

AUDIT REPORTS OF EXTERNAL AGENCY

Green audit Report

Energy audit Report

Environment audit Report

Green audit Report

NAVI MUMBAI

UQSR. Certificate

MGM Institute of Health Sciences

**MGM Educational Campus, Sector 1, Kamothe, Kalamboli, Navi Mumbai,
Maharashtra- 410209, India**

And hereby declares that the organization is in conformance with:

ISO 14001: 2015

For the following scope of activities:

Education Institute and Hospital Courses

Further clarification regarding the scope of this certificate and the applicability of Environmental Management standard requirements (Energy Audit/ Green Audit) may be obtained by contacting the organization

Certificate No. UQSR-1450-MIHS

Current Issue Date: 07th Oct.

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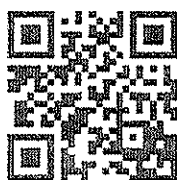
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* Validity of certificate is subjected to the continued satisfactory performance during surveillance audit



Authorized By


Certification Manager

Dr. Rajesh B. Goel
Registrar

MGM Institute of Health Sciences
(Deemed University u/s 3 of UGC Act)
Navi Mumbai- 410 209

UQSR Global Private Limited

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Universal Quality Standards Registrar

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Management System Certification Stage 2 Audit Report

Organization:	MGM Institute of Health Sciences		
Address:	3rd Floor, MGM Medical College, Sector -01 Kamothe, Navi Mumbai		
Standard(s):	ISO 14001:2015		
Representative:	Dr Rajesh Goel		
Site(s) audited:	3rd Floor, MGM Medical College, Sector -01 Kamothe, Navi Mumbai		
IAF Code:	37	Date(s) of audit(s):	18/09/2019
Lead auditor:	Mr. Amit Kumar	Additional team member(s):	
This report is confidential and distribution is limited to the audit team, client representative and the UQSR office.			

1. Audit objectives

The objectives of this audit were:

- to confirm that the management system has been planned to conform with all the requirements of the audit standard;
- To collect information and evidence about conformity to all requirements of the applicable management system standard or other normative document;
- To check performance monitoring, measuring, reporting and reviewing against key performance objectives and targets (consistent with the expectations in the applicable management system standard or other normative document);
- To check the client's management system and performance as regards legal compliance;
- To check operational control of the client's processes;
- To check internal auditing and management review;
- To check management responsibility for the client's policies;
- To check links between the normative requirements, policy, performance objectives and targets (consistent with the expectations in the applicable management system standard or other normative document), any applicable legal requirements, responsibilities, competence of personnel, operations, procedures, performance data and internal audit findings and conclusions.

2. Audit scope: Educational Institute and Teaching Hospital

For multi-site audits an Appendix listing all relevant sites and/or remote locations has been established (attached) and agreed with the client

3. Audit findings

None identified



Dr. Rajesh B. Goel
Registrar

MGM Institute of Health Sciences
(Deemed University u/s 3 of UGC Act)
Navi Mumbai-410 299

4. Critical audit findings

The following findings, if not appropriately addressed, certificate cannot be issued without proper closure.

None identified

5. Audit Conclusions

The Stage 2 audit was successful in meeting the stated objectives: Yes

The stage 2 audit was limited in time and scope to the stated objectives and it is possible that additional weaknesses will be identified during future audit activities. With consideration to the findings identified in section 3 and 4 of this report, the overall conclusions of the audit area follows:

The management system has been implemented to conform with all the requirements of the audited standard
Yes

The management system is designed to achieve the organization's policy objectives Yes

Based on the information provided, the system is designed to identify and manage compliance with statutory, regulatory and contractual requirements:
Yes

The certificate should be issued Yes



A handwritten signature in blue ink, appearing to be "Dr. Rajesh B. Goel".

Dr. Rajesh B. Goel
Registrar
MGM Institute of Health Sciences
(Deemed University) n/s 2 of 1161
Navi Mumbai-410 209

AURANGABAD

Environmental Audit Report

For MGM's College & Hospital

Environmental audit is to promote the Environmental Management and Conservation at college and hospital campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of environmental sustainability in compliance with the applicable regulations, policies and standards.

*Report Prepared & Submitted by;
sd engineering services pvt. ltd, Aurangabad (NABET Accredited Consultant)*



Certificate

This is to Certified that,

MGM's Medical College & Hospital

N-6, CIDCO, Aurangabad, Maharashtra, India

Has been assessed & found to meet the requirements of

Environmental Audit as per guidelines of Ministry of Environment, Forest & Climate change

{MoEF&CC}

This Certificate is valid for following scope of activities;

"Environmental Audit"

Authorized By:



Mr. Deepak S. Sanghai
MD, sd engineering Services pvt ltd

Date of Certificate Issue: 10th December, 2019

Certificate Valid Until: 9th December, 2020

Certificate issuing Organization:

sd engineering services pvt ltd,
NABET Accredited Consultant [NABET/EIA/1922/RA0136]
14, Age Arcade, New Osmanapura, Near Sant Eknath Rang
Mandir,
Aurangabad, Maharashtra -431005





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Introduction

1.1 Introduction

MGM Hospital has appointed M/s sd engineering services pvt. ltd. to carry out environmental audit for their campus at Aurangabad. M/s sd engineering services pvt. ltd. is a leading environmental consultancy from this region and is accredited by NABET. The company is engaged in carrying out environmental impact assessment studies for various sectors. *{Annexure I: NABET Accredited Certificate}*

1.2 Introduction of the Trust

The Mahatma Gandhi Mission Trust was established on 20th December, 1982 with a futuristic vision to provide qualitative education by applying innovative and dynamic pedagogical techniques. Since inception, the Trust has focused on providing health care services, school education and higher education with dedication and commitment. The MGM Trust was established in Nanded, (Maharashtra) and in the course of time it extended its services to Aurangabad, Navi Mumbai and Parbhani in Maharashtra and Noida (New Delhi) in UP. A chain of Schools, Engineering, Architecture, Medical, Nursing, Management, Computer Science & IT, Bioinformatics & Biotechnology, Fine Arts and Journalism stand testimony to the endeavors of the Trust. The MGM has been instrumental in promoting Classical Dance and Music for art seekers. The Trust has also paid heed to the aspect of physical fitness by converting a vast expanse of land in to a sports complex with multiple amenities and sports equipment's. MGM's lush green and serene campuses are conducive to create a peaceful learning atmosphere.

Service to society at the grass root level has been the basic vocation of the Trust along with education. The Trust has been instrumental in providing prompt and efficient health care services to the economically weaker sections of the society. The Trust



hospitals and Medical colleges underscore its commitment to human resource development and social health and welfare. The Trust has made phenomenal progress under the able leadership of the founders led by Chairman, Hon. Shri. Kamal Kishore Kadam, Ex-Education Minister, Maharashtra Government. All the founder members are hard core academicians and visionaries inspired by Late Shri Nanasaheb Kadam, an ardent follower of the Gandhian ideology.

The recipient of International Environment Trophy, MGM continues its journey, imparting value based services, creating global technocrats and health care personnel.

1.2.1 Vision

- ✚ To ensure sustainable human development that encourages self-reliant and self-content society.
- ✚ To promote activities related to community services, social welfare and also Indian heritage and culture.
- ✚ To inculcate the culture of non-violence and truthfulness through vipassanna meditation and Gandhian Philosophy.
- ✚ To develop the culture of simple living and high thinking.

1.2.2 Mission

- ✚ To impart state of art education and technical expertise to students and give necessary training to teachers to create self-reliant society for future.
- ✚ To encourage students to participate in Indian and International activities in sports, literature, etc. so that future generation becomes base for free and liberal society.
- ✚ To educate students in areas like Management, Finance, Human relations to inculcate philosophy of simple living and high thinking value of simple economic society.
- ✚ To inculcate culture of non-violence and truthfulness through Vipassana.
- ✚ To sustain activities of Indian culture (viz. classical dance, music and fine arts) through establishing institutes like Mahagami, Naturopathy, etc.



1.2.3 The Beginning

On 2nd October 1982, a team of young engineers and doctors from Nanded district set for a new journey; a journey that was focused at realizing a wider meaning of education, knowledge, humanity and existence. The team started its journey in a modest way by setting up a health care center at village Nila, 11 kms away from Nanded. There were no health care and education facilities in this marginalized region, hence the newly started health care center was able to offer services to the village population and even to the patients from the adjoining regions.

An apt way to celebrate Gandhi Jayanti, the birth anniversary of Mahatma Gandhi and also a very thoughtful gesture of respect and gratitude to their father Shri Nanasaheb Kadam, a devout Gandhian; this was rather a beginning of a long, persistent and intense movement. Two months later, the desire to provide health care services and empower the people through education took a concrete shape in the form of Mahatma Gandhi Mission.

1.2.4 Journey

For more than three decades, Mahatma Gandhi Mission (MGM) has blazed a trail of academic excellence and state-of-art health care services. A strong, dynamic institution that keeps pace with the demands of the modern world, prominent locations and excellent education facilities makes MGM worthwhile and an exciting choice for education.

This organization is devoted to work for high standards in specialized academic field with primary objective of post-graduate education, instruction and training in various branches of learning, research for the advancement of knowledge and building up sound character. Health care, social services and research activities are also our prominent features.

The Mahatma Gandhi Mission trust is headed by eminent personalities from diverse field. The members are very well known for their social contribution to the society.

The members of the trust are as under;



Sr. No.	Name of the Trusty	Designation
1	<i>Shri. Kamal Kishore Kadam</i>	Chairman MGM Trust and Chancellor, MGM IHS Navi Mumbai
2	<i>Dr. P. M. Jadhav</i>	Vice Chairman
3	<i>Shri A. N. Kadam</i>	Secretary
4	<i>Shri Pratap Borade</i>	Treasurer
5	<i>Dr. S. N. Kadam</i>	Member
6	<i>Dr. N. N. Kadam</i>	Member
7	<i>Shri Ujwal Kadam</i>	Member





Introduction Of MGMIHS

2.1 Introduction of MGM Institute of Health Science

The Deemed to be University status was conferred by UGC under Section 3 of UGC at 1956 on 30 Aug. 2006 to the Institutions namely MGM Medical College, Navi Mumbai and MGM Medical College, Aurangabad which were established in the year 1989 and 1990 respectively with permission of government of Maharashtra. The MBBS and Postgraduate Courses (MD/MS/PG Diploma) of the Colleges under reference as above have been recognized by Medical Council of India from time to time.

2.2 Constituent Colleges/ Institute of MGM Deemed University

At the inception, the MGM Deemed University of Health Sciences has following approved Campuses;

-  MGM Medical College, Navi Mumbai
-  MGM Medical College, Aurangabad

Consequently, MGM Deemed to be University sought permission to start Nursing, Physiotherapy and other Biomedical Courses, which are allied to the core specialization of, have been started by the University.

MGM's Medical College was established in the year 1990 in a campus over 44 acres land. The Medical College is recognized by MCI since 1996 and is presently a constituent part of the MGM Institute of Health Sciences. The Institute is NAAC, NABH &



NABL accredited is rated among the top 40 Medical Colleges in India according to the India Today's survey.

2.3 Vision of the Deemed University

MGM Institute of Health Sciences aims to be a top ranking center of Excellence in Health Science Education, Health Care and Health Research.

2.4 Mission of the Deemed University

Students graduating from the Institute will have the required skills to deliver the quality health care to all sections of the society with compassion and benevolence, without prejudice or discrimination at an affordable cost.

As a Research Centre, it shall focus on finding better, safer and affordable ways of diagnosing, treating and preventing diseases. In doing so, it will maintain highest ethical standards.

Moto: To wipe every tear from every eye- Mahatma Gandhi

2.5 Hospital Complex

Hospital Complex includes;

- a) Administrative Block
- b) Academic Block
- c) Emergency Medical Services including Casualty
- d) Out Patient Department (OPD) with Multi - Specialty Clinical Departments
- e) In Patient Department (IPD)
- f) Intensive Care Unit (ICU)
- g) Critical Care Units

Distribution of Hospital Beds; General Beds

Sr. No	Name of Critical Care Unit	No. of Beds
1	Medicine Ward	150
2	Paediatric Ward	90
3	Dermatology Ward	30
4	Pulmonary Medicine Ward	30
5	Psychiatry Ward	30
6	Surgery Ward	150



7	Orthopedics Ward	90
8	Ophthalmology Ward	30
9	ENT Ward	30
10	OBGY Ward	90
11	Emergency Medical Services	30
12	Nephrology Ward	20
13	Urology Ward	20
14	Plastic Surgery Ward	20
15	Cardiology Ward	20
16	CVTS Ward	20
Total General Beds Including Charity Beds		850

Distribution of ICU Beds;

Sr. No	Name of Critical Care Unit	No. of Beds
1	MICU	13
2	SICU	13
3	EICU	8
4	OBGY- ICU	5
5	KT ICU	3
6	CCU	13
7	PICU	5
8	NICU	14
9	Dialysis Beds	10
10	MJPJAY ICU	5
	MCRI ICU	13
Total		102

Hospital Department includes;





- EMS Casualty Department* with Emergency Medical Services. 30 bedded Crisis expansion ward with 24 hours Ambulance service, Mob. No. 9923818181 and 9764999447.
- Radiology Department* with facility for CT scan, MRI 2D Echo, Ultrasound, Colour Doppler, Mammography and Interventional Radiography.
- Pathology Department* and Central Lab with state of the art lab equipment's like the Automatic Chemistry Analyzer, ABG machine and Automated Immuno Assay System.



- d) *Well-equipped Blood Bank*: FDA Approved with facility for Blood components.
- e) *Ten modern Operation Theaters* along with SICU, including OT for advanced Endoscopic Surgery, Joint Replacement Surgery and Ophthalmic Surgery.
- f) *Ophthalmology Department* with facilities for Retinal Angiography, Automated Perimeter, Diode Laser, Fundus Camera, Phaco Machine with Vitrectometer.
- g) *ENT Department* having facility for Micro surgery for Ear, Endoscopic sinus surgery along with total Audiology setup.
- h) *Orthopedic Department* with facilities for Arthroscopy, Endoscopic spinal surgeries and joint replacement surgery.
- i) *Obstetrics & Gynecology Department* with well-equipped Labor room, Maternal and child care units.
- j) *Pediatric Department* with PICU, NICU under Neonatologist.
- k) *Dermatology Department* with facility for hi - tech cosmetic surgery.
- l) *Endoscopy Department* with latest scopes. Including Gastroscope, Duodenoscope, Colonoscope, Bronchoscope and Arthroscope.

