chloride values were ranging from 106 mg/l to 134 mg/l. Iron content was monitored in the range 0.06-0.11 mg/l. BOD and COD values were monitored in lower levels. There was no significant bacteriological contamination of these sources. In general, the ground water quality was found to be in

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		compliance with IS:10500 Standards for Drinking Waters (in the absence of an alternate source).
		The periodical ground water levels and its quality monitoring will be carried out and the status reports will be submitted to the Authority once Phase-II construction commenced.
iv.	The Bio-degradable solid waste, Non-Biodegradable solid waste, STP sludge etc. generated from the project activity shall be properly collected, segregated and disposed as committed and as per the provision of Solid Waste (Management and Handling) Rules – 2000.	STP sludges, waste papers, etc. About 500 kg/day solid wastes (on dry basis) (including STP sludge) will be generated. The non-biodegradable waste will be handed
		In the initial Phase, an Organic Waste Converter (OWC) of 300 kg/day has been installed in July 2014 (Supplier: M/s.Lakshmi Industries and Agencies Ltd., LMW Group, Coimbatore) at a cost of Rs.7.50 lakhs. The OWC is to be commissioned in 15 days time.
V.	STP design should be approved by TNPCB before issue of CTE.	As per TNSEIAA direction, the design of 2 x 100 KLD STP and 300 kg/day OWC were submitted to the Centre for Environmental Studies, Anna University, Chennai for technical evaluation and comparison of their suitability. Accordingly, the design and technical submittals were scrutinized and certified by Anna University vide its Letter No. CES/NV/LRT/2013 dated 09.12.2013. Based on the certified Designs, the STP and OWC are ordered and installed at the Campus.
vi.	The installation of Sewage Treatment Plant (STP) should be certified by an independent expert and a report in the regard should be submitted to the SEIAA, Tamil Nadu before the project is commissioned for operation. Treatment of effluent emanating from the STP shall be recycled / reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of Tamil Nadu State Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP. Explore the less power consuming systems viz baffled reactor etc. for the treatment of sewage.	Environmental Studies, Anna University, Chennai for technical evaluation and comparison of their suitability. Accordingly, the design and technical submittals were scrutinized and certified by Anna University vide its Letter No. CES/NV/LRT/2013 dated 09.12.2013. The same were submitted to TNSEIAA also.  Accordingly, a 200 cu.m/day capacity STP-Diffused Aeration System, as certified by the Anna University, Chennai has been installed (Supplier: M/s.Lakshmi Industries and Agencies Ltd., LMW Group, Coimbatore) at a cost of Rs.60.00 lakhs. The STP is in operation since Aug. 2014 to treat the sewage from the Campus for Phase-I operations and Phase-II construction.
vii.	The proponent shall install STP units each of Bar Screen Chamber, Collection Tank, SBR System, Sludge holding tank, Clarified water tank, Pressure sand filter, Activated carbon filter, Final treated water collection sump & UV treatment as committed (capacity of 100KLD – 2 nos) and operated continuously to achieve the standards prescribed by the Tamil Nadu Pollution Control Board.  The proponent shall operate STP continuously by providing DG set in case	As per the Certified Design, the following STP Units are provided:  Bar Screen 1 x 1 x 1 (Brick works) Oil & Grease 2 x 1 x 1 (BW) Collection /Equalisation Tank 6.0 x 4.0 x (3.20 + 0.30) m (RCC) - 76.8 KL Aeration Tank 8.0 x 4.50 x (4.00 + 0.50) m (RCC) - 144 KL
	of power failure.	500 KVA DG Set - 1 No. 160 KVA DG Set - 1 No. 62.5 KVA DG Set - 1 No.

