



MALABAR CANCER CENTRE

(Post Graduate Institute of Oncology Sciences & Research)
(An autonomous Centre under Government of Kerala)



Thalassery, P.O. Moolshikkara
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No.MCC286/2022-SUP-EL/2256

October 03, 2024

The Director (S)

Ministry of Environment and Forests (MoEF)

Regional Office (Southern Zone)

Kendriya Sadan, 4th Floor, E&F Wing, 17th Main Road

II Block, Koramangala, Bengaluru- 560 034

Email ID: rosz.bng-mef@nic.in

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Sir/Madam,

Sub: MCC, Thalassery- Development of Malabar Cancer Center as Postgraduate Institute of Oncology Sciences and Research - SEIAA- Environmental Clearance for the expansion of Malabar Cancer Centre as Postgraduate Institute of Oncology Science and Research Phase-II, Thalassery, Kannur district. – Submission of 1st Half Yearly Compliance Report- reg.

Read: 1) Proposal No. SIA/KL/MIS/208403/2021; File No. 1898/EC4/2021/SEIAA; EC Identification No. EC22B038KL199480; date of issue: 23-07-2022
2) This office letter No: MCC/84/2022-SUP-CI/2862 dated 07-11-2023
3) Your Office letter No: 1175/EC/SEIAA/KL/2018 dated 15-04-2024

Kind attention is invited to reference (1) cited, where the said Project was awarded with Environmental Clearance.

Please read letter (2) cited, wherein we have communicated that the half yearly compliance report will be submitted after commencement of 2nd Phase of the above project. Now the project is started and going smoothly in compliance with the order. We are submitting herewith (through email only) the 1st Half Yearly Compliance Report for the period September 2023 to February 2024 for your kind perusal. We also published the same on our website.

We hope our submission is in line with the requirements. If any further clarifications, please let us know.

Income tax exemption for donations to this centre under Section 80 G of the IT Act 1961

Based on your letter No: 1175/EC/SEIAA/KL/2018 dated 15-04-2024, some shortcoming documents were intimated; M/s KIIFB is preparing it and will be submitted at an early date.

Thanking you,
Yours faithfully,


DIRECTOR Dr. SATHISHAN
DIRECTOR
Malar Cancer Centre (PGI),
THALASSERY

Enc: EMC report from September 2023 to February 2024 (72 pages)

Copy Submitted to:

- 1) Member Secretary , State Environment Impact Assessment Authority (SEIAA),
Thampanoor, KSRTC Building 4th Floor, Kerala 695004
email ID: seacseiaakerala@gmail.com
- 2) The Chairman , Kerala State Pollution Control Board, Pattom P.O.,
Thiruvananthapuram- 695 004, Kerala, India, **e mail ID: chn.kspcb@gov.in**

1ST HALF-YEARLY COMPLIANCE REPORT

EC Identification No. - EC22B038KL199480

File No. - 1898/EC4/2021/SEIAA

Date of Issue EC - 23/07/2022

MALABAR CANCER CENTRE, THALASSERY
POSTGRADUATE INSTITUTE OF ONCOLOGY SCIENCES AND RESEARCH

PERIOD: 2023 SEPTEMBER TO 2024 FEBRUARY

FUNDING AGENCY



CLIENT



CONSUMER



SPECIAL PURPOSE VEHICLE



CONTRACTOR



Development of Malabar Cancer Centre 2nd Phase in Kannur District

The Development of Malabar Cancer Centre 2nd phase, located in the Thalassery at Kannur District, is a significant healthcare project funded by the Kerala Infrastructure Investment Fund Board (KIIFB). The project is managed by WAPCOS LTD as the Special Purpose Vehicle, and the construction is undertaken by Malani Construction Co.

The duration of this project is 36 months. It was handed over on 23.08.2023, with work starting on the same date and an expected completion date of 22.08.2026.

Key facilities include a built-up area of 51,404 SQM and a footprint area of 3,847 SQM. The parking provisions accommodate 588 two-wheelers, 470 cars, and 15 spaces for differently-abled individuals. The hospital will have a total of 452 beds.

Key infrastructure features include a 1600 KVA transformer, three DG sets of 625/650 KVA, four UPS units of 300 KVA, a chiller system with four units of 400 TR, a firefighting system, and Extra Low Voltage (ELV) systems. Additionally, the project incorporates essential facilities such as a 150 KLD Effluent Treatment Plant, a 200 KLD Sewage Treatment Plant, a 20,000 LPH Water Treatment Plant, a 3000 LPH RO Plant, a Bio Gas Plant with a capacity of 500 kg per day, and a 300 KLD incinerator.

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Environmental clearance checklist

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
GENERAL CONDITIONS						
1	Climate responsive design as per Green Building Guidelines in practice should be adopted.		✓		Page 39	Our project complies with GRIHA norms. Currently, we are in the construction phase, and all requirements are being followed on-site. Photos are attached
2	Vide GO (MS) No. 39/2022/LSGD dated 25.2.2022, the Government of Kerala has introduced Green rating and Green building certification to buildings based on green standards. The guidelines published as part of the GO should be adhered to.		✓			GRIHA norms will be followed. GRIHA Certification for this project will be acquired.
3	Vegetation should be adopted appropriately on the ground as well as over built structures such as roofs, basements, podiums etc.			✓	Page 40	To plant various vegetation on the ground in other areas such as roofs, basements, and podiums, we are already preserving topsoil. During the finishing stage, we will use this preserved soil for planting. Native plants and trees will be adopted to reduce the water usage. Landscape plans shall indicate plant species, quantity and also area covered by trees and plants.
4	Green belt development surrounding the campus, avenue tree planting and garden development should commence from the beginning of the construction phase. Only indigenous species should be used for green belt and avenue trees.		✓		Page40	We are planting the trees around Site Campus. Native or indigenous trees will used.
5	Exposed roof area and covered parking should be covered with material having high solar reflective index.			✓		Exposed area is considered for installing the solar panels for power generation and utilisation

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
6	Building design should cater to the differently-abled citizens.			✓		Building already designed in consistent with the norms that cater differently abled citizens.
7	Provide safe and healthy basic facilities for construction workers as per the Building & Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996.		✓		Page 41,43, 44,46, 49	In accordance with the Building & Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, we have provided safe and healthy basic facilities at the site.
8	Appropriate action should be taken to ensure that the excess rainwater runoff reaches the nearest main natural drain of the area unpolluted and if necessary, carrying capacity of the natural drain should be enhanced to contain the peak flow.			✓		Well-designed Storm water drainage system has been proposed for the project. Appropriate actions will be taken to ensure the same.
9	Water efficient plumbing features should be adopted.			✓		Already considered the item in the BoQ. The item will be executed for this project.
10	Design of the building should be in compliance to Energy Conservation Building Code as applicable			✓		GRIHA Certification for this project will be acquired. Additionally ECBC Compliance report is already obtained.
11	Energy conservation measures as proposed in the application should be adopted in total. In addition to the 150 KW Solar system without battery for utility load mounted on terrace, adequate battery linked solar system should also be installed as make up energy supply so as to reduce the fuel-based energy use.			✓		Already considered the item in the BoQ. The item will be executed for this project.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
12	The garland canal, silt traps, siltation pond and outflow channel should be desilted periodically to facilitate unhindered overland drainage.		✓			Silt trap and siltation pond are available at site location
13	The drainage along with silt traps, collection tanks and outflow channel should be desilted periodically and geo-tagged photograph should be incorporated in the Half Yearly Compliance Report.			✓		We have integrated it into the building's external work.
14	The proponent should submit an affidavit stating that a large water harvesting structure will be developed and managed for meeting the additional water demand as the water supply from KWA is restricted to only three days in a week and the yield of the open well is inadequate to meet the demand.			✓		We have taken the rainwater harvester into consideration, and the collected water will be treated at the water treatment plant.
15	Adequate built-in composting facility should be set up for the treatment of biodegradable waste as the capacity or the number of BIOBIN proposed is inadequate.			✓		Already considered the item (Bins) in the BoQ. The item will be executed for this project.
16	Adequate and covered storage area should be provided for the storage of non- degradable waste generated for at least 30 days. Additional space should also be provided for the storage of Hazardous Waste and E- waste. The non-degradable solid waste (dry waste) so stored should be handed over to Recyclers/ Local body/ Vendors on a regular basis.			✓		Will properly comply the requirements in future.
17	Rainwater harvesting pond should be linked with the water treatment plant.			✓		We have considered the same in PHE Design.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
18	Measures incorporated in the CER should be implemented in total during the first five years and it should be operated and maintained during the subsequent years.		✓			MCC has already requested details about CER from the LSGIs, and discussions with KIIFB are ongoing.
19	As per OM no F.No.22-65/2017-IA.III dated 30th September 2020, under Corporate Environmental Responsibility (CER) the project Proponent shall prepare an Environment Management Plan (EMP) as directed by SEAC during appraisal, covering the issues to address the environmental problems in the project region, indicating both physical and financial targets year wise. The EMP shall be implemented in consultation with local self Govt. Institutions. The indicated cost for CER shall be 2% of the project cost depending upon the nature of activities proposed. The follow up action on implementation of CER shall be included in the Half Yearly Compliance Report which will be subjected to field inspection at regular intervals. A copy of the approved EMP shall be made available to the concerned Panchayat for information and implementation support.		✓			MCC has already requested details about CER from the LSGIs, and discussions with KIIFB are ongoing.
20	The violation of EC condition may lead to cancellation of EC and action under The Environment (Protection) Act 1986.		✓			Will adhere to all relevant EC requirements for this project

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
21	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project (Circular No.J-11013/41/2006-IA.II(I) of GoI, MoEF dt.22.09.2008).		✓		Page 41,44, 47	We have provided safe drinking water at multiple points on site, including the labor camp. We arrange monthly medical health check-ups for the workers. The labor housing is situated within walking distance with adequate lighting and ventilation.
GREEN CONDITIONS						
22	Adequate rain water harvesting facilities shall be arranged for			✓		We have integrated it into our building's architecture.
23	Technology and capacity of the STP to be indicated with discharge point (if any) of the treated effluent.			✓		400 KLD STP is available.
24	Effluent water not conforming to specifications shall not be let out to water bodies.			✓		Effluent water will not be discharged into the water bodies.
25	Maximum reuse of grey water for toilet flushing and gardening and construction work shall be ensured.		✓			We are Utilizing the Grey water. This shall be ensured
26	Dual plumbing for flushing shall be done.			✓		Considered in our PHE design
27	Provisions for disposal of e-wastes, solid wastes, non-biodegradables and separate parking facility for the buildings shall be provided.			✓		It has already been incorporated into the building design.
28	Generation of solar energy to be mandatory for own use and/or to be provided to the grid.			✓		Provision is included in the BOQ.