2.6 Program

MGM's Medical College and Hospital, Aurangabad is a constituent college of the MGM University of Health Sciences, Navi Mumbai and offers the following courses;

 M.B.B.S intake capacity	: 150
 PG intake capacity	: 72
 Super Speciality Intake	: 05
 Fellowship Intake	: 14



Objectives Of Study

3.1 Objectives of Study

The main objective of the audit is to promote the Environmental Management and Conservation at college and hospital campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of environmental sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying of audit are;

- a. To introduce and ware all stake holders to real concerns and its sustainability
- b. To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.

3.2 Methodology

In order to perform the audit, the methodology included different tools such as preparation of physical inspection of the campus, observation and appraisal of the documentation and data analysis, measurements and recommendations.

The audit covers following facets of the environment.

- ✚ Water Environment
- ✚ Air Environment
- ✚ Solid and Land Environment
- ✚ Energy Environment
- ✚ Safety and Health Environment
- ✚ Social Environment



Environmental Components

4.1 Present Infrastructure & Area

The institute has been spread over area of 44 acres and the area distribution is as below;

Sr. No.	Details	Area in SQM
1	Total plot area	178062.00
2	Total construction area	50050.87
3	Area of parking	7,318.08
4	Area of Road	1,713.98
5	Area of Utility	1,158.74
6	Area of green belt	2,381.11
7	Area of open space	115439.22

The layout of the campus showing all details is enclosed as [Annexure II](#)

The facility is well planned as per standard architectural norms providing adequate wide roads, open spaces, green spaces and adequate parking facility.

The campus has provided a dedicated multilevel parking facility for vehicles of staff, students and visitors. The total parking provided in the campus is as below;

- ✚ Multilevel Parking : Two Wheeler – 700 Nos., Four wheeler -120 Nos.
- ✚ Front Office Parking : Four wheelers – 60 Nos.
- ✚ MCRI Parking : Two Wheeler – 300 Nos., Four wheeler -120 Nos.
- ✚ Basement Parking at Gate no. 9: Two Wheeler – 800 Nos., Four wheeler -100 Nos.



Photographs No. 1.1 Parking Facility Provided by MGM

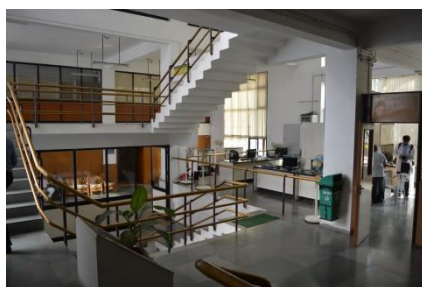




The institute has state of art infrastructure with special facilities like;

Advanced Laparoscopic Surgeries, Advanced Therapeutic Endoscopy, Hepato-Pancreatico-Biliary Surgery, Urology, Plastic Surgery, Cardiovascular Thoracic Surgery, Pediatric Surgery, Neuro Surgery, Onco Surgery, Orthoplasty (Joint Replacement Surgeries), Orthoscopy (Arthroscopy), Hemato-oncology, Pediatric nephrology, Pediatric cardiology, Critical Care Medicine, Obstetrics and Gynecology (including high risk Obstetrics), Pediatric Ophthalmology & ROP Clinic (Retinopathy of Prematurity), Anterior Segment Glaucoma & retina OCT (Optical Coherence Tomography), Comprehensive Glaucoma Clinic, Pulmonary Function Test –Diffusing capacity of the lung for carbon monoxide(PFT-DLCO), Electro convulsive Therapy (ECT), Immune-histochemistry, Urodynamics, Lithotripsy, Sleep Studies, Organ Transplant Unit, Dialysis and Interventional Radiology.

Photographs No. 1.2 General Infrastructure & Facility provided by MGM





4.2 Water Environment

Water Pollution has assumed alarming proportions. It has emerged as one of the most serious environmental threats in India. Both domestic and industrial reasons are contributing to this problem. Excessive use of soap, soda, bleaching powder, detergent or acids at home and chemicals in the industries are primarily responsible for water pollution. Urban sewage and industrial waste flows into the water sources without treatment. Despite all efforts of the Government in cities and towns, only 10 per cent of the total waste water is treated and rest of polluted material directly flows into ponds, rivers and ocean.

Polluted water leads to the worst effect on human health. According to the World Health Organization (WHO), every year due to contaminated water 50 million persons become the victims of death. About 360 persons per one lakh die in India and over 50 per cent patients getting admitted in hospitals are the patients of water borne diseases. The situation in underdeveloped countries is even worse where over 80 per cent of the patients are suffering from the diseases born out of polluted water.

Microbes, toxins and water containing unnecessary amounts of salts give rise to many diseases. Around the globe, more than 80% of water borne diseases are due to contaminated water. As per an estimate, almost 2.5 million people in over 34000 villages of India are suffering from cholera. Millions of tribal villagers in Rajasthan are suffering from various diseases due to drinking dirty water from the ponds. Contaminated water contains a variety of disease-causing bacteria that results in several types of ailment.

According to the scientists, a large number of diseases in India can be attributed to drinking of sewage mixed water. Various diseases like polio, cholera, patches, jaundice, fever, viral fever etc are spread through polluted water. Polluted water contains lead which when consumed by the humans while drinking water leads to producing various ailments such as joint pain, kidney disease and heart disease in them.

The waterborne diseases are infectious which spread primarily from polluted water. Hepatitis, cholera, dysentery and typhoid are the common waterborne diseases, which affect the majority of tropical area. Apart from diarrhea, and breathing problems, drinking polluted water causes skin diseases. If the polluted water gets stagnated, it becomes a breeding ground for mosquito and many other parasites which are very common in tropical areas.



Children often get sick if they drink polluted water and sometimes they even die due to intensity of the diseases. As per an estimate, 13 children die per hour in India, due to diarrhea caused by contaminated water.

Polluted water is like poison for human beings. Large amounts of chloride in drinking water deform the spine which becomes snaky and their teeth go yellow, start falling and moreover their hands and feet lose flexibility of the bones and their body deforms. It also increases the risk of kidney diseases. A large amount of sulphide in polluted water is the reason of various respiratory diseases and drinking water contaminated with urea increases intestinal disorder. Thus continuous intake of contaminated drinking water is the reasons behind various stomach related disorders and other diseases like lumps in throat, tooth decay, etc.

The factors causing most harm to human health through contaminated water are pathogenic microbes. Based on these, diseases generated by contaminated water are divided into the following main categories:

- ✚ By virus – Jaundice (Yellow Fever), polio, gastroenteritis, common cold, infectious liver Sod, and smallpox.
- ✚ By bacteria – Diarrhea, loose motions, paratyphoid, high fever, cholera, whooping cough, gonorrhea, syphilis, gastroenteritis, dysentery, and tuberculosis.
- ✚ By protozoa – Diarrhea, dysentery, narcolepsy (epidemic encephalitis), malaria, amoebiasis, and giardiasis.
- ✚ By worm – Filariasis, hydatid cyst and a variety of worm disease (various types of stomach worms).
- ✚ Leptospirosis disease – In addition to organisms that cause disease in our body, various types of toxic substances harm our health reaching our body through water. The main toxic elements among them include cadmium, lead, nickel, silver, arsenic, etc.
 - a) Excess quantities of iron, manganese, calcium, barium, chromium, copper, cilium, boron, and other salts such as nitrate, sulphate, borate, carbonate, etc in water have adverse effects on human health.
 - b) The excess of magnesium and Sulphate in water irritates the intestines.
 - c) In children, the excess of nitrate leads to the disease methemoglobinemia and generates stomach cancer by reaching the intestine.
 - d) Fluorosis is a disease caused by excess of fluorine.



- e) Excess level of mercury in fish is dangerous especially for small children and pregnant women or nursing women. It interferes with the central nervous system development in the fetuses and young children.

Water pollution is dangerous for all life forms in this universe. Pollution of water leads to several illnesses. To protect human beings, plants and other life forms, it is urgent to find out the solution of water pollution and collective efforts by individuals, society and the government are required to achieve this aim.

4.2.1 Water Requirement

The hospital and hostel need fresh water for various purposes like domestic use, cooling water make up, pathology laboratory, green belt maintenance, washings, laundry etc. The water is sourced from Aurangabad Municipal Corporation.

Water Requirement on daily basis: The campus includes college, hospital, hostel, canteen etc. and the total water requirement is about 697 cum/day on peak load capacity. However as of now as per records the water consumption is only 425 cum/day. The water consumption figures for the last one year are enclosed as [Annexure III](#).

4.2.2 Source of Water

Source of water is from Aurangabad Municipal Corporation and in case of non-availability the water is purchased through tankers from reputed agencies.

4.2.4 Man Power

The total manpower of the campus includes In-house Patient's, OPD Patients, Students, Staff, Faculties, Causal / Skilled / Unskilled workers, Permanent Hostel Residents, visitors etc. It is estimated that total manpower visiting the campus is @3000 numbers.

4.2.5 MPCB Approval

The hospital has received consent to operate under water Act 1974, Air Act 1981, Authorization under rule 5 of the Hazardous Wastes (M, H & T M) rules 2016 and Biomedical Waste Management rules 2016 from Maharashtra Pollution Control Board (Ref. Number Format 1.0/BO/UAN No. 62150 / CAC-1906001274 dated 25th June 2019 valid up to 31st Dec 2023). The copy of same is enclosed as [Annexure IV](#). As per the permission the quantities of sewage and effluent generation are as under;



- + Quantity of trade effluent : 22 cum/day
- + Quantity of Domestic Effluent : 540 cum/day

4.2.6 Trade & Domestic Effluent Treatment Facility

Treatment Plant: The hospital has provided state of art sewage and trade effluent treatment plant for following capacities.

- + Trade Effluent : 30 cum/day
- + Domestic effluent : 600 cum/day

The treatment Description is as under;

A] Trade Effluent: The trade effluent is mainly from pathology laboratory, laundry, operation theaters and other sources than the domestic effluent. The trade effluent is passed through a common drainage line and through coarse screen followed by oil and grease trap. The free and floating materials are collected from the screen chamber and disposed off as per the regulation. The oil skimming from the oil and grease trap are collected manually and disposed off as per regulation. The effluent then is collected in a collection tank and fed to the primary treatment unit comprising of flash mixer and settling tank. A dose of alum is added for enhancement of settling of solids in the settling tank. The sludge removed from the settling tank is discharged to sludge drying beds for natural drying. The dried sludge is disposed off to the CHWTSDF. The overflow of the settling tank is added to the MBBR tank of STP for further treatment. The treated effluent meets to the norms laid down by regulatory authorities. The management is carrying out 3rd party testing for trade effluent and domestic effluent and the same is enclosed as [Annexure V](#).

B] Domestic effluent: The raw sewage from various sources like toilets, canteen, hotel etc. are collected through a common drain line and collected in a collection tank. The raw sewage is then pumped to screen chamber and oil and grease trap for removal of screenings and free and floating oil. The screenings and oil skimming are disposed off as per the regulatory norms. The overflow of the oil and grease trap is taken to MBBR (Moving Bed Biological reactor). The MBBR tank is provided with PVC fill media and diffused aeration system for biological treatment of sewage. The microorganisms are grown on the PVC fill media in the form of colonies and consume BOD from the sewage as their substrate. The air supplied from twin lobe type air blowers through the fine air bubble diffusers shall act as an energy source for microorganisms.



The overflow of the MBBR tanks is being taken to secondary clarifier to remove the clogged colonies of microorganisms from the PVC fill media. The overflow of secondary clarifier is collected in an intermittent tank and pumped through a pressure sand filter. The filtered water is stored in a treated water tank and a dose of sodium hypo chloride is added to same for disinfection of sewage. The treated sewage is used for green belt development, cooling tower make up etc.

The schematic diagram of ETP and STP is enclosed as an [Annexure VI](#)

Third party certification of treated sewage and effluent: The untreated and treated trade and domestic effluents are tested on monthly basis through third party which is NABL and MOEFCC accredited. A copy of report is enclosed as an [Annexure V](#).

Photographs No. 1.3 Trade & Domestic Effluent Treatment Facility





4.3 Storm Water Environment & Rain Water Harvesting

Storm water is any water running off a land surface before it reaches a natural water body. It occurs when the rate of precipitation is greater than it can infiltrate, or soak, into the soil. Runoff also occurs when the soil is saturated. Runoff remains on the surface and flows into streams, rivers, and eventually large bodies such as lakes or the ocean. Movement of this storm water across the soil causes erosion. It can also carry and deposit untreated pollutants, such as sediment, nutrients and pesticides, into surface-water bodies. Impervious surfaces such as driveways, sidewalks, and streets block rainfall and other precipitation from infiltrating naturally into the ground, leading to even more storm water and potential pollutant runoff.

The average rainfall in the region is 700 mm and the storm water management system is designed for peak rainfall of 100 mm. The campus has provided 2.0m wide and 1.5 m deep trenches along the boundaries of the campus which are connected to the natural drainage outside of the campus. All roads and internal drains are connected to these storm water drains. All water on plain area and roofs is diverted systematically to these drains through the internal network of smaller drains of 0.5 M wide x 0.5m wide drains. The network of drains ensures that there is no flood like situation in the campus during peak rainfall.

Rainwater harvesting offers a small-scale best management practice to reduce storm water runoff and the problems associated with it. By harvesting the rainfall and storing it, you can slowly release the water back into the soil, either through irrigation or direct application. The water then moves into groundwater table, providing a steady supply of water to local streams and rivers.

The campus has topographic slope in the North and North West side and for collection of rain water storm water drains are provided as mentioned above. The rain water harvesting is done by construction of two deep percolation well having 3.0m diameter and 6.5m depth

The campus has provided two open wells and both wells are connected with horizontal bore to equalize the water level during the pumping. The percolated water is stored in another well of 4000 KL capacity.

The stored water is used for landscaping, play fields and tropical forest through drip irrigation system.