SI. No.	EC Conditions	Compliance Status
NO.		However, to operate the STP Units continuously in case of power failure, the DG sets capacity are increased. The College has now 3 Nos. DG sets for standby operations as detailed below:
		600 KVA DG Set : 1 No. 250 KVA DG Set : 1 No. 62.5 KVA DG Set : 1 No.
		Thus, the STP will run continuously even in the case of power failure.
ix.	It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development / avenue plantation should not pollute the	The treated sewage quality is in compliance with TNPCB Norms stipulated for discharge of treated effluent into onland for irrigation viz.
	soil / ground water / adjacent canals / lakes / ponds / etc.	pH : 6.5-9.0 mg/l TSS : <30 mg/l BOD-3 days @ 27 <sup>0</sup> C : <20 mg/l
		Also, the treated sewage is being fully utilized for toilet flushing and green belt. There is no treated sewage disposal from the College.
X.	Adequate measures should be taken to prevent odour problem from the solid waste processing plant and STP.	There is no odour problem from the operations of STP.
xi.	The biodegradeable municipal solid waste shall be decomposed through organic waste converter and the manure shall be used as compost for green belt development / avenue plantation as committed.	, , ,
xii.	The plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2011.	The non-biodegradable wastes like plastic wastes will be segregated and handed over to the municipal solid waste disposal facility. Other organic solid wastes will be composted in the OWC and utilized as manure for Green Belt.
xiii.	The e-waste generated should be collected and disposed to a nearby authorized e-waste center as per e-waste (Management & Handling) Rules 2011.	The College has commenced its operation recently. The e-waste generation may be there after 7-10 yrs. The e-waste generated from the College at that time will be collected and disposed to a nearby authorized e-waste center as per e-waste (Management & Handling) Rules 2011 and informed the Board accordingly.
xiv.	Diesel power generating sets proposed as back-up power during operating phase should be of enclosed type and	Gen sets are of enclosed type conforming to rules made under the Environment (Protection) Act 1986.
	conformed to rules made under the Environment (Protection) Act 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. The location of the DG sets may be decided with in consultation with Tamil Nadu Pollution Control Board.	Stack emissions is in compliance with TNPCB Norms.
xv.	The diesel required for operating DG sets shall be stored in underground tanks and if required clearance from the Chief Controller of Explosives shall be taken.	HSD usage is about 750 lits. in a month; thus, HSD storage in about 4 barrels (maximum) of 200 lits. capacity is being maintained in the Campus. The storage quantity is being less than the Threshold quantity (<1000 lits.), required clearance from the Chief Controller of Explosives is not warranted. Also, it is not feasible to have underground tank to store the diesel.
xvi.	The acoustic enclosures shall be installed at all noise generating equipments such as DG sets, air conditioning systems etc.	The DG sets are housed in sound proof enclosures so as to comply with MoEF Noise Norms.

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	and the noise level shall be maintained as per MoEF / CPCB / TNPCB guidelines / norms both during day and night time.	DG.1(250 KW)  POWERICA
		Leq Noise levels at the boundaries is found to be <55 dB(A) during day times and <45 dB(A) during night times. Thus, the noise levels are in compliance with the permissible MoEF/TNPCB Ambient Noise Norms.
xvii.	Spent oil from DG sets should be stored in HDPE drums in an isolated covered facility and disposed as per Hazardous Wastes (Management, Handling, Transboundary Movement) Rules 2008. Spent oil from DG sets should be disposed off through registered recyclers.	recyclers by TNPCB/MoEF.
xviii.	The proponent shall ensure that storm water drain provided at the project site shall be maintained without chocking or without causing stagnation and should also ensure that the storm water shall be properly disposed off in the natural drainage / channels without disrupting the adjacent public. Adequate harvesting of the storm water should also be ensured.	effective depth, wetted area, wetted perimeter, velocity and discharge has been designed :  Carrying Capacity of Drain  Width of drain (m)
xix.	The proponent should also ensure that necessary trenches for openings should be provided at periodic intervals along the compound wall so as to let out the storm water during rainy season without stagnation / ponding.	Adequate trenches are provided so as to let out the storm water during rains without stagnation / ponding.
xx.	The proponent shall ensure that roof rain water run off collected from the covered roof of the buildings etc. shall be scientifically harvested so as to ensure the maximum beneficiation of rain water harvesting. It shall be stored in a sump of 3 nos of 900 m <sup>3</sup> capacity each and reused.	years average Rainfall of 818.5 mm) for the Site are as follows:

SI. No.	EC Conditions	Compliance Status			
		Pre Project Runoff, cum/year	Predicted Post Project Quantity, cum/year	Harvestable Water, cum/year	
		23094	29445	16003	

The excess runoff that is being generated can be harvested within the micro watershed fully to augment the water and reduce the ground water tapping and maintain the hydrological balance. Conservation Measures proposed include: (i) Roof Top Collection and (ii) Storage Ponds.

The **roof water collection** is estimated as 4731 CUM/Year. RIT will have 3 sumps (each of 10 x 10 x 3 m) with a total capacity of 900 CUM to capture the roof water. The rainwater that has been generated from the roof is proposed to pass through a filter media. The proposed filter media is multiplayer vertical filters. The size of the multiplayer vertical filter is 2 x 2 x 0.9 m. The outlet pipes from the roof area are connected with 115 mm dia PVC pipe allowing the water to pass through the filter media before storing in the sump.



xxi. Rain water harvesting for surface run-off as per plan submitted should be implemented. Before recharging the surface run-off, pretreatment with screens, settlers etc. must be done to remove suspended matter, oil and grease etc. The proponent shall provide 2 nos of borewells / percolation pits etc. of 1000 m³ each as committed. The bore-wells / percolation pits etc. for rain water recharging should be kept at least 5 mts above the highest ground water table.

As per Planning Commission of India, the Area falls under Agro Climatic Zone of 'Southern Plateau Hills' and the Subzone of 'Semi Arid to dry Sub Humid Zone' with an annual rainfall of 841 mm.

Geologically the area is underlain by crystalline rock formation, consisting of the Archaean Age of rocks Gneisses and Charnockite rocks, Red grayish soil/Red loamy Soil, Weatherd charnokite / weathered Granitic Gneisses and Quartzite Reef. The quartzite reef is the water bearing formation in this area.

As stated in the EIA Report and Presentations, the estimated pre and post project runoffs (computed with 10 years average Rainfall of 818.5 mm) for the Site. The excess runoff that is being generated can be harvested within the micro watershed fully to augment the water and reduce the ground water tapping and maintain the hydrological balance. Conservation Measures proposed

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		include: (i) Roof Top Collection and (ii) Storage Ponds.  Storage cum Percolation Ponds: The surplus runoff af roof top collection and from the green belt, asphalt are etc. have been estimated as 11272 Cum/Year. Proposes 2 ponds to capture the runoffs. It is proposed develop canopy of trees around the pond which minimize the evaporation losses.			
		Pond ID         Size         Capacity, CUM           Pond 1         20 x20 x 2.5 m         1000           Pond 2         20 x20 x 2.5 m         1000           Total Ponds Capacity         2000   The total capacity of the ponds is 2000 CUM. The rainwater			
		from the area is proposed to take to the storage pond through lined open channel with a width of 0.5 m. The water storage of the ponds is estimated as 15371 CUM/Yea After the evaporation losses, etc. it has been estimated as 11272 CUM/Year.			
		Total annual fresh water requirement of the Unit is 73000 CUM/Year @ 200 CMD. By the proposed RTC (4731 CUM/Year) and Storage Ponds (15371 CUM/Year), the maximum quantity of rain water that can be harvested is 16003 CUM/Year. The excess rainwater of 13442 CUM/Year will be reaching the natural streams and thus the hydrological balance is maintained.			
xxii.	Application of solar energy should be incorporated for illumination of common areas lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid system or fully solar system for a portion of the apartment shall be provided.	Solar energy is to be utilsed for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating.			
xxiii.	A report on the energy conservation measures conforming to energy conservation norms prescribed by the Bureau of Energy Efficiency shall be prepared incorporating details about building materials & technology, R&U factors etc. and submitted to the SEIAA in three months' time.	buildings and for better energy & environmental conditions as detailed below:  V Energy efficiency – Integrated design. V Sustainable material selection.			
xxiv.	Energy conservation measures like installation of CFLs / TFLs for lighting the areas outside the building should be intergral part of the project design and				