Environment Monitoring Committee

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
29	There shall be no compromise on safety conditions and facilities to be provided by the project proponent, which shall be ensured for occupation, regularisation or consent to operate.		✓		Page 49	We have implemented all necessary measures to ensure everyone's safety on site and will conduct close monitoring to enhance quality.
30	The Clearance will also be subject to full and effective implementation of all the undertakings given in the Application Form, all the environmental impact mitigation and management measures undertaken by the project proponent in the documents submitted to SEIAA, and the mitigation measures and waste management proposal as assured in the Form -1 and Form-1A, Environment Management Plan and Conceptual Plan as submitted. The assurances and clarifications given by the proponent in the application and related documents will be deemed to be part of this Proceedings as conditions as undertaken by the proponent, as if incorporated herein.			✓	Page 57	Will follow
31	Validity of the Environmental Clearance will be for 7 years from the date of issuance of E.C, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of any of the conditions stipulated herein or genuine complaints from residents within the scrutiny area of the project		✓		Page 57	Will follow all the guidelines applicable to this project.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
32	Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority or its agencies and also by the Regional Office of the Ministry of Environment and Forests, Govt. of India, Bangalore. Necessary assistance for entry and inspection by the concerned officials and staff should be provided by the project proponents. Instances of violation if any shall be reported to the District Collector, Kannur to take legal action under the Environment (Protection) Act 1986.			✓		Will ensure the necessary assistance
33	The Half Yearly Compliance Report (HYCRs) with its contents, covering letter, compliance report and environmental monitoring data has to be in PDF format merged into a single document. The email should clearly mention the name of the project, EC Number and date, period of submission should be sent to the Regional Office of MoEF & CC by email only at email ID ros.z.bng-mefcc@gov.in . Hardcopy of HYCRs shall not be acceptable.			✓		Will ensure that all instructions are followed when submitting the Half-Yearly Compliance Report.
34	The given address for correspondence with the authorised signatory of the project is Dr.B.Satheesan, Director, M/s Malabar Cancer Centre, Thalassery P.O, Moozhikkara, Kannur-670103.					
GENERAL CONDITIONS FOR PROJECTS						
35	The proponent should provide notarized affidavit indicating the number and date of Environmental Clearance proceedings and that all the conditions stipulated in the EC shall be scrupulously followed.					Will provide and ensure that all conditions are being followed

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
36	The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available on the website of SEIAA www.seiaakerala.in . The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.	✓			Page 57	Published in two local newspapers that are widely distributed in the region. Photos are included for reference.
37	The proponent shall send a copy of the clearance letter to the concerned Grama Panchayath/District Panchayath/ Municipality/Corporation/Urban Local Body and also to the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The Environmental Clearance shall also be uploaded on the website of the company.	✓				Environmental Clearance Received, Photo included for reference.
39	The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40.	✓			Page 52	As instructed, a size board has been placed at the site entrance. Photo is included for reference.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
40	Consent to Establish and Consent to Operate from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating activity. All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives. Copies of statutory clearance obtained shall be enclosed along with first half yearly compliance report.	✓			Page 63	All statutory clearances and other approvals have already been taken and photos are included for reference.
41	If blasting is involved in the preparation of site, the required clearances from the competent authorities should be obtained.					The site preparation does not involve any blasting.
42	The stipulations/conditions issued by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, Solid Waste Management Rules, 2016 Plastic Waste Management and Handling Rules, 2016, Construction and Demolition Waste Management Rules 2016, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.		✓			Will ensure the same.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
43	The conditions specified in the EIA notifications 2006 and subsequent amendments, the specific directions given by SEIAA/ SEAC should be followed under corporate Environment Responsibility. The activities carried out under CER should be listed with details in Half yearly compliance report along with Status of Implementation and certificates from the beneficiaries and photographs.			✓		Will ensure that all conditions are being followed
44	Safety measures should be implemented as per the Fire and Safety Regulations/ SDMA guidelines.	✓			Page 54	The norms are being followed.
45	The environmental safeguards contained in the EIA Report should be implemented in letter and spirit and status of implementation of each one should be included in the half yearly compliance Report.		✓			Will ensure the same.
46	Environment Monitoring Committee as agreed under the affidavit filed by the proponent should be formed and made functional. Environmental Monitoring Committee with defined functions and responsibility should foresee post operational environmental problems (Eg. development of slums near the site, increase in traffic congestion, power failure, increase in noise level, natural calamities, and increase in suspended particulate matter etc.) and action taken to solve these immediately with mitigation measures			✓		Will implement the necessary control measures.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
47	Suitable avenue trees should be planted on either side of approach road and internal roads and open parking areas, if any. The proponent should plant trees at least 5 times of the loss of trees that has occurred while clearing the land for the project. The native flowering and fruiting species only shall be used for planting and planning should be done considering the nature of public use.			✓		Will ensure the same.
48	The project shall incorporate devices for solar energy generation and utilization to the maximum possible extent with the possibility of contributing the same to the power grid and consumption in future.		✓			Solar system has been included into the building design.
49	The proponent shall submit half yearly compliance reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and upload the same on their website and shall update the same periodically. The compliance report shall be simultaneously sent to the Regional Office of Ministry of Environment, Forests and Climate Change, Govt. of India at Bengaluru and also to SEIAA.			✓		Will follow the instructions while submitting the Half-Yearly Compliance Reports.
50	The project proponent is responsible for implementing all the provisions of labour laws applicable from time to time. Provision should be made for providing cooking facilities and supply of kerosene or cooking gas to the labourers.			✓		Will implement all provisions of the labor laws applicable to this project.

Environment Monitoring Committee

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
51	The proponent shall co-operate with and provide facilities and documents/data to the Agencies including the Officials from the Regional of Ministry of Environment, Forests and Climate Change, Bengaluru during their inspection as part of monitoring the implementation of environmental safeguards.			✓		Will ensure Necessary assistance
52	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.			✓		Will ensure
53	In case of transfer of EC, the matter shall be intimated and approval from the Authority shall be obtained as per the existing norms.			✓		Will ensure the same.
54	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.		✓			Will ensure the same.
55	The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the Environment Clearance under the provisions of the Environment (Protection) Act 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.		✓			Will ensure the same.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
56	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal 1, if preferred, within a period of 30 days as prescribed under section 11 of the National Green Tribunal Act, 1997.					Will follow.
GENERAL CONDITIONS SPECIFIC TO OPERATION PHASE						
57	All statutory permissions including “Consent for Establishment” to STP/ ETP, Solid waste management plant, Power Generator etc shall be obtained from Kerala State Pollution Control Board under Air Act and Water Act and Environment (Protection) Act. A copy shall be submitted to the Ministry/ SEIAA before start of any construction work at the site.			✓		Will follow.
58	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 lightning etc. Building constructed in the runout area of landslide / rock fall area, shall be provided with suitable structures/ measures to prevent earth materials to hit the structure.			✓		Will ensure the same.
59	All required sanitary and hygienic measures should be in place before starting construction activities which are to be maintained throughout the construction phase.	✓				Yes, Already Implemented.
60	A First Aid Room shall be provided at the project site both during construction and operation phases of the project.	✓			Page 46	Yes, Already Implemented.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
61	Adequate drinking water and sanitary facilities should be provided for construction workers at the site, Provision should be made for mobile toilets. Safe disposal of wastewater and solid wastes generated including piling debris during the construction phase should be ensured.	✓			Page 41	Yes, Already Provided.
62	Unless provided otherwise, all the topsoil excavated during construction phase should be stored and re-used for backfilling/ horticulture/landscaping purposes within the project site.	✓			Page 45	Yes, We already preserved in the site Premise.
63	Top soil excavated should not be used for reclaiming wetlands.	✓			Page 45	Top soil excavated shall not be used for reclaiming wetlands. We preserved the same in the site premise.
64	The muck shall be disposed of only at approved sites with the approval of competent authority. The disposal should not create any adverse effect on the neighbouring communities and should be disposed of taking necessary precautions for general safety and health of the public. Proof regarding the same shall be enclosed with the respective six monthly compliance reports.	✓				We have taken care of these and took necessary precautions for the disposal of the muck and this will not adversely affect the neighboring communities.
65	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such materials must be secured so that they will not leach into the ground water.					Will ensure the same. Hazardous construction chemical materials will be placed on the raised impervious platform covered from all sides. The spoils will be stored in containers or bags, making sure they do not spill and pollute the groundwater.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
66	Any hazardous waste generated during construction phase, should be disposed off to authorised/approved Waste Collectors as per applicable rules and norms with necessary approval of the Kerala State Pollution Control Board.					Not Applicable in our site.
67	Soil and ground water samples shall be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.		✓		Page 55	Frequent testing of ground water are being followed at site.
68	Storm water control and its re-use measures as per CGWB and BIS standards shall be followed for various applications.			✓		Will follow.
69	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to the applicable air and noise emission standards and should be operated only during non-peak hours. During the transportation of building materials/ products, the vehicles shall be covered with suitable materials to prevent dust pollution.		✓		Page 58	Will ensure
70	Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be taken to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/KSPCB.		✓		Page 56	We have been monitoring this and will be taken care of.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
71	The diesel generator sets used during construction phase should be of low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards. 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. DG sets shall be installed and made functional as per guidelines of KSPCB.			✓		Will follow the KSPCB norms.
72	Ready mixed concrete must be used in building construction. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.				Page 59	Will follow.
73	Permission to draw ground water shall be obtained from the competent Authority prior to construction/ operation of the project.					Will follow.
74	Separate dual plumbing line should be provided; one line for Toilet Flushing / Gardening / Vehicle wash and another separate line for other domestic uses, for ensuring reuse / recycle of treated waste water to the maximum extent possible.			✓		Already Considered in building design.
75	Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.			✓		Already Considered in the building design.
76	Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control			✓		Already Considered in the building design.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
77	Water efficient plumbing features should be adopted			✓		Will properly comply the requirements
78	Use of glass may be reduced by 40% to reduce the electricity consumption and load on air conditioning. If necessary, use high quality double glass with special reflective coating on windows.			✓		Already Considered in the building design.
79	Design of the building should be in compliance to Energy Conservation Building Code as applicable		✓			Already Considered in the building design.
80	Roof should meet perspective requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill the requirement.			✓		Already Considered in the building design.
81	Opaque wall should meet perspective requirement as per energy Conservation Building Code which is proposed to be mandatory for all air conditioned spaces while it is optional for non-airconditioned spaces by use of appropriate thermal insulation material to fulfill requirement			✓		Already Considered in the building design.
82	Climate responsive design as per Green Building Guidelines in practice should be adopted		✓			Already Considered in the building design.
83	Regular supervision of the above and other measures should be in place all throughout the construction phase so as to avoid disturbance to the surroundings.		✓			Will ensure continuous supervision
84	Fly ash should be used as building material in construction as per the provisions of Fly Ash Notification of September, 1999 and Amended as on 27th August 2003. (Applicable to Power Stations).			✓		Considered in our BOQ