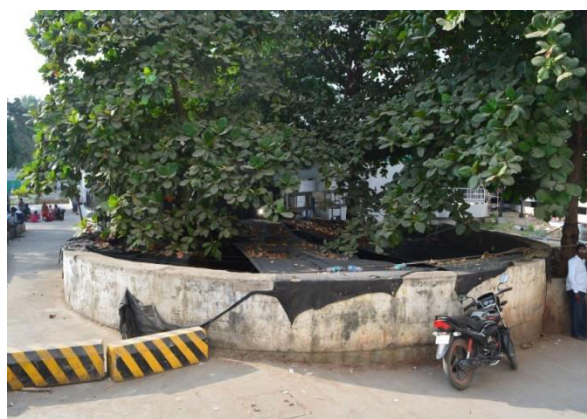


The open channel excess water is collected in two number of open lakes of two different locations on adjoining property of MGM trust. The lakes are covered with synthesis / bio synthesis plant for prevention of atmosphere evaporation. These lakes allow water to recharge in surrounding area to prevent erosion and provide organically rich fertile soil and landscape. This water harvesting system is utilized for all 17.5 ha MGM campus providing perfect ecological balance and oxygen pool to surrounding neighborhood.

The actual resultant of the system is honored appreciation of the trust from His Highness President of India.

The work done for rain water harvesting and storm water management under supervision of M/s Space Forum Architects Pvt. Ltd. The certificate and drawing in this respect is enclosed as [Annexure VII](#).

Photographs No. 1.4 Rain Water Harvesting in MGM



4.4 Air Environment

For the hospital campus the indoor as well as outdoor air quality is very important. The outdoor air quality shall depend on levels of dust, traffic, greenery, quality of roads, level of air pollution due to other sources nearby etc.

The immediate effects of poor outdoor air quality are hard to ignore. Watery eyes, coughing and difficulty breathing are acute and common reactions.



An estimated 92 percent of the world's populations live in areas with dangerous levels of air quality and even at seemingly imperceptible levels; air pollution can increase one's risk of cardiovascular and premature death.

Consistent poor air quality during pregnancy has been linked to miscarriages as well as premature birth, autism spectrum disorder and asthma in children.

Poor air quality may damage children's brain development, and pneumonia, which kills almost 1 million children under the age of 5 every year, is associated with poor air quality resulting from air pollution. Children who breathe in higher levels of pollutants also face a greater risk of short-term respiratory infections and lung damage.

Other conditions associated with high levels of poor air quality include emphysema and chronic bronchitis, as well as lung cancer.

Pollutants can affect cardiovascular health by hardening the arteries and increase the risk of heart attack and strokes, and there is even emerging evidence that air pollution may be linked to mental health conditions and degenerative brain diseases such as Alzheimer's disease, Parkinson's disease and schizophrenia

4.4.1 Effects of poor Air Quality on Human Beings

While poor air quality due to air pollution's link to respiratory disease may seem obvious, its relationship to heart, brain and fetal health is less so.

When the toxic soup of chemical particles and liquid droplets emitted by cars, power plants, fires and factories known as particulate matter is inhaled, the microscopic toxic dust can irritate nasal passages and result in an allergic-type response to the pollution, with symptoms like coughing and a runny nose.

Scientists believe that as the particles make their way deeper into the airways and into the lungs, the body may mistake it for an infection, triggering an inflammatory response.

"When you have a bad head cold, you feel sick everywhere and your muscles might ache," Gerber said. "The same thing can happen when you breathe in pollution."

Scientists also suspect that some toxic particles can escape the lungs and enter the bloodstream.



4.4.2 Ambient Air Quality

The hospital campus does not have boiler, incinerator or any other source of continuous emissions. The hospital campus has however provided 3 DG sets of total 1950 KVA (2 of 600 KVA and One of 750 KVA) capacities each as a stand by in case of power failure. The DG sets are used only in case of emergency. The fuel required for DG set is HSD (375 lit/hr) and DG sets are provided with acoustic enclosure and stack of adequate height. In order to maintain ambient air quality as per norms laid down by Central Pollution Control Board following precautions are taken by the management;

- + Roads inside campus are tarred and concreted.
- + Well-developed green belt is maintained.
- + Roads are frequently cleaned and watered.
- + Any civil work / repair work is done with proper cladding.
- + Material movement is done in closed trucks.
- + Only PUC certified vehicles are allowed in the campus.

The hospital campus in collaboration with Central Pollution Control Board is setting up continuous online ambient air quality monitoring station.

Photographs No. 1.5 DG Set with adequate Stack Height





4.4.3 Indoor Air Quality

Hospitals are the places we visit to get treatment in the case of any health-related issues. However, we often ignore that hospitals are also the host to many types of air pollutants hence causing airborne infections, commonly referred to as "Hospital Acquired Infection" [HAI].

Poor Indoor Air Quality inside healthcare facilities is more harmful as compared to bad indoor air of any other place, like hotels or workplaces as other than dust and other pollutants, it involves hospitals and pharma related chemicals, and various types of known and unknown bacteria and viruses responsible for spreading cross infections.

According to the World Health Organization, at any given time over 1.4 million people across the globe suffer from a nosocomial or HAI (Hospital Acquired Infection). HAIs account for 2 million ailment cases and about 80,000 deaths a year.

Hence, it becomes really important for healthcare facilities to maintain the indoor air quality to safeguard patients, staff, caregivers and also the visitors from hospital-acquired infections. Before we dive into the solutions, let us first understand the main factors responsible for poor air quality inside healthcare facilities and where are they found;

1. Outpatient departments:

OPDs are the busiest areas in any hospital. Every day, average 1300 of patients visit for the first-hand check-up. Many of these patients are carriers of harmful bacteria and viruses and they are highly infectious because their medication hasn't even started. They all sit in the same room for hours and this might cause cross infection to others and also to the doctor and other staff.

2. Operation Theatres

Surgical care is one of the most crucial and integral parts of healthcare however, it is also associated with risks related to infections. Surgical site infections (SSIs) remain one of the most common causes of serious surgical complications in Healthcare Associated Infections (HAI) and one of the main factors for these infections is circulation of stale air and poor air quality.



3. Intensive Care Unit

Several patients are kept inside the Intensive Care Unit for observation and also to protect them from outside infection. A visit to by any outsider to ICU is often taken with precautions still the prevalence of HAI remains really high in ICUs. And, this influences the mortality and morbidity pattern of ICUs.

4. Maternity wards, Neo-natal and Pediatric ICUs:

Maternity wards and Pediatric ICUs can be breeding grounds of several infections and they affect mothers and infants at a time when they are most vulnerable.

5. Waiting areas and halls:

These are the places where people gather in large numbers and not all healthcare facilities are adequate enough to maintain cleanliness and proper air quality in these spaces, hence it enhances the risk of infections amongst visitor and caregivers.

6. Storage units

It is really important for the staff to maintain the hygiene of storing places because just the presence of fungi in hospital air is a matter of great concern as many spores can be released leading to an incidence of HAIs and occupational infections.

4.4.4 How to improve Indoor Air Quality?

The above are just a few examples of how the infection spreads through impure Air in Hospitals, clinics, diagnostics labs, IVF labs, etc. There are several other sources through which HAI can spread.

The hospital is taking following steps to improve the Indoor Air Quality.

- a. Presence of patients is the main reason for any hospitals for maintaining the IAQ but patients are also the major source of air contaminants, like bacteria, viruses and foul smell coming from the wounds and other infections. The facility staff comes in direct and immediate contact with patients so it is important for staff to use proper masks and gloves while handling patients and follow all hygiene protocol designated & facilitated for them.
- b. The hospital has awarded housekeeping contract to a very well-known and experienced agency in this field (Bharat Vikas Group). Protocols for housekeeping as



per the various departments of hospital are fixed and critically followed. The company carrying out these works is ISO certified and few documents related to protocols, check points, recruitment of staff for housekeeping are enclosed as [Annexure VIII](#).

- c. Adequate ventilation and illumination is provided as per standards.
- d. Proper humidity is maintained.
- e. HVAC system is provided to maintain proper quality in wards, operation theaters, and various departments.
- f. Differential Pressure controls are maintained as per standards.

The hospital maintains following standards of various measures to keep the indoor air quality as per norms. Following Air changes are maintained for various departments;

	Outdoor air	Total air	Outdoor air
Area	change rate	change rate	requirement
	ACH*	ACH	L/s/Person
Patient room	2	4	13
Operating theatre	15	15	15
Intensive care unit	2	6	8
Infectious isolation room	2	6	–
Protective isolation room	2	15	–
Laboratory	2	6	–
Delivery room	15	15	–

The Filtration systems are provided at various departments with following efficiencies;

Area	Filter	
	Pre-filter	Final Filter
Patient room	25–30%	90%
Infectious isolation room	25–30%	90%
Protective isolation room	25–30%	90–99.97%
Intensive care unit	25–30%	90%
Delivery room	25–30%	90%
Laboratory	80%	--
Operating/surgical room	25–30%	99.97% (90%Plus Additional)



Thus the hospital campus is taking proper care to maintain very good quality of outdoor as well as indoor air quality.

4.5 Waste Generation & Management

The hospital campus is generating various types of hazardous and non-hazardous solid wastes as under.

- ✚ Bio Medical Waste
- ✚ E Waste
- ✚ Municipal Solids Waste
- ✚ Non Hazardous waste like metal scraps, papers etc.

The hospital has also made SOP for condemnation of disposal of items wide Doc ref. SOP/MGM/FMS4 g. Under the said SOP detailed procedure is outlined for disposal of various items.

4.5.1 Biomedical Waste

The Ministry of Environment and Forests and Climate Change has published Biomedical Waste Rules in 2016 wide GSR 343 (E) dated 28th Mar 2016 and the same are subsequently amended in the year 2018 wide GSR 234 (E) dated 16th Mar 2018. The notification specifies the practice to be followed for disposal of biomedical waste and compliances to be made. The hospital has obtained authorization for bio medical waste from Maharashtra Pollution Control Board wide Ref. Number Format 1.0/BO/UAN No. 62150 / CAC-1906001274 dated 25th June 2019 valid up to 31st Dec 2023). The copy of same is enclosed as [Annexure IV](#).

- ✚ Bio-medical waste means “any waste which is generated during;
 - the diagnosis,
 - treatment or
 - immunization of human beings or animals or
 - in research activities or
 - in production or testing of biological and
 - Including categories as mentioned in schedule – 1”

Biomedical waste poses hazard due to two principal reasons;

- Infectivity and
- Toxicity.



✚ Bio Medical waste consists of;

- a. Human anatomical waste like tissues, organs and body parts
- b. Animal wastes generated during research from veterinary hospitals
- c. Microbiology and biotechnology wastes
- d. Waste sharps like hypodermic needles, syringes, scalpels and broken glass
- e. Discarded medicines and cytotoxic drugs
- f. Soiled waste such as dressing, bandages, plaster casts, material contaminated with blood, tubes and catheters
- g. Liquid waste from any of the infected areas
- h. Incineration ash and other chemical wastes

✚ Main groups at risk are:

- a) Doctors, nurses and paramedical workers
- b) Patients in health-care establishments
- c) Visitors to health-care establishments
- d) Workers in allied services e.g. laundry, waste handling and transportation and
- e) Workers in waste disposal facilities (including rag pickers)e.g. landfills and incinerators

✚ Health Hazards of Healthcare Waste;

A] Hazard from infectious waste and sharps

- HIV
- Hepatitis B
- Hepatitis C
- Antibiotic resistant bacteria

B] Chemical and pharmaceutical waste

- Corrosive
- Burns
- Explosives



C] Genotoxic waste:

- Toxic manifestations depend upon
 - Substance toxicity
 - Amount exposed to and
 - Time period of exposure

D] Radio – active waste

- Headache, dizziness and vomiting after small exposure
- Serious health problems if exposure is high

E] Public sensitivity:

- Public is very sensitive to the visual impact of health care waste
- Especially anatomical waste

F] Hazard from infectious waste and sharps

- HIV
- Hepatitis B
- Hepatitis C
- Antibiotic resistant bacteria

G] Chemical and pharmaceutical waste

- Corrosive
- Burns
- Explosives

✚ Need of biomedical waste management in hospitals

The reasons due to which there is great need of management of hospitals waste such as:

- a. Injuries from sharps leading to infection to all categories of hospital personnel and waste handlers
- b. Nosocomial infections in patients from poor infection control practices and poor waste management.
- c. Risk of infection outside the hospital for waste handlers and scavengers and sometimes general public living in the vicinity of hospitals.



- d. Risk associated with hazardous chemicals, drugs to persons handling wastes
- e. "Disposable" being repacked and sold by unscrupulous elements without even being washed.
- f. Drugs which have been disposed of, being repacked and sold off to unsuspecting buyers.
- g. Risk of air, water and soil pollution directly due to waste, or due to defective incineration emissions and ash.

BMW Management

The biomedical waste from the hospital campus is categorized in four categories as per the BMW rules. The waste arising out of various departments is sorted out and stored in dedicated containers with Yellow, White, Red and Blue color. The waste is further stored and classified as per Categories mentioned in BMW rules. The category wise waste is weighted and documented. The waste is daily collected by the Authorized facility operator for scientific disposal. The records of daily waste generation and disposal are maintained by the concerned department. A system of gate pass is maintained at the time of handling over waste to the Authorized representative of facility operator. A sample copy of documentation maintained is enclosed as [Annexure - IX](#). The Biomedical waste is stored in the dedicated area which has access to authorized personnel only.

Photographs No. 1.6 Biomedical Waste Management in MGM





4.5.2 E- Waste

Electronic waste (e-waste) is when electronic products that have come towards the end of their “useful life.” Electronic waste has detrimental effects on our environment, the health of humans and animals. Recycling of used electronic devices is important to make sure that we are protecting the environment. Following are 5 reasons why electronic waste is such a problem:

1] Electronic waste keeps growing and growing: Today people are buying more and more electronic devices and the electronic devices are being retired faster. In case of hospital campus of various types of electronic equipment's are used for diagnostic purpose and the same are needed to be disposed off due to replacement for up gradation of due to end of life or failure. The hospital uses various electronic equipment's like ventilator, ventilator display monitor, blood cell counter, multipara monitor, cautery machine, ABG machine, ECG Monitor, LCD displays etc.

2] Environmental effects of e-waste: The toxic materials from electronic devices are released into bodies of water, groundwater, soil and air, affecting both land and sea animals. When you throw out your e-waste they wind up in landfills, causing toxic materials to seep into groundwater. When e-waste is warmed up, toxic chemicals are released into the air damaging the atmosphere.