SI. No.	EC Conditions	Compliance Status
NO.	should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off / sent for recycling as per the prevailing guidelines / rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.	<ul> <li>Sustainable material selection.</li> <li>Lighting efficiency – Optimizing artificial and natural lighting.</li> <li>Solar energy in a large measure particularly in regard to</li> </ul>
XXV.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms.	efficient Public Transport as per the MoEF Office Memorandum dated 07.02.2012 (as updated) has been
xxvi.	A First Aid Room shall be provided during	A First Aid Room has been provided with the following
	operation of the project with necessary equipments and life-saving medicines.	equipments and medicines:  Equipment:  1. Infra Red Lamp 2. Otoscope 3. Stethoscope 4. BP Apparatus 5. Thermometer 6. Glucometer 7. Weight Machine 8. Height Scale 9. Focus Lamp 10. IV Stand 11. Torch Light 12. X-Ray Lobby 13. Magnifying Glass 14. Tourniquet 15. Sterilser 16. Spinal Board 17. Cervical Collor (S/M/L) 18. Sponge Holding Forceps – 1 19. Artery Forceps Medium Curved -2 20. Artery Forceps Medium Straight - 2 21. Mosquito Straight - 2 22. Needle Holder (Medium)- 1 23. Straight Surgical Scissors (Medium 6') 24. Straight Surgical Scissors (Large 12') 25. Tissue Cutting surgical scissors ((Medium 6') 26. Nasal Speculum 27. Tongue Depressor 28. Small Stainless steel Bowls - 4 29. Rubber Bellows - 4 30. Kidney Trays (S/M/L) – Each 2

SI. No.	<b>EC Conditions</b>	Compliance Status
		<ul><li>31. Scalpel Blades (Disposable size 11 &amp; 15)</li><li>32. B. P Handle</li></ul>
		33. Stainless Steel Trays 8'x6 (with lid) 34. SS Trays 12'x10' (with lid)
		35. Surgical Trolley on wheels
		36. Autoclave Bins – Medium Size 2
		<b>Additional:</b> AED, Suction Apparatus & O <sub>2</sub> Cylinders with Flow Meter & mask.
		Disposables:
		1. 2cc Syringes – 20
		<ul> <li>2. 5 cc Syringes -10</li> <li>3. 10cc Syringes - 5</li> </ul>
		4. Venflons – Size 18,20 &22
		5. Butterfly Sets – 6 6. Gloves – Size 6,6.5,7,7.5
		7. Disposable Unsterile Gloves – 100 pieces Box
		White Sticking plaster     Micropore Plaster
		10. Band Aid Strips
		11. KY Jelly 12. Xylocaine Jelly
		13. Cotton Rolls
		14. Face Masks 15. IV Line Sets
		16. Suction Catheters
		17. Wooden Spatula
		<ul><li>18. 3-0 Silk Suture Material (Mersilk)-Ethicon</li><li>19. 1-0 Silk Suture Material (Mersilk)-Ethicon</li></ul>
		20. 1-0 Suture Material Spool.
		Medicines & Emergency drugs:
		1. T. Crocin 2. T. Combiflam
		3. T. Avil 25
		4. T. Pantocid 40 5. T. Isordil SL 5 mg
		6. C. Calcigard 5mg
		7. T. Disprin/Ecosprin 8. C. Spasmoproxyvon
		9. T. Emeset 4
		10. T. Norflox – TZ
		11. T. Calmpose 5 mg 12. T. Vertin 8 mg
		13. Liq. Sucralfate
		14. Liq. Gelusil 15. Syp. Benadryl
		16. Syp. Citralka
		17. Volini Spray 18. Diclofenac Gel
		19. Electrobion/Electral Sachets
		20. Glucon D Packs 21. Betadine Oint.
		22. Silverex Oint.
		23. Soframycin Cream 24. Tinture Benzoin
		25. Tears Plus Eye drops
		26. Ciplox Eye Drops 27. Otogesic Ear Drops
		28. Soluwax Ear drops
		29. IV Normal Saline – 6 Pints
		30. IV DNS – 2 pints 31. IV Ringer Lactate – 2 pints
		32. IV D5 – 2 pints
		33. IV Isolyte- M – 2 pints 34. Inj. Avil - 10
		35. Inj. Calmpose - 10
		36. Inj. Dexamethasone – 10 37. Inj. Deriphylline – 10
		38. Inj. Efcorlin 100 - 5
		39. Inj. Dolonex/Voveran - 10
		40. Inj. Buscopan – 10 41. Inj. Fortwin – 10