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
85	Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining the statutory clearances.					Will ensure
GENERAL CONDITIONS SPECIFIC TO OPERATION PHASE						
86	The buildings should have adequate distance between them to allow movement of fresh air and passage of natural light and ventilation.			✓		Already Considered in the building design.
87	Sewage Treatment Plant (STP) should be installed and made functional as per KSPCB guidelines. On/site Treatment of Sewage and Sullage should be done with scientific method ,ensuring efficiency of treatment, ease in operation , sustainability and it should contain the units of primary, secondary, tertiary and quaternary type of treatment scheme. The installation of the STP should be certified by an independent expert and a report in this regard should be submitted to the Ministry/SEIAA before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100% grey water shall be done through a decentralized treatment. Reuse of water shall be practiced for flushing process and garden purposes. Discharge of unused treated effluent shall conform to the norms and standards of the Kerala State Pollution Control Board.			✓		Will follow the guidelines of the KSPCB.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
88	Solid waste management plant shall be installed and made functional as per the guidelines of KSPCB. The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed of to the approved sites for land filling after recovering recyclable material. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.			✓		Yes, necessary actions will be taken.
89	Provide adequate Material Collection Facility (MCF) for storage of non-biodegradable waste including plastic waste and E waste, for handing over the same to Recyclers/ Local Body , as stipulated by Kerala State Pollution Control Board.			✓		Yes, Adequate MCF will be provided
90	Diesel power generating sets proposed as source of backup power for elevators and common area illumination during operation phase should be of enclosed type and conform 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.			✓		Yes, this will be ensured.
91	Low sulphur diesel shall be used as fuel in DG sets. The location of the DG sets may be decided in consultation with Kerala State pollution Control Board. DG sets should not be housed in sub-basement levels.			✓		Yes, this will be ensured.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
92	Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time, the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations		✓			Yes, these are being monitored at site.
93	The green belt of adequate width and density shall be raised preferably with local species along the periphery of the project site so as to provide protection against particulate matter and noise.		✓			Will ensure
94	Weep holes shall be provided in the compound walls to ensure natural drainage of rain water during the monsoon period.		✓		Page 71	Yes, We have provided weep holes in retaining wall as well as in RR masonry.
95	Rain Water Harvesting structures should be installed as per the prevailing provisions of KMBR/KPBR, unless otherwise specified elsewhere. Rain water harvesting measures for roof run-off and surface run-off, as per approved building plan should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 m above the highest ground water table.					Will ensure
96	The ground water level and its quality should be monitored regularly in consultation with State Groundwater Department/Central Ground Water Authority.		✓			Yes We are regularly monitoring.

No	Description	Completed	In progress	Will be done in the future	Evidence	Remarks
97	Traffic congestion near the entry and exit points from the roads adjoining the project site must be avoided. Parking should be fully internalized and no public space should be utilized.			✓		Yes, This has been ensured in the external development plan and shall be adhered to.
98	A Report on the energy conservation measures, conforming to energy conservation norms issued by Bureau of Energy Efficiency, should be prepared incorporating details about building materials & technology, R & U Factors etc and submit to the Ministry in three months time.			✓		Will follow.
99	Energy conservation measures like installation of LED /CFLs/TFLs for the lighting the areas outside the building should be an integral part of the project design and should be in place before project commissioning. Used LED/ 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. Solar panels may be used to the extent possible.			✓		Yes, These are considered in the Electrical Design

Minutes of 1st Meeting of the Environmental Monitoring Cell Committee Held on 12th/10/2023 at Malabar Cancer Centre, Thalassery, Kannur

Location: Conference hall

1. Dr.B.Satheesan :Director, Malabar Cancer Centre-PGIOSR
2. Mr. V. Vasantha :Municipal ward councillor, Thalassery
3. Ms. Reena :Engineer I/C, MCC-PGIOSR
4. Ms. Anitha :Hospital Administrator, MCC-PGIOSR
5. Mr. Chandran :Engineering dept. MCC-PGIOSR
6. Mr.Sreeramakrishnan :Executive Engineer, BSNL
7. Mr. Sreesan :Municipal ward councillor, Thalassery
8. Ms. Shijina :Engineering dept. MCC-PGIOSR
9. Mr.Ramkumar :Engineering dept. MCC-PGIOSR
10. Mr.Vineesh :Project Engineer, CVCC
11. Mr. Ramachandran :Project coordinator(Malani construction co)
12. Mr. Muralidaran :Chief Project manager(Wapcos)
13. Mr. Viraj Sohani :Project manager(Malani construction co)

Representative from WAPCOS provided an overview of the KIIFB Phase II project, emphasising that the project will adhere to GRIHA norms to avoid any disturbances to the hospital premises and the surrounding neighbourhood.

During the construction phase, to mitigate any potential issues for the environment, hospital, and neighbourhood, the committee issued the following instructions:

- Security guards are to be stationed at every entrance, and the site and labor sheds are to be monitored via CCTV.
- The municipality highlighted that migrant labourers are major sources of tobacco and drug use; therefore, control measures should be implemented for all workers on site.
- The agency will conduct awareness sessions for residents within the campus.
- Stray dogs and other animals should not be fed or encouraged; strict action will be taken if this is observed, as stated by the Director.
- A septic tank will be installed at the construction site, which can be pumped out for safe disposal if it becomes full.
- Any worker disputes should be managed solely by the agency.
- The agency assured that the latest equipment will be used for piling activities, ensuring minimal noise pollution
- Insurance policies, labourer's' PF, and all necessary insurance coverage are in place for all machinery and vehicles.
- The Director instructed that two additional neighbours be included in future meetings.
- The Director emphasised the importance of maintaining labourers' medical check-up records and reporting any infectious diseases to the MCC.
- All waste must be disposed of in a safe manner, and MCC should be informed accordingly.
- The MCC instructed the use of the canteen biogas plant for food disposal.
- To address neighbourhood concerns about the labor camp and construction work, a WhatsApp group will be created to facilitate communication. This group will help alleviate concerns, resolve complaints promptly, and maintain a register for tracking issues.

The status of the major concerns discussed in the 1st EMC meeting is provided below.

Sl no	Major concerns	Photos	Remarks
1	A representative from Wapcos provided an overview of the KIIFB Phase II project. It was emphasised that the project will adhere to GRIHA norms, ensuring no disturbance to the neighbours.	Page 39,40,41,42, 43,44,45,46, 48,49,69	As per GRIHA norms, during the construction stage, we have implemented several essential measures. First aid facilities have been provided, and various training sessions have been conducted for workers. The topsoil has been preserved and will be utilised for landscaping purposes. A dedicated scrap yard has been set up to ensure the proper disposal of materials generated during the project. Additionally, we have organised effective waste management systems and ensured the availability of clean drinking water facilities.
2	Security guards are to be stationed at every entrance, and CCTV cameras must be installed in the labour camp.	Page 60	To ensure safety, dedicated security teams are stationed at the site and labour camp 24x7. Highly experienced team members closely monitor the movement of labourers and outsiders and are fully capable of handling any emergencies at the site and labour camp. CCTV cameras have also been installed at the labour camp and on-site, ensuring continuous monitoring of the entire area.
3	The municipality highlighted that the major sources of tobacco and drugs are migrant labourers, so control measures should be implemented.	Page 61	We have implemented a strict Tobacco, Alcohol, and Drugs policy aimed at prohibiting their use on-site and camp. Regular checks are conducted, and penalties are enforced for any violations, with the primary goal of maintaining a tobacco, alcohol, and drugs-free environment. Additionally, awareness sessions are conducted for workers at frequent intervals. During the mandatory site HSE induction, the HSE representative provides a brief explanation of the site rules, including the prohibition of tobacco, alcohol, and drugs. If anyone found using such substances on-site will face a penalty of Rs. 2000.