3] Tons of e-waste is shipped overseas: Much of this is left in junkyard which pollutes the environment or is burned for scrap by people. Informal recycling markets in China, India, Pakistan, Vietnam, and Philippines handle anywhere from 50 percent to 80 percent of the world's e-waste. In Guiyu, China, one of the largest electronic waste landfill sites in the world. When electronic devices are dumped in these developing countries the impact is detrimental to the environment of the country and the health of the people.

4] Health implications of electronic waste: Computers and most electronics contain toxic materials such as lead, zinc, nickel, barium and chromium, specifically with lead, if released into the environment can cause damage to human blood, kidneys, as well as central and peripheral nervous systems. Residents of Guiyu, China exhibit substantial digestive, neurological, respiratory and bone problems. The impact of electronic waste is detrimental to the health of the people in these developing countries.



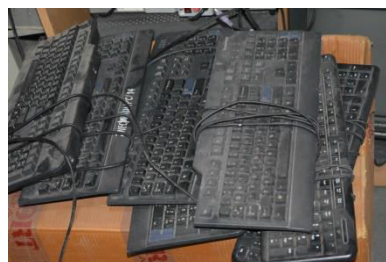
5] Electronic waste and data security: One should be concerned with where their electronic equipment is going after disposal because they are worried about sensitive data loss, identity theft, consumer scams, data breaches and loss of integrity. These are just a few of the problems that can be caused by not properly disposing of your electronic waste due to people stealing information from the hard drives in e-waste.

In order to have scientific management of E Waste the Ministry of Environment and Forests and Climate Change has published E Waste Management rules wide GSR 338 (E) dated 23rd Mar 2016 and the same are subsequently amended wide GSR 261 (E) dated 22nd Mar 2018. These rules makes every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational to meet the compliances as specified in these rules.

E-Waste Management

The management of the hospital campus has entered into agreement with M/s Green E-Bin Electronic Waste Solutions Pvt Ltd., for disposal of E Waste generated from the hospital and college campus. The said firm has valid consent to operate from Maharashtra Pollution Control Board wide reference number BO/MPCB/RO(HQ)/AD/CE/B-1806000425 dated 11th June 2016. The disposal of E Waste is documented by the concerned department giving all details of the equipment's to be disposed off like Name of Equipment, Serial Number, Model, Make and Quantity. A sample copy of same is enclosed as [Annexure X](#). The E Waste is handed over to the authorized recycler and E Waste Manifest (form -6) is prepared as per the rules of E Waste rules. A sample copy of manifest is enclosed as [Annexure XI](#).

Photographs No. 1.7 E- Waste Management in MGM





4.5.3 Municipal Solid and Other Wastes Management at MGM Hospital Campus

The ministry of Environment and Forests and Climate Change has published notification for handling of Municipal and other solid waste wide GSR 1357 (E) dated 8th Apr 2016 which apply to every urban local body, outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbors, defense establishments, special economic zones, State and Central government organizations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time and to every domestic, institutional, commercial and any other nonresidential solid waste generator situated in the areas except industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986.

The hospital campus generates various types of waste like food waste from canteen and mess, lawn cuttings, tree leaves, papers, metal scrap of various types, waste material etc. These wastes are segregated into various categories like bio degradable and non-biodegradable. A dedicated area is marked for storage of these types of wastes. Only authorized persons are allowed to enter the same.

The biodegradable waste from the whole campus consisting of food waste, tree leaves, lawn cuttings is estimated to be 600 to 700 kgs/day. The said waste is converted into bio compost by use of 7 tank process. Special microbial culture is used for accelerating the bio composting process.

The process of bio compost is invented by *Padmashri late Dr. R. T. Doshi* and it has been modified and enhanced by *Dr. R. R. Deshpande* using bio-culture and biocatalyst developed by BERI Pune. It is a self-operating and self-improving system and producing enriched compost.

The bio compost is used as manure for green belt in the campus. Other waste is segregated as per the category and is sold to authorized recycler. The records of waste disposed are maintained by the stores department.



Photographs No. 1.8 Bio-Composting (Clean India Initiative)





4.6 Energy Environment

Electricity in hospitals is used for wide variety of purposes like lighting, cooling/heating equipment, air compressors, water pumps, fans, laundry, kitchen, medical equipment's, ovens, etc. The hospital and college campus is presently buying electricity from Maharashtra State Electricity Distribution Co. Ltd. The hospital campus has sanctioned load of 1200 KW and connected load of 600 KW. The average monthly unit consumption is 200,000 units.

Energy Conservation / Use of Non-Conventional Energy Sources

The hospital campus has made power purchase agreement for Solar power with M/s Agro Solar Power Pvt. Ltd. For settling up of 1500 KW grid connected Rooftop Solar PV Power project under BOOT model. The implementation of solar power generation has started since Aug 2018 and till this month end the average power generation for solar power is @70000 units/month. This shall result in saving of @42000 kg of emissions of CO₂.

This shows the commitment of management towards sustainability. The [Annexure XII](#) shows the units consumption from electricity sourced from MSDCL and from own solar power grid.

Photographs No. 1.9 Solar System Installed at MGM





✚ Following energy conservation measures are undertaken by the management;

- a) Maximizing usage of natural light during the day through passages and corridors;
- b) Turning off office equipment, fans and air-conditioners during unoccupied hours;
- c) Educating people about reasonable and efficient usage of water heaters and other electrical appliances;
- d) Plugging air leakages in air-conditioned rooms such as office spaces, operation theatre;
- e) Turning off water pumps when the tanks filled up
- f) Catchy campaigns that made use of easy to remember slogans;
- g) Use of various communication tools such as posters at strategic locations to inform staff of the steps that can be taken to conserve energy and minimize wastage
- h) Installation of Lighting controls including timers and occupancy sensors
- i) Use of Variable Speed Drives (VSD)
- j) Upgrades to Heating Ventilation Air-Conditioning and Cooling (HVAC) – Dampers, actuators and controls
- k) Voltage Regulation Units (VRUs)
- l) Demand response management
- m) Building Automation
- n) Building sealing

4.7 Safety and Health Environment

Hospitals are representative of complex environment in which different aspects including patients, staff, equipment, services, and information are interfaced. Maintaining a safe environment with respect safety and health reflects a level of competent healthcare that must be fulfilled for patient safety. In this context, the clinical engineer plays an important role in providing safe environment within hospital.



Fire Safety

Following provisions have been made to deal with fire safety.

- a. Provision of Full fledge fire detection, fire hydrant and fire extinguisher's system as per the requirement. Aurangabad Municipal Corporation has issued Final Fire NOC to the campus wide their letter dated 21 Mar 2017 with Ref. number AMC/FIRE/1184/2017. The same is enclosed herewith as Annexure.
- b. Disaster Management Plan for the whole campus is in place. (Ref. Doc No. – MAN/MGM/COP 4 dated 19 Nov 2016)
- c. Regular fire drills and trainings are undertaken and records are maintained. A copy of sample record is enclosed as [Annexure XIII](#).
- d. Fire escape plan are made and are displayed at various locations. The fire exits are well defined and end on the ground floor or refuge area or any safe place decided by the management. The Fire Signage's are appropriate and placed at the right locations. Emergency fire signage's are glow in dark signage's. The Fire Signage's are visible and are bilingual, with one local language. The egress routes are free from any materials that would cause hindrance in the evacuation. The Fire Doors have a proper fire rating and open outside.
- e. The campus has implemented Code Red 5555 system for fire emergency
- f. All the equipment have an organized preventive maintenance schedule that is recorded and stickers put on the computer showing the date of preventive maintenance check and the next time for maintenance. Fire systems are regularly checked and the records are made by Fireman. A sample copy of records is enclosed as [Annexure XIV](#).
- g. A plan showing locations of fire hydrants / fire extinguishers is displayed at prominent location.
- h. The appropriate type and several fire extinguishers have been installed according to the kind of fire that could take place like Kitchen, MRI, Electrical room, data centre area The Fire Extinguishers have a regular preventive maintenance schedule and stickers are put showing the date of checking and the next scheduled date for verification. Approx. 10% of Fire Extinguishers are used every year for checking the same. Fire extinguishers are regularly checked and replenished before the expiry period. A contract with the competent agency is made for same.



- i. A multidisciplinary safety committee is formed, with a senior person as the chairman of the safety committee. The safety committee meetings are held at least once in 3 months.
- j. The organization has appointed Fire Safety Officer-in-charge of all concerns related to Fire Prevention & Safety.
- k. It also has a written plan for Fire Prevention and Safety and has a Fire Safety Manual approved by the safety committee.
- l. It also has an Emergency Command Centre that becomes functional immediately whenever there is an emergency. There are a written protocol and written constitution for the committee. The Fire Command Centre is also updated with the name of the members. A designated person has the responsibility of informing all the Emergency Command members.
- m. The HVAC system has appropriate fire dampers to prevent the spread of the fire that functions correctly in case of fire. The dampers are tested and have a regular preventive maintenance schedule.
- n. Gas cylinders and medical oxygen cylinders are secured and stored properly. Medical oxygen monitoring system is in place.

Patient and Staff Safety

The hospital has well laid SOP for patient and staff safety. (Ref. Doc No. : PGM/MGM/CQI 2, dated 19th Dec 2016). The document covers following important aspects;

- a. Defining Policy
- b. Formation of Safety Committee
- c. Defining role of committee.
- d. Monitoring of sentinel / adverse events and near misses.
- e. Staff safety related to prevention of HAI
- f. Environmental safety aspects covering smoking limitation policy, patient safety, facility building and installations.
- g. Various safety related SOP's like Smoking Limitation Policy, Radiation Safety Program, safety in pathology and Microbiology labs, management of hazardous material , safety related to medical gases, needle handling policy, disinfection and decontamination protocols and incident reporting are in place.
- h. Safety related quality indicators are fixed for various mock drills, incidences of falls in hospital, number of sentinel events and critical equipment down time.



Photographs No. 1.10 Fire Fighting System at MGM





Radiation Safety

Radiation protection is a public health issue for a number of reasons. First, health effects of radiation are not unique. Second, individuals have only a limited ability to structure or control their own environment. Although radiation exposure awareness has increased among the general public, there is still very little monitoring of cumulative radiation exposure over a patient's lifetime. Successful radiation safety programs must balance engineered safety and personnel training considering technical, scientific, economic, human, and ethical aspects of radiation use. The medical safety programs must adequately protect patients, care givers, visitors, and the general public.

Nonionizing radiation is also a significant health hazard in all hospitals. This type includes ultraviolet, microwave and laser radiation. Ultraviolet (UV) radiation is frequently used in sterilization procedures. In fact, UV exposures are best controlled by limiting exposures as function of energy. In application, Microwave radiation is commonly used in hospital diathermy treatment and in microwave ovens. Microwave radiation is controlled by limiting exposure and sources should be periodically surveyed with measurement equipment. On the other side, Lasers have an increasing role in medical treatment. Eyewear is the most common method of protection.

The hospital has well laid protocols and procedures for radiation safety.

In case of handling of equipment's like MRI/CT Scan/X-Ray, following precautions are taken;

MRI Machines

- MRI Machine Rooms are isolated Properly from surrounding with key locking door
- MRI technician is properly trained
- MRI compatible ventilator available for emergency
- Helium gas emergency drain outside of hospital area
- All warning signed are displayed in waiting area

CT scan / X-Ray Machines

- The CT gantry room walls are 9' and are lined by 2mm lead sheet
- Technicians are properly trained
- All warning signs are displayed outside CT scan area
- Lead Apron provided to staff
- Periodical QA performed for machine



- Do's and Don'ts Displaced on Machine

Infection Control

Infection control provides a framework for identification of a hazard and development of an action plan to eliminate the hazard or minimize its effect through control measures. Control has been achieved by recognizing the means of growth, reproduction and transmission of pathogenic microorganisms. The main components of an effective infection control program are listed as following. The hospital management is taking effective steps related to same in following manner.

- Education and training to staff
- Surveillance of infection
- well defined Policies, procedures, and guidelines
- Conducting regular Audit's.
- Regular Monitoring of hospital hygiene
- Following Standard precautions are being taken
 - Hand washing and antisepsis (hand hygiene)
 - Use of personnel protective equipment when handling blood, body substances, and secretions
 - Appropriate handling of patient care equipment and soiled linen
 - Prevention of needle stick / sharp injuries
 - Environmental cleaning and spills-management
 - Appropriate handling of waste
- Additional (transmission-based) precautions while ensuring standard precautions include
 - Airborne precautions
 - Droplet precautions
 - Contact precautions

4.8 Noise / Aesthetics / Social Environment

4.8.1 Noise

Noise is defined as unwanted sound. Several studies have been conducted for hospital noise that linked hospital noise to a variety of negative physiological



outcomes. The WHO has recommended that noise level should not exceed 35 dB in rooms where patients are treated or observed and 30 dB in wards rooms.

Hospitals have various sources of noise such as alarms, paging systems, telephones, computer printers, televisions, delivery carts, staff conversation, equipment, housekeeping activities, air conditioning systems, doors opening and closing, and sounding systems. Of course, one physical effect of the noise is human stress which should be avoided in hospital environment. Topf and Dillon (1988) have described human effects due to noise-induced stress as decrease in sustained attention, rapid detection, multiple single tasks, and incidental memory.

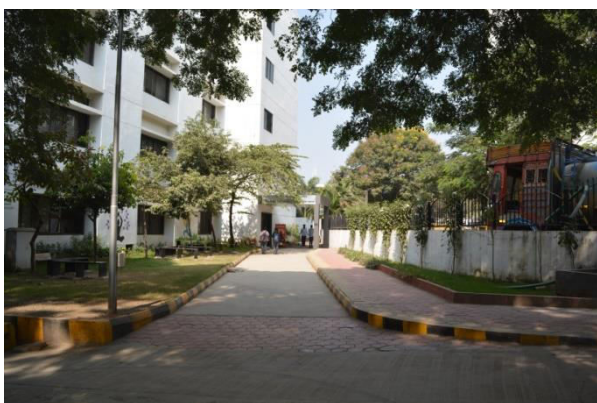
To overcome the problem of noise within hospitals, following preventive procedures are being carried out.

- A regular check and maintenance to all systems that are considered as sources of noise including equipment.
- Regular Monitoring of noise levels
- Acoustic enclosure to high noise machine like DG set.