-	I							
SI. No.	EC Conditions	Compliance Status						
		42. Inj. Phenergar 43. Inj. TT 0.5cc - 44. Inj. Adrenalin 45. Inj. Atropine - 46. Inj. 25% Xyloca 47. Inj. 25% Dextr 48. Inj. Epsolin - 5 49. Inj. Emeset - 5 50. Surgical Spirit 51. Hydrogen Per 52. Polyvalent Ar	10 - 20 20 sine – 2 v cose – 10 5 5 500ml oxide	vials	/ials.			
		Medical profess persons) and tra employed.						
xxvii.	The green belt design along the periphery of the plot shall achieve attenuation factor conforming to the day and night noise standards prescribed for residential land use. The open spaces inside the plot shall be suitably landscaped and covered with vegetation of suitable variety.	Green Belt is be 1,200 trees/Ha in Developing Green referred for national planted at a distant	n a pha n Belts /e flora	sed ma (PROB in the	nner. ES/75 Green	CPCE /1999 Belt.	3 Guideli -2000) h The tr	nes for as been ees are
	vegetation of suitable variety.	Locations.						
		I - RIT Entrance to III - Main Gate to IIII - RIT main buil IV - Site office are	OWC Ar	ea				
		So far, 433 trees detailed below:	are pla	nted and	d mair	ntaine	d in this y	year as
		Name of Tree Location & No. of Trees Total		Total				
		Species	ı	II	Ш	IV	Trees	
		Neem	27	17	11		55	
		Pungam	32	14			46	
		Samanya savan	17	12	11		40	
		Aavi	15	5	1		21	
		Jambulava	18	12			30	
		Vagai	15	4			19	
		Poovaranju	23	18	12		53	
		Peple tree	6	4			10	
		Thani	6				6	
		Red sandal	3	1			4	
		Maha gani	35	9			44	
		Acha	18	2			20	
		Bauhinia	17	2	7		26	
		Cassia	6	6	4		16	
		Mahilam Poo	2				2	
		Tecomma				4	4	1
		Nelli				1	1	
		Flowering plants				36	36	

SI.		
No.	EC Conditions	Compliance Status
xxviii.	Incremental pollution loads on the ambient air quality, noise and water quality shall be periodically monitored after commissioning of the project.	

SI. No.	EC Conditions	Compliance Status
xxix.	No construction activity of any kind shall be taken up in the OSR area. Consent of the local body concerned should be obtained for using the secondary treated sewage in the OSR area.	Registered Gift Deed No. 592/2013 dated 15.02.2013. As such no proposal for any construction or utilisation of the OSR area.
XXX.	The building should have adequate distance between them to allow free movement of fresh air and passage of natural light, air and ventilation. Landscape plan to be revised accordingly.	conducive environment throughout the year. All class rooms
xxxi.	A terrace garden shall be developed (Roof Top Area) and maintained continuously.	Will be complied on completion of all constructions.