Sl no	Major concerns	Photos	Remarks
4	The agency is committed to providing awareness sessions for residents within the campus.	Page 62	We organised an awareness session for residents and college students on 12/12/2023 at the girls' hostel, covering comprehensive instructions on site safety. This included traffic rules, noise management, public safety, the importance of safety signs, and emergency plans.
5	The director instructed that no street dogs should be fed on the site.	Page 64	Integrated into the HSE site rule and always give instructions during mandatory HSE induction sessions for all personnel.
6	The construction site must have a septic tank, and waste should be removed properly once the tank is full.		Efforts are underway to oversee and address septic tank overflow incidents through collaboration with pertinent authorities
7	Any worker disputes should be handled solely by the agency.	Page 64	To prevent conflicts within the camp, we have housed the entire security team at the labor camp and installed CCTV cameras. Additionally, our team conducts surprise visits to the camp.
8	The agency assured that the latest equipment will be used for piling activities, ensuring minimal noise pollution.	Page 65	To minimise on-site noise pollution, we use very advanced equipment for piling activities. Experienced operators are assigned to operate the rig equipment, and regular maintenance is conducted to improve efficiency and reduce noise levels. Environmental noise is monitored regularly. Furthermore, in accordance with the latest MCC circular, boring work stops after 11 PM and resumes at 4 AM.
9	All equipment and vehicles will be insured, and labourers will receive PF and other benefits from the agency.	Page 66,67,58	We strictly adhere to vehicle insurance norms, ensuring that all necessary documents, particularly insurance, are obtained from the first day. This requirement applies to laborers as well, who are also provided with PF.

Sl no	Major concerns	Photos	Remarks
10	The director instructed to include two more neighbours in the meeting.		We participated in the meeting held on December 4th, 2023, where we engaged with local residents and gathered their concerns.
11	The director emphasised maintaining medical check-up records of labourers and reporting any infectious diseases.	Page 47,68	The well-being of our team members is our utmost priority. We prioritise their health by arranging regular health check-ups and providing a dedicated team to address their concerns. Additionally, an isolation room is provided at the labor camp for workers to isolate during easily spreadable diseases.
12	All waste must be disposed of in a safe manner, and MCC should be informed accordingly.	Page 69	We have made all necessary arrangements for waste collection at the labor camp and on-site. Currently, food waste is shared with a nearby farm, and plastic waste is managed by another agency. They collect waste from these locations at regular intervals. Additionally, we have implemented a policy to minimise plastic usage at both the site and labor camp.
13	MCC instructed the use of the canteen biogas plant for food disposal.	Page 69	The construction of a biogas plant is currently ongoing to facilitate the environmentally friendly disposal of food waste. Moving forward, we plan to utilise this biogas plant for food waste disposal.
14	To address the concerns of neighbours, the agency should create a WhatsApp group and resolve all issues as quickly as possible, as instructed by the director.	Page 70	In response to MCC's directives, we established a WhatsApp group on October 12, 2023, to address local community concerns, with designated administrators and project coordinators overseeing the platform. We remain actively engaged in this group to promptly resolve any issues raised by the community. Several concerns were brought forward by group members and promptly addressed. Most recently, on March 27, there was an incident in our neighbourhood where water discharged onto the nearby road, causing it to become slippery. Our dedicated team swiftly attended to this matter.

Environmental Management Plan

1. Introduction

Malani Construction Co. is dedicated to sustainable development practices. This EMP outlines the framework for managing the environmental aspects of our projects, adhering to the GRIHA standards, and complying with national regulations.

2. Environmental Policy

Our environmental policy emphasises commitment to reducing our environmental footprint, ensuring sustainable resource use, and achieving compliance with all relevant legal and regulatory requirements.

3. Purpose

a) The purpose of this Environmental Management Plan (EMP) is to define the environmental requirements and objectives of the Projects as well as the processes and procedures that will govern actions to ensure that these environmental requirements and objectives are satisfied during all Phases of the MCC phase II development Project.

b) The implementation actions defined in the EMP provide the procedures necessary to achieve environmental compliance and ensure protection of the environment and surrounding habitat. In addition, the EMP outlines how objectives will be monitored and enforced. In order to ensure environmental compliance, all members of the Contractor's and Subcontractor organisations will be cognisant of their responsibilities related to the protection of the environment.

c) This EMP will be revisited and revised where appropriate.

d) Control on all activities from their origin till their final action or elimination, and to regularly review the whole process to minimise the potential cause harm to the environment. In order to achieve this goal, this management tool applies to any construction or pre- commissioning and commissioning activities of the contractor, including support activities.

4. Regulatory Framework

The Environmental Management Plan (EMP) for Malani Construction Co. is meticulously designed to ensure compliance with a comprehensive set of national and state regulations. This section provides a detailed explanation of the regulatory framework guiding the EMP, focusing on the adherence to laws and standards that govern environmental management practices in construction projects.

In this MCC Phase II project, we adhere to GRIHA norms to ensure the site is planned to minimise environmental impact. This includes measures for soil conservation, rainwater harvesting, and maintaining ecological balance. We implement strategies to reduce energy consumption through efficient building design, use of energy-efficient appliances, and incorporation of renewable energy sources. We consistently utilise water-saving fixtures, recycle wastewater, and harvest rainwater to reduce water consumption. Additionally, we efficiently manage construction waste, promote recycling, and ensure the proper disposal of hazardous materials.

5. Environmental Management Organisation

Project Manager

- The Project Manager is responsible for ensuring that all site and construction-related activities of the Contractor and Subcontractors are carried out safely and in full compliance with Malani Construction Co. regulations and the contractual requirements within this EMP.
- The Project Manager supports the HSE In-Charge by ensuring that adequate resources are made available and that measures are immediately implemented to enforce environmental compliance.

Project HSE Incharge

- The Project HSE In-Charge reports to the Project Manager and participates in defining the HSE Policy, ensuring its effective implementation. They are responsible for coordinating the HSE management of the entire project, including the establishment, execution, and monitoring of the HSE Plan.
- The Project HSE In-Charge ensures that HSE activities are integrated and coordinated with other project activities.
- Any deviations or requests for modifications will be reported by the Project HSE In-Charge to the Project Manager, or in their absence, to the Assistant Project Manager, who will be responsible for approving these changes to the EMP.
- The Project HSE In-Charge will interface with other departments to receive documentation, ensure its completeness, issue activity reports, and verify the implementation of actions for further analysis.

Project Coordinator

- Coordinate with GRIHA, other agencies, and concerned government departments.
- Coordinate all activities related to the environmental management cell committee.

Deputy Project Manager

- Ensure all activities are aligned with environmental protection norms.
- Ensure the materials used for construction are not harmful to the environment.
- Responsible for ensuring that all technical specifications and documentation produced by the contractor and subcontractors comply with the project's safety and environmental objectives.
- Report to the HSE Incharge on all site HSE matters.

MEP Incharge

- Monitor and manage the energy consumption of MEP systems to minimise environmental impact.
- Implement energy-saving technologies and practices.
- Monitor and manage water usage to minimise waste.
- Promote the use of renewable energy sources and sustainable materials in MEP systems.
- Implement innovative solutions to enhance the environmental performance of MEP systems.

Admin Manager

- Ensure all vehicles entering the site have the required documents, especially the vehicle pollution certificate.
- Oversee waste management systems for the entire site and labour camp.
- Ensure adequate resources are available for implementing the environmental management plan.
- Coordinate the procurement and distribution of materials needed for environmental protection measures.
- Assist in developing and maintaining emergency response plans for environmental incidents.
- Ensure all staff are trained and aware of emergency procedures.
- Oversee the management of facilities to ensure they comply with environmental standards.
- Implement measures to reduce the environmental impact of administrative operations.

Engineers and Supervisors

- Report to the Deputy Project Manager
- Responsible for the day-to-day management of all environmental activities.
- Responsible for implementing the EMP plan for all subcontractors.
- Interface with other members of the contractor's team concerning environmental topics, issues, and challenges.
- Ensure that all contractor and subcontractor personnel are properly trained in environmental compliance.
- Ensure that the EMP is correctly implemented.
- Coordinate environmental monitoring activities.
- Coordinate and oversee the execution of emergency response activities.

7. Environmental mitigation strategies

The environmental mitigation strategies to be employed before and during construction and start-up activities are crucial for minimising environmental impacts. Since effective mitigation relies on thorough planning prior to construction, this section begins with a discussion on the primary tool for mitigating environmental impacts during the planning process. Each specific type of construction activity is addressed individually, with subsections outlining the general goals, principles for mitigation, and procedures for implementation related to each activity.