4.8.2 Aesthetics / Green Belt

The hospital campus has provided 30% of total area for green belt and open spaces. Various types of trees (@ 1500) are planted in the campus and treated sewage is being used for green belt development.

Photographs No. 1.11 Green Belt Development at MGM





4.8.3 Social Environment

The hospital is managed by the charitable trust and service to the humanity is its motto. The hospital provides direct and indirect employment to about 2000 persons. Various CSR activities are carried out by the hospital like

- a. Medical camps
- b. Free Medicines to the needy
- c. Free food to poor patients
- d. Free treatment to the poor patients
- e. Awareness programs for Breast Feeding.
- f. For staff welfare following activities is undertaken by the management Medical Facilities;



- i. All the MGM Employees Get Charity Card, in which the employee and their immediate family members can avail MGM OPD Facility for free of cost.
- ii. Salary Advance: If any Employee is in financial need at any point of time he/she can request for salary advance.
- iii. Sports Complex Facilities: All the Employees get a discount if using any of the sports / stadium facility. Concession in tuition fees. (Excluding Clover Dale School)
- iv. Employee Kids who are with MGM School's get concession in their tuition fees.
- v. Uniform: Every Year all the employees get one set Uniform from MGM.
- vi. Diwali Gift: Diwali Sweets are distributed to every employee.
- vii. MGM Society benefit: MGM Society benefits like loan, LIC, emergency cash can be availed in it.



Conclusion

4.1 Conclusion of Study

The SD engineering services Pvt Ltd. Team had carried out environmental audit covering various aspects. The audit included field visit, verifications of documentation and discussions with concerned. The MGM Hospital and College Campus is meeting to the all regulatory requirements applicable to them.



Annexures



Annexure I: NABET Accredited Certificate




Quality Council of India
National Accreditation Board for
Education & Training

CERTIFICATE OF ACCREDITATION

Sd engineering services pvt. ltd.
14, Age Arcade, New Osmanpura, Near Sant Eknath Rang Mandir,
Aurangabad -431005, Maharashtra

Accredited as **Category - A** organization under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations: Version 3 for preparing EIA-EMP reports in the following Sectors:

Sl. No.	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals - opencast mining only	1	1(a) (i)	B
2	Offshore and onshore oil and gas exploration, development & production	2	1 (b)	A
3	Thermal power plants	4	1 (d)	B
4	Mineral beneficiation	7	2 (b)	B
5	Metallurgical industries - (ferrous)	8	3 (a)	A
6	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	21	5 (f)	A
7	Distilleries	22	5 (g)	A
8	Sugar Industry	25	5 (j)	B
9	Isolated storage & handling of hazardous chemicals (As per threshold planning quality indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 2000)	28	6 (b)	B
10	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	32	7 (d)	A
11	Bio-medical waste treatment facilities	32A	7 (da)	B
12	Common effluent treatment plants (CETPs)	36	7 (h)	B
13	Building and Construction projects	38	8(a)	B
14	Township and area development projects	39	8(b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RA AC minutes dated June 07, 2019 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/19/1023 dated August 05, 2019. The accreditation needs to be renewed before the expiry date by sd engineering services pvt. ltd., Aurangabad, following due process of assessment.

Sr. Director, NABET
Dated: August 05, 2019

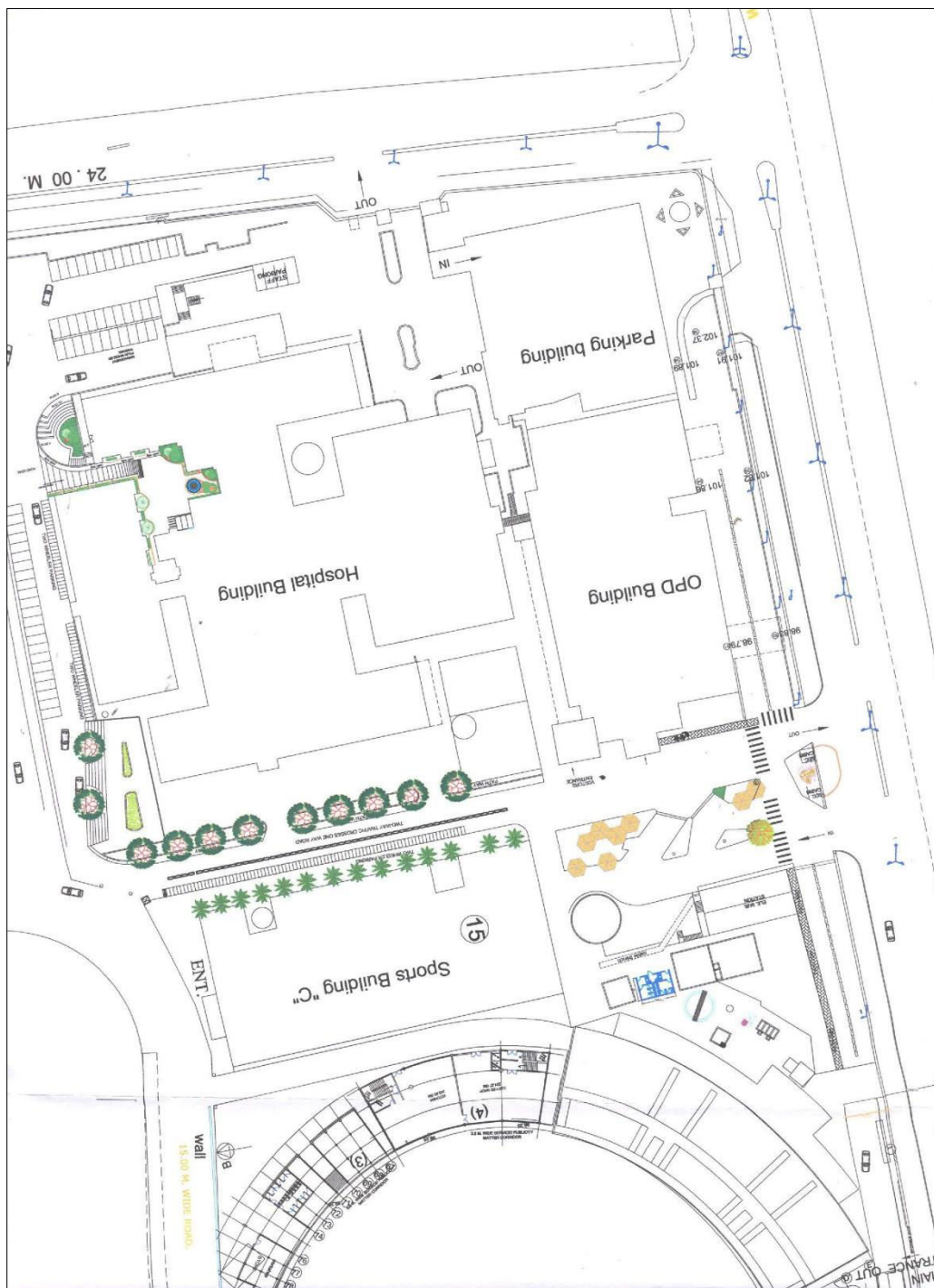
Certificate No.
NABET/ EIA/1922/ RA 0136

Valid till
10.02.2022

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.



Annexure II: Layout of Campus





Environmental Audit Report For MGM's Medical College & Hospital

d

Annexure III: Water Consumption figures for the previous months

MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A' B' AD																								
LOG SHEET FOR WATER CONSUMPTION M.G.M.																								
Feb-19																								
DATE	L2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B. NO 4	M3	OPD BUL	M3	SPO BUL	M3	GEST HOU	M3	OPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP				
OLD	14923		14476		66647		54409		119824		49493		44669		18135		10416	9338	79930	19991	59553	29849	29849	29849
1	35138	205	14485	9	66720	73	54483	74	119944	120	49536	43	44699	30	18150	15	10425	9370	79930	20096	59596	29849	29849	29849
2	35343	215	14492	7	66796	76	54553	70	120079	135	49574	38	44738	39	18162	12	10436	9407	79930	20199	59727	29871	29871	29871
3	35548	205	14499	7	66861	65	54626	73	120200	121	49621	47	44790	52	18176	14	10445	9439	79930	20307	59853	29877	29877	29877
4	35749	201	14507	8	66926	65	54710	84	120316	116	49664	43	44840	50	18190	14	10456	9478	79930	20400	59977	29881	29881	29881
5	35956	207	14517	10	67006	80	54780	70	120464	148	49701	37	44893	53	18210	20	10465	9527	79930	20501	60018	29943	29943	29943
6	36176	220	14526	9	67091	85	54850	70	120594	130	49751	50	44946	53	18236	26	10476	9570	79930	20606	60158	30002	30002	30002
7	36401	225	14530	4	67166	75	54925	75	120719	125	49796	45	45001	55	18266	30	10485	9613	79930	20712	60293	30053	30053	30053
8	36616	215	14535	5	67241	75	54993	68	120851	132	49852	56	45050	49	18287	21	10495	9656	79930	20821	60389	30063	30063	30063
9	36839	223	14542	7	67317	76	55068	75	120991	140	49901	49	45093	43	18313	26	10504	9694	79930	20931	60530	30150	30150	30150
10	37057	218	14547	5	67379	62	55141	73	121111	120	49953	52	45149	56	18329	16	10512	9737	79930	21038	60636	30195	30195	30195
11	37283	226	14551	4	67445	66	55204	63	121246	135	50002	49	45198	49	18355	26	10523	9782	79930	21141	60658	30195	30195	30195
12	37489	206	14559	8	67522	77	55262	58	121336	90	50045	43	45249	51	18380	25	10532	9822	79930	21231	60836	30278	30278	30278
13	37689	200	14574	15	67597	75	55319	57	121461	125	50103	58	45292	43	18395	15	10541	9852	79930	21329	60936	30335	30335	30335
14	37879	190	14589	15	67677	80	55379	60	121591	130	50151	48	45336	44	18415	20	10550	9887	79930	21429	61043	30385	30385	30385
15	38068	189	14602	13	67750	73	55436	57	121711	120	50194	43	45381	45	18432	17	10562	9925	79930	21526	61081	30405	30405	30405
16	38269	201	14621	19	67830	80	55489	53	121817	126	50240	46	45421	40	18442	10	10570	9959	79930	21626	61180	30423	30423	30423
17	38479	210	14634	13	67906	76	55549	60	121945	128	50287	47	45469	38	18455	13	10580	9991	79930	21724	61347	30423	30423	30423
18	38666	187	14648	14	67972	66	55601	52	122092	127	50323	36	45502	43	18472	17	10589	9999	79930	21822	61366	30445	30445	30445
19	38880	214	14650	2	68049	77	55666	65	122242	150	50378	55	45541	39	18483	11	10599	10044	79942	21932	61512	30518	30518	30518
20	39100	220	14660	10	68120	71	55736	70	122372	130	50423	45	45583	42	18496	13	10609	10086	79971	22044	61621	30518	30518	30518
21	39325	225	14672	12	68189	69	55803	67	122492	120	50470	47	45631	48	18510	14	10621	10126	74008	22148	61762	30562	30562	30562
22	39535	210	14680	8	68266	77	55876	73	122629	137	50522	52	45673	42	18520	10	10630	10165	74008	22255	61778	30595	30595	30595
23	39761	225	14683	3	68345	79	55946	70	122759	130	50569	47	45710	37	18529	8	10649	10211	74041	22362	61929	30595	30595	30595
24	39971	210	14694	11	68419	74	56010	64	122874	115	50619	50	45759	49	18541	13	10658	10250	74081	22461	62010	30666	30666	30666
25	40180	209	14712	18	68498	79	56077	67	122993	119	50677	58	45802	43	18552	11	10668	10296	74132	22576	62040	30666	30666	30666
26	40378	198	14727	15	68589	91	56134	57	123099	97	50741	64	45849	47	18564	12	10678	10339	74176	22702	62225	30736	30736	30736
27	40573	195	14745	18	68659	70	56202	68	123204	114	50787	46	45879	30	18572	8	10689	10389	74176	22807	62341	30811	30811	30811
28	40765	192	14765	20	68744	85	56266	64	123317	113	50847	60	45907	28	18581	9	10699	10444	74221	22917	62443	30867	30867	30867
29																								
30																								
31																								
TOTAL		5842		289		2097		1857		3493		1354		1238		446	262	1106	291	2926	2890	1018		
PER DAY	208 M3		10 M3		74 M3		66 M3		125 M3		48 M3		44 M3		16 M3		9 M3		39 M3+104 M3+128 M3= 271 M3					

MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A'BAD																								
LOG SHEET FOR WATER CONSUMPTION M.G.M.																								
Mar-19																								
DATE	L2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B. NO 4	M3	OPD BUL	M3	SPO BUL	M3	GEST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP				
OLD	40765		14745		68744		56266		123317		50847		45907		18581		10699	10444	74221	22917	62463	30867	30867	30867
1	40963	198	14784	39	68809	65	56327	61	123429	112	50893	46	45935	28	18591	10	10709	10491	74263	23022	62541	30927	30927	30927
2	41156	193	14807	23	68876	67	56394	67	123547	118	50943	50	45962	27	18598	8	10720	10540	74308	23129	62621	30960	30960	30960
3	41352	196	14824	17	68940	64	56462	68	123663	116	50991	48	45999	37	18607	8	10731	10582	74353	23231	62803	30997	30997	30997
4	41559	207	14835	11	68997	57	56527	65	123774	111	51015	24	46045	46	18617	10	10741	10634	74397	23317	62832	30997	30997	30997
5	41754	195	14845	10	69059	62	56597	70	123889	115	51060	45	46085	40	18632	15	10750	10669	74433	23414	62994	31049	31049	31049
6	41959	205	14859	14	69118	59	56654	57	124001	112	51105	45	46128	43	18648	16	10759	10719	74469	23516	63029	31101	31101	31101
7	42175	216	14865	6	69185	67	56713	59	124121	120	51149	44	46169	41	18662	14	10767	10768	74518	23620	63184	31112	31112	31112
8	42388	213	14875	10	69255	70	56779	66	124235	134	51199	50	46212	43	18680	18	10776	10813	74552	23716	63299	31161	31161	31161
9	42603	215	14882	7	69319	64	56840	61	124386	131	51253	54	46255	43	18696	16	10785	10865	74599	23818	63399	31212	31212	31212
10	42821	218	14896	14	69377	58	56897	57	124526	140	51308	55	46303	48	18714	18	10796	10918	74649	23915	63551	31270	31270	31270
11	43031	210	14909	13	69432	55	56960	63	124661	135	51359	51	46339	36	18728	14	10804	10963	74700	24017	63580	31320	31320	31320
12	43224	193	14921	12	69496	64	57036	76	124778	117	51415	56	46382	43	18743	15	10813	11014	74715	24146	63727	31328	31328	31328
13	43429	205	14941	20	69597	101	57110	74	124903	125	51460	45	46424	42	18755	12	10824	11062	74715	24261	63863	31348	31348	31348
14	43640	211	14966	25	69702	105	57180	70	125029	126	51502	42	46469	45	18765	10	10835	11112	74715	24371	64036	31387	31387	31387
15	43845	205	14991	25	69812	110	57249	69	125169	140	51534	32	46515	46	18778	18	10843	11152	74787	24487	64202	31439	31439	31439
16	44046	199	15015	24	69927	115	57330	81	125296	129	51586	52	46555	40	18790	12	10857	11185	74824	24601	64313	31496	31496	31496
17	44269	224	15033	18	70022	95	57398	68	125415	117	51643	42	46597	32	18806	16	10869	11217	74864	24726	64477	31555	31555	31555
18	44453	185	15040	16	70106	84	57467	69	125545	130	51689	46	46592	15	18815	9	10880	11250	74903	24708	64477	31555	31555	31555
19	44637	184	15055	6	70181	75	57511	44	125640	95	51788	49	46628	36	18827	12	10887	11280	74949	24833	64628	31555	31555	31555
20	44841	204	15070	15	70261	80	57586	75	125770	130	51743	45	46663	35	18835	8	10896	11320	74977	24783	64827	31609	31609	31609
21	45046	205	15082	12	70349	79	57656	70	125890	120	51824	41	46698	35	18843	8	10905	11365	75021	24961	64926	31668	31668	31668
22	45243	197	15096	14	70418	78	57739	83	126022	132	51873	49	46735	37	18849	6	10913	11404	75064	25053	64997	31668	31668	31668
23	45448	205	15107	11	70494	76	57814	75	126138	116	51909	36	46727	22	18857	8	10921	11432	75104	25137	65091	31746	31746	31746
24	45643	215	15120	13	70569	75	57879	65	126266	128	51957	48	46802	45	18866	9	10930	11463	75140	25252	65270	31827	31827	31827
25	45848	225	15132	12	70637	68	57949	70	126392	126	52009	52	46853	51	18872	6	10939	11492	75141	25371	65299	31827	31827	31827
26	46087	199	15142	10	70707	70	58008	59	126519	117	52063	43	46887	34	18881	15	10950	11518	75178	25473	65438	31827	31827	31827
27	46262	175	15152	10	70787	80	58076	68	126629	110	52096	44	46923	26	18890	9	10960	11573	75216	25539	65605	31827	31827	31827
28	46472	120	15161	9	70872	85	58147	71	126736	107	52142	46	46951	28	18902	12	10969	11615	75260	25712	65635	31827	31827	31827
29	46697	225	15162	1	70957	85	58212	65	126840	104	52183	41	46983	32	18913	15	10973	11661	75304	25817	65818	31827	31827	31827
30	46905	208	15172	10	71039	82	58289	77	126949	109	52230	47	47018	35	18922	7	10980	11699	75342	25934	65955	31827	31827	31827
31	47124	219	15182	10	71121	82	58358	69	127040	91	52270	40	47050	32	18938	8	10991	11738	75384	26037	65955	31827	31827	31827
TOTAL		6359		437		2377		2092		3723		1423		1143		349	252	1294	1294	3120	3492	1160		
PERDAY	205 M3		14 M3		76 M3		67 M3		120 M3		45 M3		36 M3		11 M3		9.6 M3		41 M3+100 M3+150 M3= 291 M3					



Environmental Audit Report For MGM's Medical College & Hospital

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MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A/BAD																							
LOG SHEET FOR WATER CONSUMPTION M.G.M.																							
Apr-19																							
DATE	1,2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B.NO 4	M3	OPD BUIL	EST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP						
OLD	47124		15182		71121		58358		127040		52720		18930		10991	11738	75384	26037	65955	31827			
1	47342	218	15208	26	71210	89	58421	63	127129	89	52312	4	18945	15	11002	11784	75422	26154	65955	31827			
2	47610	268	15232	24	71300	90	58486	65	127239	110	52355	43	17121	38	18962	17	11013	11829	75472	26238	65955	31827	
3	47850	240	15256	24	71384	84	58561	75	127334	95	52400	45	47166	45	18980	18	11026	11855	75475	26340	65955	31881	
4	48082	232	15289	33	71474	90	58637	76	127425	91	52450	50	47224	58	18992	12	11035	11855	75491	26442	65955	31918	
5	48340	258	15321	32	71569	95	58707	70	127529	104	52492	42	47267	43	19009	17	11048	11855	75491	26546	65955	31938	
6	48579	239	15350	29	71662	93	58783	76	127639	110	52535	43	47313	46	19021	12	11059	11855	75491	26650	65955	31997	
7	48822	243	15376	26	71759	97	58853	70	127752	113	52586	51	47354	41	19040	19	11072	11855	75491	26755	65955	32033	
8	49056	234	15398	22	71842	83	58926	73	127858	106	52618	32	47392	38	19054	14	11083	11855	75491	26858	65955	32046	
9	49287	231	15425	27	71927	85	59003	77	127949	91	52665	47	47436	44	19072	18	11094	11855	75491	26964	65955	32069	
10	49519	232	15442	17	72012	85	59069	66	128037	88	52704	39	47486	50	19094	22	11104	11855	75491	27094	65955	32069	
11	49754	235	15457	15	72093	81	59139	70	128147	110	52746	42	47534	48	19114	20	11115	11855	75491	27234	65955	32069	
12	49984	230	15479	22	72183	90	59209	70	128265	118	52789	43	47579	45	19134	20	11125	11855	75491	27369	65955	32069	
13	50226	242	15505	26	72261	78	59271	62	128373	108	52827	38	47630	51	19158	24	11137	11855	75491	27494	65955	32069	
14	50461	235	15529	24	72348	87	59334	63	128423	50	52872	45	47679	49	19176	18	11145	11855	75500	27629	65955	32105	
15	50701	240	15535	6	72428	80	59402	68	128423	0	52901	29	47725	46	19200	24	11157	11855	75500	27754	65955	32149	
16	50911	210	15545	10	72526	98	59465	63	128423	0	52938	37	47778	53	19225	25	11167	11858	75500	27878	65955	32216	
17	51160	249	15562	17	72616	90	59535	70	128520	97	52978	40	47840	62	19250	25	11178	11858	75500	27973	65955	32275	
18	51400	240	15580	18	72690	74	59602	67	128614	94	53021	43	47910	70	19278	28	11188	11858	75500	28071	65955	32330	
19	51645	245	15594	14	72790	100	59667	65	128614	0	53055	34	47975	65	19299	21	11199	11858	75532	28171	65955	32389	
20	51901	256	15613	19	72880	90	59740	73	128680	66	53107	52	48042	67	19323	24	11209	11858	75535	28274	65955	32466	
21	52158	257	15631	18	72949	69	59804	64	128785	105	53153	46	48095	53	19345	22	11219	11858	75536	28369	65955	32554	
22	52405	247	15652	21	73035	86	59873	69	128879	94	53187	34	48161	66	19368	23	11220	11858	75536	28453	65955	32601	
23	52632	227	15669	17	73119	84	59940	67	128990	11	53238	51	48217	56	19372	4	11231	11872	75500	28453	65955	32658	
24	52864	232	15684	15	73204	85	60008	68	128902	12	53290	52	48271	54	19378	6	11246	11885	75532	28453	65955	32658	
25	53100	236	15698	14	73295	91	60072	64	128987	85	53335	45	48316	45	19403	25	11258	11898	75500	28453	65955	32689	
26	53315	215	15720	22	73379	84	60140	68	129079	92	53376	41	48370	54	19426	23	11270	11912	75500	28453	65955	32689	
27	53636	321	15732	12	73489	110	60295	155	129112	33	53456	80	48410	40	19437	11	11274	11948	75532	28453	65955	32689	
28	53819	183	15753	21	73562	73	60314	19	129113	1	53478	22	48420	10	19445	8	11287	11927	75535	28453	65955	32689	
29	54002	183	15775	22	73636	74	60333	19	129114	1	53501	23	48430	10	19454	9	11299	11969	75536	28453	65955	32689	
30	54245	243	15797	22	73721	85	60404	71	129126	12	53553	52	48471	41	19489	35	11310	12014	75536	28453	65955	32689	
31																							
TOTAL			7121		615		2600		2046		2086		1283		1421		559	319	276	152	2416	0	862
PERDAY	237.36 M3		20.05 M3		86.66 M3		68.2 M3		69.53 M3		42.76 M3		47.36 M3		18.63 M3		10.63 m3		14 M3+80 M3+ 28 M3= 122 m3				

MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A/BAD																						
LOG SHEET FOR WATER CONSUMPTION M.G.M.																						
May-19																						
DATE	1,2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B.NO 4	M3	OPD BUIL	EST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP					
OLD	54245		15797		73721		60404		129126		53553		19489		11310	12014	75536	28453	65955	32689		
1	54484	237	15817	20	73794.5	73.5	60470	66	129126	0	53595	43	48602	65.5	19502	13	11320	12058	75536	28453	65955	32689
2	54719	237	15837	20	73868	73.5	60536	66	3	0	53638	43	48656	54	19525	23	11330	12058	75538	28453	66101	32689
3	55008	289	15859	22	73969	101	60637	101	99	96	53683	45	48656	54	19550	25	11340	12106	75540	28453	66101	32689
4	55208	200	15884	25	74058	89	60697	60	249	150	53722	39	48697	41	19554	4	11350	12140	75543	28453	66101	32689
5	55442	234	15904	20	74133	75	60768	71	388	139	53746	24	48731	34	19559	5	11361	12168	75565	28654	66170	32689
6	55676	234	15936	32	74238	105	60840	72	528	140	53771	25	48765	34	19563	4	11372	12167	75588	28855	66240	32690
7	55953	277	15965	29	74349	111	60935	95	677	149	53815	44	48814	49	19580	17	11382	12228	75617	29133	66263	32690
8	56181	228	15990	25	74451	102	60989	54	808	131	53865	50	48862	48	19590	10	11393	12271	75651	29346	66347	32690
9	56505	324	16016	26	74554	103	61085	96	960	152	53924	59	48902	40	19590	0	11405	12336	75702	29605	66380	32690
10	56649	144	16039	23	74642	88	61134	49	1051	91	53948	24	48931	29	19590	0	11411	12360	75718	29730	66380	32692
11	56973	324	16059	20	74737	95	61225	91	1221	170	54008	60	48965	34	19606	16	11426	12440	75775	30056	66380	32695
12	57153	180	16074	15	74803	66	61286	61	1324	103	54031	23	49006	41	19617	11	11433	12476	75700	30212	66380	32695
13	57383	180	16090	16	74870	67	61347	61	1428	104	54054	23	49048	42	19624	7	11440	12513	75826	30368	66380	32695
14	57590	257	16120	30	74990	120	61426	79	1545	117	54102	48	49093	45	19657	33	11449	12565	75857	30548	66380	New meter
15	57777	187	16136	16	75088	98	61503	77	1689	144	54164	62	49150	57	19673	16	11459	12611	75884	30742	66380	0
16	58165	388	16152	16	75186	98	61580	77	1834	145	54226	62	49207	57	19690	17	11470	12657	75912	30937	66391	26
17	58495	330	16181	29	75300	114	61679	99	2011	177	54271	45	49297	90	19714	24	11481	12726	75936	31128	66391	100
18	58730	235	16199	18	75375	75	61749	70	2131	120	54316	45	49337	40	19726	12	11492	12746	75956	31386	66506	122
19	58970	240	16218	19	75454	79	61819	70	2256	125	54361	45	49379	42	19735	9	11499	12767	75979	31573	66622	140
20	59195	225	16240	22	75526	72	61892	73	2386	130	54408	47	49416	37	19746	11	11508	12791	75998	31753	66745	160
21	59429	234	16262	22	75599	73	61967	75	2504	118	54447	39	49455	39	19757	11	11519	12811	76016	31928	66869	182
22	59653	228	16280	18	75678	79	62040	73	2620	116	54489	42	49497	42	19769	12	11528	12835	76039	32088	66986	199
23	59891	234	16299	19	75753	75	62091	51	2746	126	54520	31	49528	31	19783	14	11539	12842	76052	32243	67071	218
24	60164	273	16324	25	75824	71	62180	89	2875	129	54575	55	49593	65	19796	13	11550	12855	76082	32470	67247	288
25	60426	262	16350	26	75939	115	62248	68	2996	121	54655	80	49657	64	19823	32	11561	12864	76113	32651	67408	375
26	6080	254	16373	23	76051	112	62333	85	3126	130	54700	45	49699	42	19828	0	11572	12932	76136	32851	67533	395
27	60917	237	16399	26	76162	111	62409	76	3246	140	54742	42	49736	37	19828	0	11584	12961	76155	33021	67650	405
28	61167	250	16416	17	76268	106	62485	76	3387	141	54795	53	49770	34	19834	6	11596	12981	76191	33248	67867	430
29	61430	263	16441	25	76348	80	62575	90	3549	162	54855	50	49821	51	19846	12	11606	13019	76230	33398	68002	480
30	61693	263	16460	19	76439	91	62660	85	3698	149	54905	50	49862	41	19857	11	11615	13053	76258	33541	68126	520
31	61961	268	16480	20	76524	85	62730	70	3856	158	54961	56	49921	59	19868	11	11622	13089	76270	33660	68276	570
TOTAL		7716		683	2803			2326	3853		1408	1450		379	312	1075	734	5207	2321	570		
PERDAY		248 M3		22 M3	82 M3			75 M3		124 M3		45 M3		12 M3	10 M3		34 M3+167 M3+ 93 M3= 294 M3					