## **EC : General Conditions**

SI. No.	EC Conditions	Compliance Status
i.	The construction of the structures should be undertaken as per the plans approved by the concerned local authorities / local administration.	The Trust has applied and obtained the DTCP Plan Approval for the Construction (on Expansion) for the total Built-up Area 30101.59 sq.m vide its Letter No. RC No. 2619/2012 mm 3 dated 25.03.2013.
ii.	It is mandatory for the project proponent to furnish to the SEIAA, Half Yearly compliance report in Hard and Soft copies on 1 <sup>st</sup> June and 1 <sup>st</sup> December of each calender year in respect of the conditions stipulated in the prior Environmental Clearance.	Phase-I has been recently completed and awaiting for CTE for Phase-II constructions. On establishment of Phase-II, EC conditions will be fully implemented.  However, the First Six-monthly Compliance Report has been prepared and submitted now as the initial status report for comparison.
iii.	In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC / SEIAA shall be obtained.	There is no change in the proposed scope of construction.
iv.	A copy of the clearance letter shall be sent by the proponent to the Commissioner of Corporation / Municipalities / Executive Officers of town Panchayat / Block Development Officers of Panchayat Union, whichever is applicable and the Local NGO, if any, from whom suggestions / representations, if any, have been received while processing the proposal. The clearance letter	The copy of the EC has been submitted to the President, Krishnapuram Panchayat, Rajapalyam Panchayat Union and obtained the acknowledgement on 10.01.2014.  The clearance letter in already published in RIT Website www.ritrjpm.ac.in.
V.	shall also be put on the website of the proponent.  The SEIAA reserves the right to add additional safeguard measures subsequently, if non compliance of any of the EC conditions are found and to take action including revoking of this Environmental Clearance as the case may be.	Noted.
vi.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.	NOC from Fire Department has been obtained vide Letter No. 8731/A1/2012 dated 28.11.2012.  NOC from the Dy. Director of Health Services, Dept. of Public Health and Preventive Maintenance, Sivakasi has been obtained vide Letter dated 12.12.2012.  All other NOC are not warranted for the Project.
vii.	The project authorities should advertise with basic details at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned within 7 days of the issue of clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN and a copy of the same should be forwarded to the Regional Office of the Ministry of Environment and Forests located at Bangalore.	The advertisements are given in both English (Trinity Mirror dated 19.07.2013) and local vernacular Dailies (Makkal Kural dated 19.07.2013) on and the copies were also submitted to TNSEIAA.  PUBLIC NOTICE This is to inform the public that the Tamil Nadu State Level Environmental Impact Assessment Authority has accorded the Environmental Clearance under the Environmental Impact Assessment Notification, 2006 (as amended) for our proposed Expansion of Engineering College "RAMCO INSTITUTE OF TECHNOLOGY" of M/s. Raja Charity Trust, located at SF. No.618/1A,18,2, 620/1A, 18, 629/1A1, 1A2, 18, 2A, 28, 3, 630, 631/1, 2A, 28, 3, 632, 633/1, 23, 8 643/2A of North Vengenallur Willage, Rajapalayam Taluk, Virudhunagar District vide letter No.SEIAA/TN/F.1055/ EC/8ja/1/87/2013 dt.05.07.2013.  Date: 10.07.2013 Secretary, Place: Rajapalayam Raja Charity Trust.  Through Tubble  19 10 2013 Geruson  19 20 13 3 dt.05.07.2013 anrulhouts assigned supposition "RAMCO INSTITUTE OF TECHNOLOGY" Curributures assigned assigned supposition "RAMCO INSTITUTE OF TECHNOLOGY" Curributures assigned ass