Environmental mitigation strategies

Sl. No	Activity	Environmental Attribute	Environmental Issues/ Impacts	Mitigation measures	Implementing Agency	Monitoring Agency
EMP for Construction Phase						
1	Setting up and operation of labour Camp	Soil	Soil contamination could be resulted in due to improper dumping of solid waste generated from labour camp.	A demarcated composting area and sufficient number of toilets attached with septic tank will be provided in the labour camp under contractor's scope.	Malani construction co	Wapcos
		Air	Air emission will be resulted if domestic waste is burned especially, plastic, rags etc	<ul style="list-style-type: none"> - Domestic waste should not be permitted to burn. - Waste bins should be provided for waste collection and safe disposal. 	Malani construction co	Wapcos
		Socio-economic	Social security issues are of special concern where large number of construction workers resides.	The labourers shall be properly registered with the police, CCTV will be installed for monitoring, and a full security staff will be provided.	Malani construction co	Wapcos
		Air	Air pollution due to dust /airborne litter which will disturb neighbourhood	Camp will be enclosed with fencing	Malani construction co	Wapcos
2	Site preparation	Biological	Displacement of the existing flora and fauna at the site	The development of a green belt with trees will be included in the project. For every tree that is cut, 10 trees will be planted.	Malani construction co	Wapcos
		Scio Economic	Existing activity of the hospital will be disturbed	Site will be enclosed with fencing or green net.	Malani construction co	Wapcos
		Soil	Loss of topsoil can be expected.	Topsoil shall be preserved for future landscaping purposes.	Malani construction co	Wapcos

Sl. No	Activity	Environmental Attribute	Environmental Issues/ Impacts	Mitigation measures	Implementing Agency	Monitoring Agency
Excavation works		Air	Excavation work especially along the loose soil areas releases large amount of dust.	<ul style="list-style-type: none"> - Water should be sprinkle periodically to suppress the dust generation. - The construction area should be temporarily fenced to avoid dispersion of dust from the same area. 	Malani construction co	Wapcos
			Operation of fossil fuelled vehicles and machineries will lead to emissions due to fossil fuel burning	<ul style="list-style-type: none"> - Pollution- under –check (PUC) should be made mandatory for all vehicles used for construction activities - Stack height of Generator and emission level of vehicles and machineries should meet the relevant guidelines. 	Malani construction co	Wapcos
			Levelling of site, loading and unloading of excavated earth releases significant amount of dust	<ul style="list-style-type: none"> - Water should be sprinkled periodically to suppress the dust generation. - Site will be enclosed with fencing or green net. - Tarpaulin covering sheets will be used for trucks carrying excavated and construction material to prevent air borne dust 	Malani construction co	Wapcos

Sl. No	Activity	Environmental Attribute	Environmental Issues/ Impacts	Mitigation measures	Implementing Agency	Monitoring Agency
		Noise	Operation of heavy duty machineries such as excavators, loaders and frequent uses of transit vehicles such as lorry, tractor etc. leads to increased ambient noise level in project area.	<ul style="list-style-type: none"> - Workers shall not be exposed to sounds of more than 85 – 90 DB for more than eight hours a day and shall be provided with ear plugs. - Noise quality monitoring shall be conducted as per Environmental Monitoring Plan to detect noise pollution. - Construction contract shall clearly specify the use of equipment emitting noise of not greater than 90 dB (A) for the eight hour operation shift. - Schedule noisy activities during daytime hours to minimise disturbance to nearby residents. - Provision of barricades of adequate height along the periphery of the site 	Malani construction co	Wapcos
		Socioeconomic	Occupational health and safety impacts for workers	<ul style="list-style-type: none"> - Provisions to ensure worker’s safety shall be followed as per the rule in force. - Competent health and safety engineer shall be hired for monitoring. 	Malani construction co	Wapcos


Sl. No	Activity	Environmental Attribute	Environmental Issues/ Impacts	Mitigation measures	Implementing Agency	Monitoring Agency
4	Super structure construction activities	Soil	Soil pollution can occur due to spillage of fuel/ lubricants used in construction machineries.	<ul style="list-style-type: none"> - Machinery and equipments are maintained and refilled in such a way that fuel spillage does not contaminate the soil. - Soil quality monitoring shall be conducted as per Environmental Monitoring Plan to ascertain level of contamination. Necessary management plan will be developed as and when required. - Maintenance should be carried out on impervious platforms with spill collection provisions and oil traps. 	Malani construction co	Wapcos
			Soil pollution can occur along raw material storage area, concrete mixing area and along the transit points and construction sites due to spillage.	<ul style="list-style-type: none"> - The materials would be stored by properly covered 	Malani construction co	Wapcos
		Water	Contaminated runoff can be expected from the construction site	<ul style="list-style-type: none"> - Temporary pits will be created at lower elevation point for collecting the mudflow from the construction site 	Malani construction co	Wapcos
		Air	Use of DG set in the construction site can lead to air pollutants emission	<ul style="list-style-type: none"> - The DG should be operated on standby mode. - The stack height of the DG set has to be adequate. - Stack height and emission level of hot mix plant and diesel generator should meet the relevant SPCB 	Malani construction co	Wapcos

Sl. No	Activity	Environmental Attribute	Environmental Issues/ Impacts	Mitigation measures	Implementing Agency	Monitoring Agency
			Dust emission will be resulted due to transit of construction vehicles and concrete mixer.	<ul style="list-style-type: none"> - Water should be sprayed at regular intervals. - Tires of the vehicles should be washed before leaving construction site. - The materials being transported should be adequately covered. - Pollution- under –check (PUC) should be conducted for vehicles in every three months. 	Malani construction co	Wapcos
		Noise	Operation of transport vehicles and construction machineries especially Concrete transfer pump, Jack hammer, vibrator etc. Leads to increased ambient noise level.	<ul style="list-style-type: none"> - Noise quality monitoring shall be conducted as per Environmental Monitoring Plan to detect noise pollution. - Construction contract shall clearly specify the use of equipment emitting noise of not greater than 90 dB (A) for the eight hour operation shift. - The vibrators would be mounted on vibration damping mountings recommended for machines. 	Malani construction co	Wapcos
			Noise pollution arise from the construction vehicles and machineries.	<ul style="list-style-type: none"> - The work has to be done within the noise barrier zone 	Malani construction co	Wapcos

Sl. No	Activity	Environmental Attribute	Environmental Issues/ Impacts	Mitigation measures	Implementing Agency	Monitoring Agency
			Construction activities will disturb the exiting surrounding activities especially the normal working of existing hospital.	<ul style="list-style-type: none"> - Prior information to the existing inhabitants regarding the construction works will be provided especially contractor will inform the surrounding community in prior to operations that bear the risk of nuisance and accidents. - The site should be isolated by installing tall fabric fences - Adequate signs, hoarding boards will be implemented for reducing accidents of bypasses - Noisy construction shall be stopped between 11:00 pm and 4:00 am. 	Malani construction co	Wapcos
		Socio-economic	Safety issues to workers	<ul style="list-style-type: none"> - Competent health and safety engineer shall be hired for monitoring. - Workers shall not be exposed to sound of more than 85 – 90 dB for more than eight hours a day and shall be provided with ear plugs. - Necessary planning and safety approach will be made for rescue during emergency - The use of safety gears (helmets, safety belts, masks, gloves and boot) by workers depending on nature of work will be made mandatory - Workers will be provided with first aid and health facilities at the site. - Emergency mock drills shall be conducted every six months. 	Malani construction co	Wapcos

Sl. No	Activity	Environmental Attribute	Environmental Issues/ Impacts	Mitigation measures	Implementing Agency	Monitoring Agency
			Traffic and pedestrian road congestion	<ul style="list-style-type: none"> - The transportation vehicles will be parked within the premises of construction site - Sufficient hoarding board to inform the pedestrian and adjacent buildings about the activities will be established - The transportation will be scheduled such as not to coincide during peak traffic hours, - Safety measures to be considered while transporting the materials - Covering of the trucks with plastic sheets to prevent dust pollution and other hazards 	Malani construction co	Wapcos
			Improper disposal of the construction waste will lead to the risk and nuisance to the inhabitants of hospital	An effective construction waste management plan will be implemented.	Malani construction co	Wapcos
			Labor involved in the site clearance is exposed to dust and increased ambient noise level.	<ul style="list-style-type: none"> - Water should be sprinkled periodically to suppress the dust generation. - Personal protective equipments such as ear plugs, helmets, goggles, gloves, boots etc. should be made mandatory for the construction workers. - Other provisions to ensure worker's safety shall be followed as per rules in force. 	Malani construction co	Wapcos

Annexure

S. No	Photos
1	 <p data-bbox="197 1489 705 1534">Environmental protection initiatives</p>

S. No	Photos
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2



Preservation of existing trees during excavation

S. No	Photos
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Sufficient toilet facilities for the site

3



Drinking water for the site

S. No	Photos
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Shelter for laborers to rest at site

4



Dust control

S. No

Photos



Using appropriate methods to prevent dust during soil shifting

5



Frequent training sessions at the site to raise awareness among the workers.

S. No

Photos

6



Labour hutment with proper lighting and ventilation.