Annexure IV: Valid Consent Copy of MGM by MPCB

MAHARASHTRA POLLUTION CONTROL BOARD																
<p>Tel: 24010437/24020781/24014701 Fax: 24024068 /24023515 Website: http://mpcb.gov.in E-mail : cac-cell@mpcb.gov.in</p>	<p>Kalpatur Point, 2nd - 4th Floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E) Mumbai - 400 022</p>															
<p>Red/LSI Consent No: Format 1.0/BO/UAN No.62150 /CAC - 1906001274 Date 25/6/2019.</p>																
<p>To, M/s MGM's Medical College and Hospital, N-6, CIDCO Aurangabad-432003.</p>																
<p>Sub : Combined Consent to operate and BMW Authorization under RED Category to Health Care Establishment (HCE's).</p>																
<p>Ref : 1.Consent granted by the Board vide no.BO/CAC-Cell/CCA-9767 Dated 12.08.2016 valid up to 31.12.2018. 2. Your application for combine consent to operate and BMW Authorization dated 07.12.2018. 3. The minutes of Consent Appraisal Committee meeting dated 02.05.2019.</p>																
<p>Combined Consent to Establish and BMW Authorization. under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2016 and Biomedical Waste Management Rules 2016 and amendment in Rules 2018 is considered and the consent is hereby granted subject to following terms and conditions and as detailed in the schedule I, II, III, IV & V annexed to this order:</p>																
<p>1. The conditional combined consent to operate and BMW authorization is granted for period up to 31.12.2023.</p>																
<p>2. The capital investment of the HCE is Rs.154.96 Crs.(As per C. A. Certificate submitted)</p>																
<p>3. The Consent is valid for the Activity of -</p>																
<table border="1"><thead><tr><th>Sr. No.</th><th>Activity</th><th></th></tr></thead><tbody><tr><td>1</td><td>Hospital</td><td></td></tr><tr><td>a)</td><td>Beds</td><td>700 Nos.</td></tr><tr><td>b)</td><td>Total Plot Area</td><td>20,000 Sq. Mtrs</td></tr><tr><td>c)</td><td>Total Built up Area</td><td>16,787 Sq. Mtrs</td></tr></tbody></table>		Sr. No.	Activity		1	Hospital		a)	Beds	700 Nos.	b)	Total Plot Area	20,000 Sq. Mtrs	c)	Total Built up Area	16,787 Sq. Mtrs
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a)	Beds	700 Nos.														
b)	Total Plot Area	20,000 Sq. Mtrs														
c)	Total Built up Area	16,787 Sq. Mtrs														
<p>4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:</p>																
<table border="1"><thead><tr><th>Sr. no.</th><th>Description</th><th>Permitted quantity of discharge (CMD)</th><th>Standards to be achieved</th><th>Disposal</th></tr></thead><tbody><tr><td>1</td><td>Trade effluent</td><td>22.0</td><td>As per Schedule -I</td><td rowspan="2">The treated trade effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body.</td></tr><tr><td>2</td><td>Domestic effluent</td><td>540.0</td><td>As per Schedule -I</td></tr></tbody></table>		Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal	1	Trade effluent	22.0	As per Schedule -I	The treated trade effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body.	2	Domestic effluent	540.0	As per Schedule -I	
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2	Domestic effluent	540.0	As per Schedule -I													
<p>M/s MGM's Medical College and Hospital, UAN No.62150</p>																
<p>Page 1 of 9</p>																



5. Conditions under Air (P & CP) Act, 1981 for air emissions:

Sr. no.	Description of stack / source	Number of Stack	Standards to be achieved
1	D.G.Set [600 KVA]	1	As per Schedule-II
2	D.G.Set [600 KVA]	1	
3	D.G.Set [750 KVA]	1	

6. Conditions under Hazardous Wastes (Management, Handling Transboundary and Other Waste) Rule 2016 for treatment and disposal of Hazardous Waste:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	35.3 Chemical sludge from ETP	As actual	Nil	--	At CHWTSDF

7. Non-Hazardous Solid Wastes:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	Wet Garbage	As actual	Kg/Day	OWC	Manure
2	Dry Garbage	As actual	Kg/Day	---	Recycle or hand over to local body
3	STP Sludge	As actual	Kg/Day	---	Manure

8. The authorization is granted for generation and disposal of Bio-Medical Waste (BMW) to CBMWTSDF in waste categories and quantities listed here in below:

Sr. No.	Category	Type of Waste	Quantity not to exceed (Kg/M)	Segregation Color coding	Treatment & Disposal
1	Yellow	a) Human Anatomical waste	90.0	Yellow colored non-chlorinated plastic bags	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.
		b) Animal Anatomical Waste	---		
		c) Soiled Waste	250.0		
		d) Expired or Discarded Medicines	2.0		
		e) Chemical Waste	---	Separate collection system leading to effluent treatment system	
		f) Chemical Liquid Waste	---		
		g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.	9.0		
		h) Microbiology Biotechnology and other clinical laboratory waste	5.0	Autoclave safe plastic bags or containers	



2	Red	Contaminated waste (Recyclable)	300	Red colored non chlorinated plastic bags or containers	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.
3	White (Translucent)	Waste sharps including Metals	135	Puncture proof, Leak proof, tamper proof container	
4	Blue	a) Glassware b) Metallic body implants	31 ---	Puncture proof & leak proof boxes or containers with blue colored marking.	

9. If Built up area exceeds more than 20,000 sq. meters and if hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 2006 as Amended.

10. This consent is issued subject to conditions mentioned below,

- The "authorized Person" shall comply with provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
- Any unauthorized change in equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
- If the built-up area exceeds more than 20,000 sq. Mtrs. and if the hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 14.09.2006 by obtaining Environment Clearance.
- You shall submit details of Management and Handling of outdated, discarded, unused Cytotoxic drugs generated in the Cancer centers, research and health care in the format prescribed by CPCB which is available on www.cpcb.nic.in along with Annual Report to MPCB with a copy to CPCB before 31st January every year.
- You shall manage the Mercury Waste in the HCE in environmentally sound manner (including storage, spilled collection, transportation and disposal) as per CPCB guidelines published on CPCB website www.cpcb.nic.in dated: 07.09.2010 as detailed in document entitled "Environmentally Sound Management of Mercury Waste in Health Care Facilities".
- You shall ensure phase out of chlorinated plastic bags, gloves and blood bags by HCEs within two years;
- You shall establish Bar code system within one year



- h. You shall ensure that the liquid waste is treated and disposed by all the occupier or operator of a CBWTF in accordance with the Water Act, 1974;
- i. You shall maintain day to day basis and display the monthly record Including Annual report on its website within two years from the date of Notification.
- j. You shall submit separate Bank Guarantees towards compliance of condition mentioned at Annexure – IV to Regional Office, within 30 days.
- k. You shall submit compliance of Bank Guarantee conditions every six months to Regional Officer, for verification purpose.
- l. You shall submit application for renewal of Combined Consent and Biomedical Waste authorization before 120 days along with appropriate fees.
11. This Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
12. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government agencies.
13. Project Proponent shall not take effective steps towards establishment prior to obtaining Environmental Clearance As per EIA Notification 2006 and amendment thereto. As per para 2 of EIA Notification dated 14.09.2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MOEF & CC vide office memorandum no.J-1103/41/2006-IA,II (I), Dated 19.08.2010, fencing of the site to protect it from getting encroached and construction of temporary shed (S) for the guard(S) & acquisition of land may not be treated as an effective steps.

For and on behalf of the
Maharashtra Pollution Control Board

(E. Ravendiran, IAS)
Member Secretary

Received Consent fee of –

Sr. No.	Amount (Rs.)	D.R. No.	Date	Bank
1	15,49,623	TXN 1812001366	12.12.2018	E- Payment
2	75,000/-	TXN 1812002590	24.12.2018	E- Payment
3	1,00,000/-	TXN 1901000998	09.01.2019	E- Payment
4	1,24,817/-	TXN 19060000847	11.06.2019	E- Payment

Copy to:

1. Regional Officer – MPCB, Aurangabad and Sub –Regional Officer – Aurangabad -1, MPCB – They are directed to ensure the compliance of the CCA conditions.
2. Chief Accounts Officer, MPCB, Mumbai- for information.
3. CAC/CC desk - for record & website updation purposes.



Schedule-I

I) Terms & Conditions for compliance of Water Pollution Control

- 1) A] As per your application you have provided Effluent treatment plant (ETP) of capacity 30 CMD for the treatment of trade effluent generated from the hospital activity.
- B] The applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	100
03	Oil & Grease	10
04	BOD (3 days 27°C)	30
05	COD	250
06	Detergent	2.0
07	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent

- C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.
- 2) A] As per your application you have provided sewage treatment plant (STP) of design capacity of 600 CMD for treatment of domestic sewage generated from the hospital and thereafter the treated effluent shall be discharged followed by Chlorination and the treated effluent shall be disposal to Municipal Sewer / Land application after achieving standard prescribed below:
- B] The applicant shall operate the sewage treatment plant (STP) to treat the domestic effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	50
03	Oil & Grease	10
04	BOD (3 days 27°C)	30
05	COD	100
06	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent

- C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.



- 3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waste water & the system for the disposal of effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps for expansion / modify or establish any modification to treatment and disposal system or an extension or addition thereto.
- 4) You shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
- 5) You shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time.

Water Consumption details:

Sr. No.	Purpose for water consumed	Water Consumption quantity CMD
1.	Industrial Cooling and boiler feed etc.,	---
2.	Domestic purpose	670.0
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	27.0
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	--
5	Other such as agriculture, gardening, etc.	--

Schedule-II

Terms & conditions for compliance of Air Pollution Control

1. As per your application, you have proposed / provided the Air pollution control (APC) system and also proposed to erect/erected following stack (s) to observe the following fuel pattern-

Sr. No.	Stack Attached to	Height in meter	Type of Fuel	Fuel Qty	SO ₂ In Kg/Day
1	D.G.Set [600 KVA]	4.5	HSD	130 Kg/hrs	62.4
2	D.G.Set [600 KVA]	4.5	HSD	130 Kg/hrs	62.4
3	D.G.Set [750 KVA]	4.5	HSD	132 Kg/hrs	63.36

2. The applicant shall provide stack height of mtrs operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	150 mg/Nm ³
--------------------	---------------	------------------------
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).



5. Conditions for D.G. Set

- Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
- Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
- Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
- D.G. Set shall be operated only in case of power failure.
- The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
- The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel.

Schedule-IV: Bank Guarantees

Statement of conditions to be complied and Bank Guarantee imposed to ensure timely compliance to be observed by

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
I (A)	Operation and Maintenance		
1	To Segregate and Handle BMW as per Rule	Continuous	Rs. 1,00,000/-
2	To provide STP adequate capacity within 3 months and Towards Operation and Maintenance of STP/ETP to achieve prescribed discharge standards	Continuous	Rs. 1,00,000/-
I (B)	Records		
1	To Maintain records of BMW and submission of Annual Report in Form -II before 31 st January	Continuous	Rs. 25,000/-
2	To maintain records of BMW material delivered to CBMWTSDF	Continuous	Rs. 25,000/-
II	Performance		
1	To provide BMW separate storage facility as per guidelines of CPCB	Continuous	Rs. 75,000/-

Note: You shall submit the B.G. valid for additional 4 month period after the validity of your granted CCA.



Schedule-V
General Conditions

The following general conditions shall apply as per the type of the industry

- 1) You shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) You should monitor effluent quality, stack emissions, noise and ambient air quality quarterly.
- 3) You shall provide ports in the chimney(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) You shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) You shall submit, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992 to Regional Office, , the 30th day of September every year.
- 7) You shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW (MH&TM) Rules 2008, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) You shall comply with the Hazardous Waste (M, H & TM) Rules, 2008 and submit the Annual Returns to RO- as per Rule 5(6) & 22(2) of Hazardous Waste (M, H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30th June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the HCE.
- 10) You shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
- 11) You shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent & authorization condition towards Environment Protection.
- 12) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.



- 13) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the HCE.
- 14) You shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 15) You should not cause any nuisance in surrounding area.
- 16) You shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- 17) You shall maintain good housekeeping.
- 18) You shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement to Regional Office by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
- 19) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 20) You shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. You will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 21) You shall submit Six Monthly statement in respect of obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
- 22) You shall submit official e-mail address and any change will be duly informed to the MPCB, forthwith.
- 23) You shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 16.11.2009 as amended
- 24) You shall observe provisions of E-waste (Management and Handling) Rules 2011 and Battery Waste (Management and Handling) Rules 2001, as amended.

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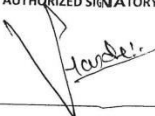



Annexure V: 3rd Party Reports for Trade & Domestic Effluents

GREEN ENVIROSAFE
Engineers & Consultant Pvt Ltd. CIN No. : U74900PN2013PTC149666

Survey No-1465/06 Mayuri Residency, Shop No-16, 2nd Floor, Sanaswad, Tal-Shirur, Pune-41250.
Mob : 9545084620 | E-mail:gesec12@gmail.com | www.greenenvirosafe.co.in

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE				
Report No: GESEC/PRO/2019-20/06/392		Date of Report		13/06/2019
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling		04/06/2019
		Start Date of Analysis		05/06/2019
		End Date of Analysis		12/06/2019
		Sample Details		ETP Inlet
		Nature of sample		Liquid
Sample Collected By		Envirotech Research Pvt. Ltd.		
Water Analysis Report				
Sr. No.	Parameter	Result	Unit(s)	Standard Method
Physical Parameter				
1.	TDS	603	ppm	APHA 2540-C
2.	Total Suspended Solid	134	mg/lit	APHA 2540-D
Chemical Parameter				
3.	pH	7.75	--	APHA 4500-H'
4.	BOD at 27°C for 3 days	149	mg/lit	APHA 5210 B
5.	Oil and grease	2	mg/lit	APHA 5520 B
6.	COD	220	mg/lit	APHA 5220 B
7.	Detergent	0.03	mg/lit	Methylene blue extraction method
ANALYZED BY:		AUTHORIZED SIGNATORY		
				
				

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory legal requirement.
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



Survey No- 1406/06, Mayun Residency, Shop No-16, 2nd Floor, Saraswadi, Kal Shrus, Pune-412
Mob- + 9545084620 | E-mail: gesec12@gmail.com | www.greenenvisage.co.in
CIN No- U74900PN2013PTC149666

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE					
Report No: GESEC/PRO/2019-20/06/393		Date of Report		13/06/2019	
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling		04/06/2019	
		Start Date of Analysis		05/06/2019	
		End Date of Analysis		12/06/2019	
		Sample Details		ETP OUTLET	
Sample Collected By		Nature of sample		Liquid	
		Envirotech Research Pvt. Ltd.			
Water Analysis Report					
Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
Physical Parameter					
1.	TDS	598	2100	ppm	APHA 2540-C
2.	Total Suspended Solid	30	100	mg/lit	APHA 2540-D
Chemical Parameter					
3.	pH	8.2	5.5-9.0	--	APHA 4500-H ⁺
4.	BOD at 27°C for 3 days	17	30	mg/lit	APHA 5210 B
5.	Oil and grease	BDL	<10	mg/lit	APHA 5520 B
6.	COD	48	<250	mg/lit	APHA 5220 B
7.	Detergent	BDL	2	mg/lit	Methylene blue extraction method
Remark(s): ➤ All parameters are within the MPCB limit.					
ANALYZED BY-		AUTHORIZED SIGNATORY			

- Terms and conditions**
1. The report is refer only to the sample tested and not applies to the bulk.
 2. The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
 3. The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
 4. Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
 5. We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
 6. MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.