SI.	EC Conditions	Compliance Status
No. viii.	Under the provisions of Environment (Protection) Act 1986 legal action shall be initiated against the project proponent if it is found that construction of the project has been started without obtaining Environmental Clearance and for any other action resulting in violation of any condition stipulated in the Environmental	Noted.
ix.	Clearance.  The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, Bangalore, the respective Zonal Office of CPCB, Bangalore and the TNPCB. The criteria pollutant levels namely SPM, RSPM, SO <sub>2</sub> , NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The clearance letter and EC Compliance Status Report, etc. are published in RIT Website www.ritrjpm.ac.in .  Phase-I has been recently completed and awaiting for CTE for Phase-II constructions. On establishment of Phase-II, EC conditions will be fully implemented. However, the First Six-monthly Compliance Report has been prepared and submitted now as the initial status report for comparison.  Periodical Survey Reports of Ambient Air Quality will also be displayed in the web site.
X.	A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the Organization.	An Environmental Cell under the Principal of RIT has been framed. Ms.C.Subha, M.E-Envl. Mgmnt., Assistant Professor of Civil Engineering Department and Mr G.Selvaraj, Safety Officer are looking after the EMP Cell activities.
xi.	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to Ministry of Environment and Forests and its Regional Office located at Bangalore. Funds for CSR activity shall be allotted and used for that purpose and separate account shall be maintained.	An amount of Rs.50 lakhs has been earmarked as Capital Cost for Pollution Control Measures and about Rs.5 lakhs per annum has been earmarked as Operating Cost for the Pollution Control Measures, Green Belt maintenance, Post Project Monitoring, etc.  A separate account will be maintained for the EMP budget and its implementation.
xii.	The Regional Office of the Ministry located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Noted.
xiii.	The project proponent shall submit six-monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office, Bangalore, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN, and the State Pollution Control Board.	Phase-I has been recently completed and awaiting for CTE for Phase-II constructions. On establishment of Phase-II, EC conditions will be fully implemented. However, the First Six-monthly Compliance Report has been prepared and submitted now as the initial status report for comparison.
xiv.	The environmental statement for each financial year ending 31st March in Form – V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environmental (Protection) Rules 1986 as amended subsequently shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bangalore by e-mail.	Will be complied with.  Noted.
۸۷.	that the other statutory / administrative clearances shall be granted to the project by the	110100.

SI.	EC Conditions	Compliance Status
No.		Compliance Status
	concerned authorities. Such authorities would be	
	considering the project on merits and by taking	
	decisions independently of the Environmental	
	Clearance.	Notes
xvi.	The SEIAA, TN may alter/modify the above	Noted.
	conditions or stipulate any further condition in the interest of environment protection, even during	
	the subsequent period.	
xvii.	The Environmental Clearance does not absolve	Noted.
AVII.	the applicant/proponent of his	Noted.
	obligation/requirement to obtain other statutory	
	and administrative clearances from other	
	statutory and administrative authorities.	
xviii.	The SEIAA, TN may cancel the environmental	Noted.
	clearance granted to this project under the	
	provisions of EIA Notification, 2006, if at any	
	stage of the validity of this environmental	
	clearance, if it is found or if it comes to the	
	knowledge of this SEIAA, TN that the project	
	proponent has deliberately concealed and/or	
	submitted false or misleading information or	
	inadequate data for obtaining the environmental	
	clearance.	
xix.	Failure to comply with any of the conditions	Noted.
	mentioned above may result in withdrawal of this	
	clearance and attract action under the provisions	
XX.	of the environment (Protection) Act, 1986.  The above conditions will be enforced inter-alia	Noted.
^^.	under the provisions of the Water (Prevention &	Noted.
	Control of Pollution) Act, 1981 the Environment	
	(Production) Act 1986, the Public Liability	
	Insurance Act 1991, along with their	
	amendments draft Minor Mineral Conservation &	
	Development Rules 2006 and rules made there	
	under and also any other orders passed by the	
	Hon'ble Supreme Court of India/Hon'ble High	
	Court of Madras and any other Courts of Law,	
	including the Hon'ble Natural Green Tribunal	
	relating to the subject matter.	
xxi.	Any appeal against this environmental clearance	No appeal was made within the stipulated time of 30
	shall lie with the Hon'ble National Green	days.
	Tribunal, if preferred within a period of 30 days	
	as prescribed under Section 16 of the National	
1	Green Tribunal Act 2010.	

For RAJA CHARITY TRUST

Authorized Signatory