S. No	Photos
7	 <p data-bbox="204 1697 769 1738">Topsoil preserved for future landscaping.</p>

S. No **Photos**



8



On-site first aid setup

S. No

Photos



9

Routine monthly health check up

S. No	Photos
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10



Mock drill

S. No	Photos
-------	--------



11



We provide suitable PPE for everyone

S. No	Photos
-------	--------



12



Newspaper cutout

S. No	Photos
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13



Newspaper cutout



S. No

Photos

14



Environmental Clearance metallic board

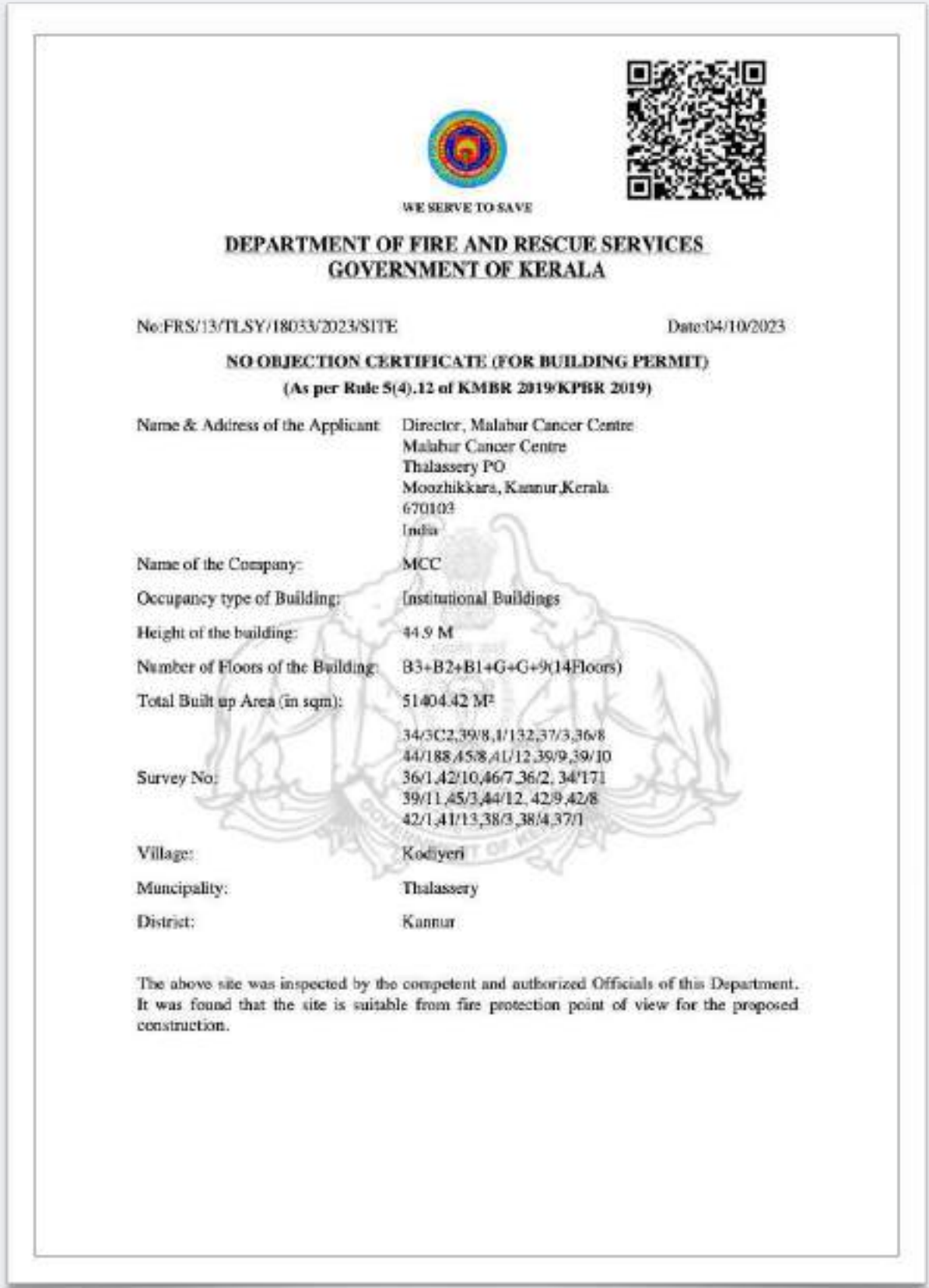
S. No	Photos
15	<div style="text-align: center;"> <p>167</p> <p>Appendix (K)(c) [See rule 5 (5)(2)] Form II</p> <p>[Certificate from KSECBC licensed engineer /BEE certified building energy auditor to be enclosed with the application for Building Permit for KSECBC compliant building] Certificate</p> <p>I am Kerala State Energy Conservation Building Code (KSECBC) certified professional/ BEE certified building energy auditor having registration No <u>BEEE/2020001</u> under the Energy Conservation Act 2001 and am / are authorized to scrutinize and verify the design of KSECBC Compliant Building. I certify that —</p> <p>(a) I have scrutinized the construction documents duly signed by the owner/design professional showing all the pertinent data and features of the building, equipment and systems in sufficient details covering Building Envelope, HVAC, Service hot water, Lighting and Electrical power in accordance with Panchayat Bye-laws and with the KSECBC, in respect of building proposed to be constructed on plot under Survey/Re Survey No <u>34/3C2, 34/171, 36/2, 36/9, 36/9, 37/1, 37/3, 38/3, 38/4, 38/9, 38/9, 38/10, 38/11, 41/12, 41/13, 42/1, 42/10, 44/8, 44/12, 44/188, 45/3, 45/9, 46/7, 1/132</u> Ward No <u>24</u> of <u>Kodiyeri</u> village in, <u>Thalassery</u> Municipality. I have scrutinized the compliance forms together with the check- lists to ensure compliance with the KSECBC.</p> <p>(b) The requisite documents incorporating the energy conservation measures have been duly inspected by the undersigned.</p> <p>(c) The Energy Performance Index Ratio of the building design as per construction documents at the design stage is equal to or less than one and is therefore in compliance with the KSECBC.</p> <p>(d) It is certified that all the required scrutiny and verification on the documents submitted have been carried out diligently and truthfully and all reasonable professional skill, care and diligence have been taken in scrutinizing and verifying the drawings of the buildings and compliance forms together with check-lists covering the various components of the KSECBC.</p> <p>(e) The contents of all the documents submitted along with the application are a true representation of the facts and nothing has been concealed.</p> <p>(f) There is no objection for issue of Building Permit in respect of the aforesaid proposed Building in so far as requirements of KSECBC are concerned.</p> <p>Signature. Name of the KSECBC certified Licensed Engineer/ BEE Certified building energy auditor Registration No/SEAL Date: 20.02.2023</p> <div style="text-align: right;"> <p>Mrs. Ashiqua Sulthana</p>  <p>Ar. ASHIQUA SULTHANA, A.S BEEB Enrollment ID: EMC/BEEE/20200001 Ar. ASHIQUA SULTHANA, A. S. CoA Reg. No: CA005403314 TC-25/255, Vanshiyer Po, Thiruvananthapuram-695025</p> </div> <p>This is a digitally signed Gazette. Authenticity may be verified through https://onspoc.kerala.gov.in/</p>  </div>

Certificate from KSECBC

S. No

Photos

16



No Objection Certificate (for Building Permit)

S. No

Photos

17



PURE WASSER TECHNOLOGIES
WATER TESTING LABORATORY & TREATMENT CONSULTANTS
 NUT STREET POST OFFICE BUILDING, NEAR TOWN HALL, VATAKARA PIN 673104
 9562 310233, 7510 310233
 Email: pure_wasser@yahoo.com

KERALA STATE POLLUTION CONTROL BOARD APPROVED LABORATORY

Analysis Report

AR No: AR/PWT/14612/2024 **Date : 04/06/2024**

Name : Mulum Construction Company,		Date & Time of sample collection: 31-05-2024	
Address : Sajosh Nair		Domestic	Establishment <input checked="" type="checkbox"/>
Mob : 8089130185, 9387330240		Sample collected by	: Client
Email :		Sample delivered by	: Client
		Date & Time of delivery : 04-06-2024 04:20 Pm	
Source of Sample :Bore Well - water for construction purpose		Sample received by	: Analyst J
Sample container : IL Plastic Jar		Sample condition	: - Fit for Analysis
Type of Test	Chemical <input checked="" type="checkbox"/>	Microbiological	Period of Analysis : 01-06-2024 to 04-06-2024

Sl No	Parameter	Unit	Test method APHA	Results	Permissible limit as per IS 456:2000
1	pH Value @25°C		FSSAI Manual of Methods of Analysis of Analysis Food - Water 2016	6.62	Not Less than 6
2	Volume of 0.02N H ₂ SO ₄ required to neutralize 100 ml sample using Mixed Indicator (Max)	ml	IS 3025 part 23	10.3	25.0
3	Volume of 0.02N NaOH required to neutralize 100 ml sample using Phenolphthalein Indicator (Max)	ml	IS 3025 part 22	1.9	5.0
4	Chlorides as Cl ⁻ (Max)	mg/L	FSSAI Manual of Methods of Analysis of Analysis Food - Water 2016	120	2000.0
5	Total Suspended solids (Max)	mg/L	IS 3025 part 17	Below LOQ LOQ 6 mg/l	200
6	Inorganic matter (Max)	mg/L	IS 3025 part 18	362	3000.0
7	Organic matter (Max)	mg/L	IS 3025 part 18	Below LOQ LOQ 4 mg/l	200.0
8	Sulphates (as SO ₄ ²⁻) (Max)	mg/L	AOAC 23 rd Edition 2019	16.2	400.0

The report is of the sample tested only and shall not be reproduced except in full.

Remarks: Nil

LOQ - Limit of Quantification



Authorized signatory

Water test report

S. No

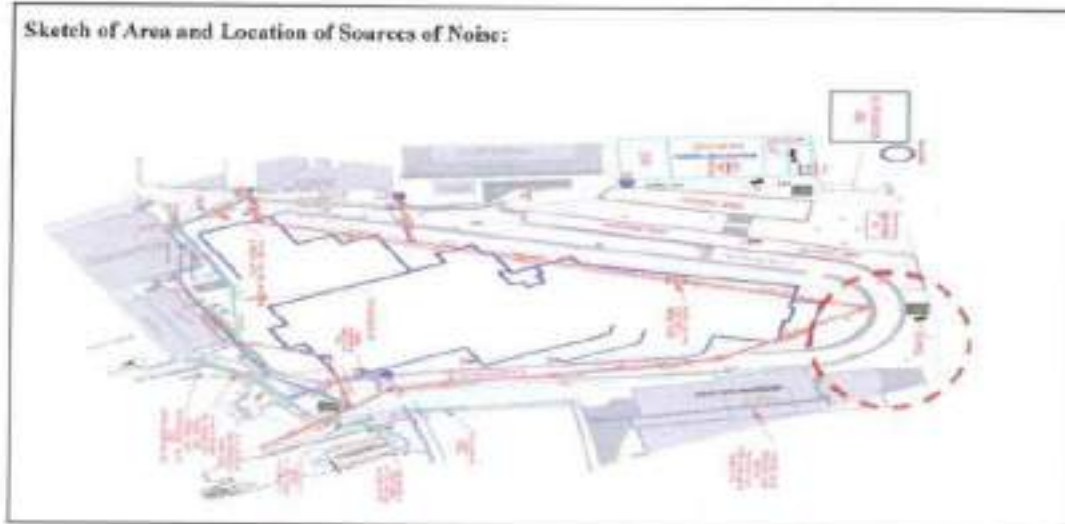
Photos

NOISE MONITORING RECORD

Site : Mcc_Phase II

Date:18.06.2024

Sketch of Area and Location of Sources of Noise:



NOISE LEVEL READING

Sl	Location	Noise Level (dB)	Distance from the Sources of Noise	Time	Activity at the time of Measurement	Type and Number of Equipment
1	Zone II part II	59.9dB	85M	12:51Pm	Pile boring work	SR155C10 Rotary Drilling Rig & No 1
3	Zone II part II	69.3dB	40M	01:05pm	Pile boring work	SR155C10 Rotary Drilling Rig & No 1
5	Zone II part II	73.3dB	10M	01:15pm	Pile boring work	SR155C10 Rotary Drilling Rig & No 1

18

Noise monitoring report

S. No

Photos

19

**ENVIRONMENTAL
CLEARANCE**

PARIVESH
*(Pro-Active and Responsive Facilitation by Interactive,
and Virtuous Environmental Single-Window Hub)*





Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment Authority(SEIAA), Kerala)

To,

The DIRECTOR
MALABAR CANCER CENTER
Malabar Cancer Centre, Moolhikara PO -670103

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SI/VKL/MIS/208403/2021 dated 07 Jun 2021. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No.	EC22B038KL199480
2. File No.	1898/EC4/2021/SEIAA
3. Project Type	New
4. Category	B2
5. Project/Activity including Schedule No.	B(a) Building and Construction projects
6. Name of Project	Development of Malabar Cancer Center as Postgraduate Institute of Oncology Sciences and Research
7. Name of Company/Organization	MALABAR CANCER CENTER
8. Location of Project	Kerala
9. TOR Date	N/A

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed)
Dr. Venu V IAS
Member Secretary
SEIAA - (Kerala)

Date: 23/07/2022

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.

This is a computer generated cover page.

EC Identification No. - EC22B038KL199480
File No. - 1898/EC4/2021/SEIAA
Date of Issue EC - 23/07/2022
Page 1 of 18

Environment clearance

S. No **Photos**

20

Form 59
(Serial No. 115 (2))

Pollution Under Control Certificate
Issued by:
GOVERNMENT OF KERALA

Date: 28/09/2023
Time: 13:30:58 PM
Validity upto: 25/09/2024

Certificate SL No: KL05800420001500
Registration No: KL580118
Date of Registration: 11/Aug/2013
Month & Year of Manufacturing: Jan-2012
State Vehicle Number: ****3086
Emission Norms: Bharat Stage IV
Fuel: DIESEL
PUC Code: KL0580042
GSTIN: 8113020
Tax: (GST to be paid extra at 2000000)
No. observations: No

Vehicle Photo with Registration plate
30 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)			Required Value (upto 3 decimal places)
		1	2	3	
100% Stratum	Carbon Monoxide (CO)	ppm by Vol (%)			
	Hydrocarbon (THC+HC)	ppm			
75% 50% Stratum	NO	ppm by Vol (%)			
	SOx	ppm	2000 & 200		
Exhaust Density	Carbon	g/kwh	1 & 0.00		
	Light absorption coefficient	g/kwh	1.02	0.04	

This PUC certificate is system generated through the National Register of Motor Vehicles (NMV) Govt. of India and is legal.

Note: 1. Motor owner should paste stickers to reflect the vehicle by logging to National Pollution Portal.

Authorized Signature with stamp of PUC operator
30 mm x 30 mm

State Pollution Control Centre
Kollam P.O. Secretariat
Pollution No: 000134 0000

Form 59
(Serial No. 115 (2))

Pollution Under Control Certificate
Issued by:
GOVERNMENT OF KERALA

Date: 29/03/2024
Time: 11:50:25 AM
Validity upto: 28/09/2024

Certificate SL No: KL05800420001677
Registration No: KL5801188
Date of Registration: 09/May/2013
Month & Year of Manufacturing: October-2012
State Vehicle Number: ****3086
Emission Norms: Bharat Stage III
Fuel: DIESEL
PUC Code: KL0580042
GSTIN: 8113020
Tax: Rs.110.00
No. observations: No

Vehicle Photo with Registration plate
30 mm x 30 mm

Pollution under control certificate

S. No

Photos

21



RMC plant

S. No	Photos
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22




CCTV has been installed, and a dedicated security team is in place

S. No	Photos
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23



DRUGS & ALCOHOL POLICY

Malani Construction Co., values the health and safety of all employees, workers, contractors, sub-contractors, business associates, representatives and visitors. To ensure a safe, healthy, and productive workplace, the company makes every effort to minimize risk associated with all its operations.

Being under the use of illicit drugs and misuse of therapeutic drugs and alcohol or other substances can have serious adverse effect on safety and well-being of employees, workers, contractors, sub-contractors, business associates, representatives and visitors.

The aim of this policy is to ensure the safety of everyone in workplace by having clear rules in place regarding use and possession of drugs and alcohol and to support those who have reported.


It is the basic right for all the workers to be able to work in an environment, which is free of any person who is impaired by drugs and alcohol. Consistent with this, the company will not permit any person to access any workplace, or to operate any plant or equipment if they are deemed to be under the influence of drugs and alcohol.

Performing work under the influence of drugs or alcohol impairs your health, safety and well-being and can put you and those around you at risk. It can also interfere with your ability to do your job safely and efficiently.

To ensure compliance to this, following points to be considered:

- The policy is applicable to all employees, workers, contractors, subcontractors, business associates, representatives and visitors.
- All employees will be treated consistently and fairly in line with this policy.
- The management ensures that this policy is understood and effectively administered.
- Educating employees with respect to danger of drugs and alcohol use in workplace.
- No body will carry Alcohol, Drugs while coming to site and not to store it at site.
- No Liquor party will be authorized at site and at Labour camp.
- Those who admit having a problem with drugs and alcohol shall be fully supported by their line managers.
- Employees with an illness related to drugs and alcohol are encouraged to disclose this at the earliest opportunity to ensure support and help with treatment.
- All matters concerning drugs and alcohol shall be treated as confidential.
- Encourage our employees to maintain good health and wellbeing through a suitable lifestyle balance.
- Conduct frequent drugs and alcohol monitoring. Surprise checking will be carried out by safety officer at site and labour camp.
- Communication, consultation, participation and collaboration among all employees and stakeholders will uphold the principles of this policy.
- Responsibility for compliance in this policy rests with all the employees of the company.
- Non-compliance of this policy and/or failure to take a requested test may lead to disciplinary action, including possible termination.

Date: 21.10.2023


AUTHORIZED SIGNATORY

Drug and alcohol policy

S. No

Photos

24



Awareness session for the residents

S. No	Photos
25	 <p>FILE NO : KSPCB/KN/ICE/10005628/2023 Date of issue : 30-09-2023</p>   <p>KERALA STATE POLLUTION CONTROL BOARD</p> <p>CONSENT TO ESTABLISH</p> <p>ISSUED UNDER</p> <p>The Water (Prevention & Control of Pollution) Act, 1974 The Air (Prevention & Control of Pollution) Act, 1981</p> <p>and</p> <p>The Environment (Protection) Act, 1986</p> <p>As per Application No. : 10005628 Dated : 22-06-2022</p> <p>To</p> <p>Malabar Cancer Center Malabar Cancer Center, Thalassery, Kannur, Kerala</p> <p>Consent No. : KSPCB/KN/ICE/10005628/2023 Valid Upto : 24-09-2028</p>

Clearance from kerala state pollution control board

S. No	Photos
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- Unauthorized Photo or photography is not permitted inside the Site.
- Workers should not use mobile inside the site
- Site Facilities must be cleaned frequently in a proper manner so that a high hygienic level is maintained, Sub-contractor all members are responsible for the housekeeping of his working place(End of the day workplace would be clean for the next day's work).
- PPE should stored properly.
- Do not provide food to animals within the site.
- Burning plastic is prohibited within the site

Site rules to prevent animal feeding at

26



CCTV and dedicated security team

S. No	Photos
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27



Advanced rig equipment for piling work

S. No

Photos

28

REPORT OF EXAMINATION OF LIFTING MACHINES & LIFTING TACKLES
(Prescribed under Rule 73 of Section 29 of The Kerala Factories Rules, 1957)

No. CR/TP/2023-24/493

I	Name of Occupier of the Factory	M/S. DULTECH FOUNDATION
II	Address of the Factory	Site at: Vengalamb Developers, Greenfort, Thripunithura.
III	Distinguishing number of mark if any and description sufficient to identify the lifting machine, chain rope or lifting tackle.	Item : Hydraulic Rotary Rig Make : SANY Model : SR-155 SL No. : SR155CCA17658 Main Winch : 100KN Wire Rope : 26mm dia, SWL 10.5Ton Aux Winch : 60KN Wire Rope : 14mm dia, SWL 2.5Ton Crowd Force : 155/160KN Line Pull Main : 160/60KN Location : Thripunithura
IV	Date when the lifting machine, chain rope or lifting tackle was first taken into use in factory.	12/2020
V	Date and number of the certificate relating to any test and examination made under rule 73 sub. Rule 1 & 2 together with the name and address of the person who issued the certificate.	Not Available
VI	Date of each Periodical through examination made under clause (a) (ii) of subsection (i) of sec. 29 of the Act and sub-rule 5 and by whom it was carried out.	On 03.01.2024 By Undersigned
VII	Date of annealing or other heat treatment of the chain and other lifting tackle made under rule 5 and by whom it was carried out.	Not Applicable
VIII	Particulars of any defects affecting the Safe Working Load found at such through examination or after annealing and of the step taken to remedy such defects.	No Defects. Condition of main and auxiliary rotary winch ropes are satisfactory. All fasteners of Kelly movements, hydraulic systems and limit switches found satisfactory.

I certify that on 03.01.2024 I thoroughly examined this Hydraulic Rotary Rig, and the above is a correct report of the result at that time of inspection.

Note : Validity of this certificate is up to 02.01.2025, provided no repairs/modifications carried out

NNRA, B1, Methala Nagar,
Edappally North P.O.,
Kochi - 682 024.
E-mail : nnra@cochichamber.com
PH : 09388883995 (OFF) 09388883998




SAJEEV K. MATHEW B. Iech (Mech. C. Engg.)
Competent person under the Factories Act & Rules
Section 28 Rule 72, section 29 Rule 73 and section 31 Rule 74
Regn. No. - CP/0003/2021

DATE : 03.01.2024

Note: Maintain monitoring/sewing alarms, valid insurance certificates for the equipment. Check and maintain condition of wire rope regularly.

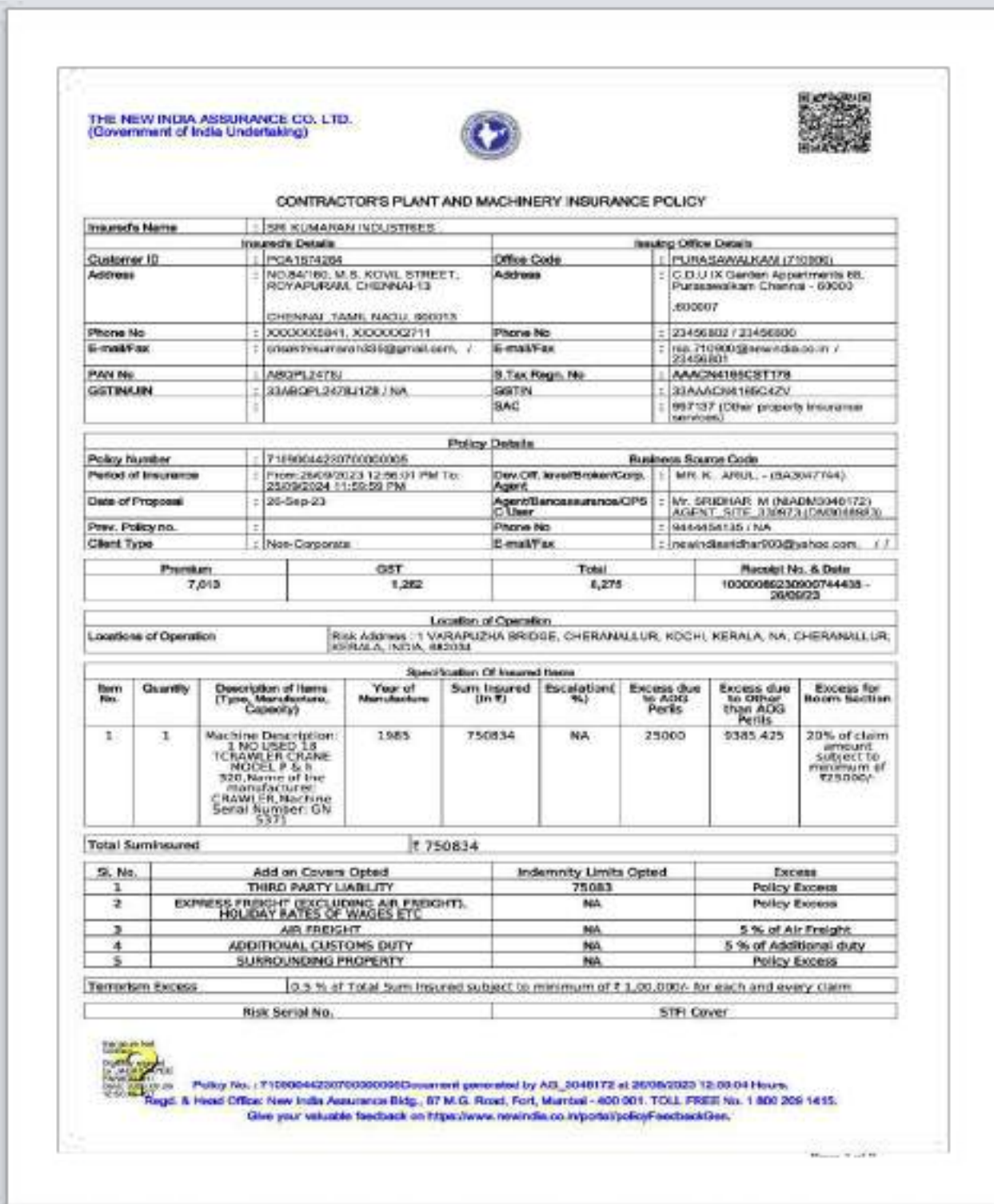
DISCLAIMER : This report of examination reflects the condition of the machine/equipment as on date. We accept no liability/responsibility whatsoever in case of any accident/damage/defects due to this machine/equipment.

Third party inspection report for equipment

S. No

Photos

29



We ensure all the vehicles are insured and have a pollution control certificate

S. No

Photos



30



Routine monthly health check up at Camp

S. No	Photos
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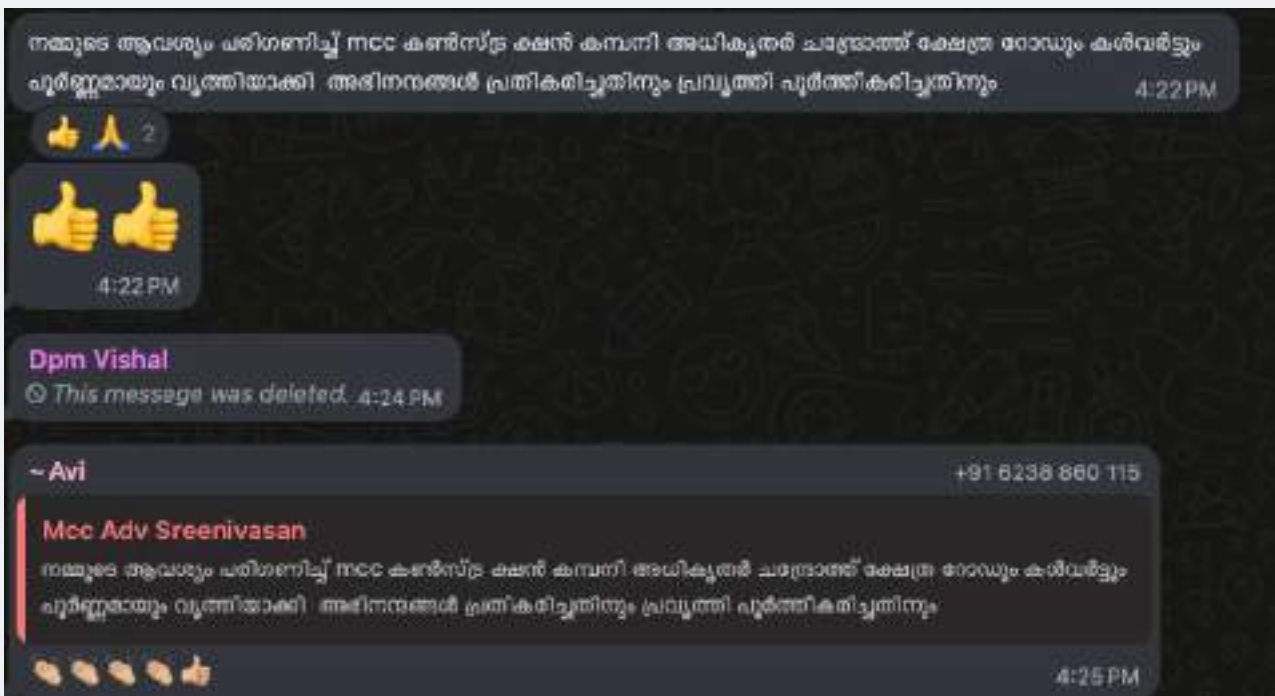


Waste management system and Bio gas plant

31




S. No	Photos
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32



Dedicated WhatsApp group to address neighbourhood issues

S. No	Photos
33	 <p data-bbox="204 1373 592 1406">Weep holes in retaining wall</p>

*** THANK YOU ***