GREEN ENVIROSAFE
Engineers & Consultant Pvt Ltd. CIN No. U74900PN2013PTC149666

Survey No-1409/06, Mayan Residency, Shop No-18, 2nd Floor, Sandewadi, Tel-Chinai, Pune-412
Mob- + 9545084620 | E-mail-gesec12@gmail.com | www.greenenvirosafe.co.in

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE				
Report No: GESEC/PRO/2019-20/06/391		Date of Report	13/06/2019	
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling	04/06/2019	
		Start Date of Analysis	05/06/2019	
		End Date of Analysis	12/06/2019	
		Sample Details	STP Inlet	
		Nature of sample	Liquid	
Sample Collected By		Envirotech Research Pvt. Ltd.		
Water Analysis Report				
Sr. No.	Parameter	Result	Unit(s)	Standard Method
Physical Parameter				
1.	Total Suspended Solid	137	mg/lit	APHA 2540-D
Chemical Parameter				
2.	BOD at 27°C for 3 days	165	mg/lit	APHA 5210 B
3.	COD	316	mg/lit	APHA 5220 B
4.	Residual chlorine	NA	ppm	Chlortext Method
ANALYZED BY-		AUTHORIZED SIGNATORY		

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report can not be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



Survey No-1405/06, Mayur Residency, Shop No-16, 2nd Floor, Sanshodh, Tal-Shirur, Pune-412208
Mob- + 9545084620 | E-mail-gesec12@gmail.com | www.greenenvirosafe.co.in
Engineers & Consultant Pvt Ltd. CIN No. U74900PN2013PTC149666

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE

Report No: GESEC/PRO/2019-20/06/394	Date of Report	13/06/2019
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.	Date of Sampling	04/06/2019
	Start Date of Analysis	05/06/2019
	End Date of Analysis	12/06/2019
	Sample Details	STP OUTLET
	Nature of sample	Liquid
Sample Collected By	Envirotech Research Pvt. Ltd.	

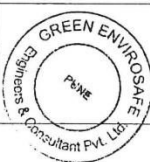
Water Analysis Report

Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
Physical Parameter					
1.	Total Suspended Solid	07	10	mg/lit	APHA 2540-D
Chemical Parameter					
2.	BOD at 27°C for 3 days	05	<10	mg/lit	APHA 5210 B
3.	COD	23	<50	mg/lit	APHA 5220 B
4.	Residual Chlorine	0.5	1	ppm	Chlortext Method

Remark(s): All parameters are within the MPCB limit.

ANALYZED BY-

[Signature]



AUTHORIZED SIGNATORY

[Signature]

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.





Annexure VII: Certificate for Work done for Rain Water Harvesting & Storm Water Management

space forum architects pvt. ltd.

aurangabad office : 173, nandanvan colony, cantonment, aurangabad-431 002 tel.:(0240) 2370119
email : space4rum@yahoo.co.in

CERTIFICATE

CERTIFICATE OF RAIN WATER / SURFACE WATER HARVESTING (RE-CHARGING) AT MGM'S MEDICAL COLLEGE HOSPITALA AND OPD BUILDING AT CIDCO TOWN CENTER, CIDCO, AURANGABAD.

This is to certify that the rain water / surface water harvesting design and execution. Supervision work carried out by our organization and same is completed to our satisfaction, which yielding great positive result and save natural resources as shown in drawing no.

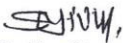
The adopted methodology : The Mgm's Medical College Hospital campus have 2 ha. Site area having topographic slope towards North and North West side. The same sloping situation / direction utilized for collecting the entire terrace rain water and surface water at lowest ground level. The terrace rain water is collected in built up channels and surface water is also collected through catchment chambers and it is connected to the main channels of 2.0 m. width. The open channels lead towards existing slope and water is recharged in the deep percolation well having 3.0 m. dia and 6.5 m. depth. The campus have two such open wells, both the wells are connected with horizontal bores to equalize the water level during the pumping. The percolated water is stored in another open well of 4000 KL storing capacity.

The store water is reutilized for landscaping, play fields and tropical forest through drip irrigation system.

The open channel excess water is collected in two number of open lakes on two different locations on adjoining property of MGM trust. The lakes are covered with water synthesis / bio-synthesis plant for prevention of atmosphere evaporation. These lakes allow water to recharge in surrounding area to prevent soil erosion and provide organically rich fertile soil for landscape.

This water harvesting system utilized for all 17.5 ha. MGM campus providing perfect ecological balance and oxygen pool to surrounding neighborhood.

The actual resultant of the system is honored appreciation to the trust from His Highness President of India.


Ar. Shekhar Jivrag
Space Forum Architects Pvt. Ltd.

S. N. JIVRAG
CA/83/7566

regd. office : 114, aarhiya plaza, block-b, 27/2, manoramaganj, indore - 452001 tel.:(0731)2494930



Annexure VIII: Documents related to Protocol, Check points, recruitment of staff for Housekeeping

BVG INDIA LTD.								
PARTICULAR	MOR		GER		EVE		NIG	
HOUSEKEEPING	79		0		35		25	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	35	44	0	0	17	18	15	10
C BUILDING HK	4		2		1		0	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	3	1	1	1	1	0	0	0
PATIENT CARE	65		87		67		60	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	35	30	45	42	32	35	23	37
SUPERVISOR'S	6		3		4		3	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	6	0	1	2	3	1	3	0



Environmental Audit Report
For MGM's Medical College & Hospital

V

bvg Humanity Ahead			
BVG INDIA LTD			
HOUSEKEEPING 1ST SHIFT SUPERVISOR JOB CARD			
Sr NO.	TIME	ACTIVITY	REMARK
1	05.45AM TO 06.00AM	TOTAL EMPLOYEES BRIEFING	
2	06.00AM TO 06.15AM	DEPLOYMENT & MATERIAL DISTRIBUTION	
3	06.15AM TO 06.30AM	ALL EMPLOYEES CHECKING IN WARD ARE PRESENT.	
4	06.30AM TO 08.15AM	1) ALL WARD & WARD WASHROOM & GENERAL WASHROOM CLEANING CHECKING	
5	08.15AM TO 08.30AM	BREAKFAST	
6	08.30AM TO 09.15AM	PERSONAL ROUND TO ALL FLOOR CLEANING CHECKING	
7	09.15AM TO 11.00AM	ROUND WITH CLIENT	
8	11.00AM TO 12.00PM	ALL CLIENT ROUND ISSUE POINT ARE CLEAR	
9	12.00PM TO 12.45PM	LUNCH TIME	
10	12.45PM TO 01.45PM	EMPLOYEE CHECKING IN WARD. & CHECK LIST SING.	
11	01.45PM TO 02.00PM	TOTAL DAY ARE COMPLIMENT AND ISSUE ARE BRIEFING	
12	02.00PM TO 02.30PM	TOTAL CHECKLIST (GROOMING, BRIEFING, MACHINE UTILIZATION, HAND OVER TAKE OVER) AND ATTENDANCE ARE COMPLETED	

Report Prepared & Submitted By: sd engineering services pvt. Ltd., Aurangabad |
NABET Accredited Consultant |





bvg Humanity Ahead			
BVG INDIA LTD			
HOUSEKEEPING 2ND SHIFTSUPERVISOR JOB CARD			
Sr NO.	TIME	ACTIVITY	REMARK
1	12..45PM TO 01.00PM	TOTAL EMPLOYEES BRIEFING	
2	01.00PM TO 01.15PM	DEPLOYMENT & MATERIAL DISTRIBUTION	
3	01.15PM TO 02.00PM	ALL EMPLOYEES CHECKING IN WARD ARE PRASENT.	
4	02.00PM TO 04.00PM	1) ALL WARD & WARD WASHROOM & GANERAL WASHROOM CLEANING CHEKING	
5	05.00PM TO 05.30PM	LUNCH TIME	
6	05.30PM TO 06.15PM	PERSONAL ROUND TO ALL FLOOR CLEANING CHEKING	
7	06.15AM TO 08.45PM	ALL CLIENT ROUND ISSUE POINT ARE CLEAR WITH CHECK LIST SING.	
8	08.45.PM TO 09.00PM	TOTAL DAY ARE COMPLENT AND ISSUE ARE BRIEFING	
9	09.00 TO 09.30	TOTAL CHECKLIST (GROUMING,BRIEFFING,MACHINE UTILIZATION,HAND OVER TAKE OVER)AND ATTENDANCE ARE COPMLEDED	



BVG INDIA LTD					
FAN CLEANING SCHEDULE MONTH OF JUN- 19					
SR NO.		WARD NAME	SUP SIGN/ Name	AUTHORISED SIGN	AUTHORISED SIGN
LOWER BASEMENT					
1	01/06/2019	CASULTY			
2	02/06/2019	EICU			
3	03/06/2019	PSY WARD			
BASEMENT FLOOR					
4	04/06/2019	ENT			
5	04/06/2019	OPHTHAL			
6	05/06/2019	ONCOLOGY			
7	06/06/2019	MCRI NEW			
GROUND FLOOR					
8	07/06/2019	NEW DELUX			
9	08/06/2019	TB CHEST			
10	09/06/2019	TIME OFFICE & PASSAGE			
11	10/06/2019	MICU			
1ST FLOOR					
12	11/06/2019	PAEDIATRIC 1			
13	12/06/2019	NICU			
14	12/06/2019	PICU			
15	13/06/2019	CCU/CVTS			
16	14/06/2019	PAEDIATRIC 2			
17	15/06/2019	MALE MEDI.			
18	15/06/2019	FEMALE MEDI.			
2ND FLOOR					
19	16/06/2019	MALE SURGERY			
20	17/06/2019	FEMALE SURGERY			
21	18/06/2019	OT COMPLEX			
22	18/06/2019	URO/PLASTY			
23	19/06/2019	OBGY ICU			
24	19/06/2019	CSSD			
25	20/06/2019	SICU			
3RD FLOOR					
26	21/06/2019	MJPY WARD			
27	22/06/2019	TL WARD			
28	23/06/2019	OLD DELUXE			
4TH FLOOR					
29	24/06/2019	MALE ORTHO			
30	24/06/2019	FEMALE ORTHO			
31	25/06/2019	SUPER DELUXE			
5TH FLOOR					
32	26/06/2019	NEPHRO WARD			
33	27/06/2019	DIALYSIS & KT ICU			
6TH FLOOR					
34	28/06/2019	MCRI DELUX WARD			
7TH FLOOR					
35	29/06/2019	NEW MCRI ICU			
LOWER BASEMENT					
36	30/06/2019	CASULTY			

[Handwritten signature and stamp]



MGM'S Medical College & Hospital Jan-2019

Colour Coded Container for the segregation and Storage of Bio-Medical Waste Categories

Month:

Date	Yellow				Red Cat-7	Blue Cat-4		Gate Pass No.	Name of Person Hand Over	Name of Company BMW
	Cat-1 H.A. W.	Cat-3, Mic- Bio- W	Cat-5 Discar- Med. Cyto	Cat-6 Soil- W	Solid Waste	White Translucent Container for Sharps & needle	Glass Items			
1	03-K2	-	-	06-K2	10-K2	02-K2	2-K2	910	Zahane	2 m/b
2	02-K2	-	-	06-K2	10-K2	-	5-K2	911	Zahane	2 m/b
3	08-K2	-	-	08-K2	8-K2	-	3-K2	912	Zahane	2 m/b
4	-	-	-	04-K2	7-K2	-	4-K2	913	Zahane	2 m/b
5	06-K2	-	-	08-K2	10-K2	3-K2	10-K2	914	Zahane	2 m/b
6	04-K2	-	-	04-K2	12-K2	-	6-K2	915	Zahane	2 m/b
7	-	-	-	09-K2	10-K2	-	4-K2	916	Zahane	2 m/b
8	03-K2	01-K2	-	04-K2	6-K2	3-K2	6-K2	917	Zahane	2 m/b
9	05-K2	-	1-K2	03-K2	11-K2	-	2-K2	918	Zahane	2 m/b
10	04-K2	-	-	08-K2	20-K2	-	2-K2	919	Zahane	2 m/b
11	02-K2	-	-	06-K2	09-K2	-	3-K2	920	Zahane	2 m/b
12	04-K2	-	-	04-K2	06-K2	02-K2	3-K2	921	Zahane	2 m/b
13	-	-	-	05-K2	11-K2	-	2-K2	922	Zahane	2 m/b
14	-	-	-	08-K2	10-K2	-	3-K2	923	Zahane	2 m/b
15	04-K2	-	-	04-K2	11-K2	-	5-K2	924	Zahane	2 m/b
16	03-K2	01-K2	-	05-K2	10-K2	02-K2	3-K2	925	Zahane	2 m/b
17	-	-	-	09-K2	12-K2	-	2-K2	926	Zahane	2 m/b
18	08-K2	-	-	08-K2	11-K2	-	1-K2	927	Zahane	2 m/b
19	02-K2	-	-	05-K2	12-K2	-	2-K2	928	Zahane	2 m/b
20	06-K2	-	1-K2	03-K2	10-K2	04-K2	3-K2	929	Zahane	2 m/b
21	-	-	-	04-K2	12-K2	-	2-K2	930	Zahane	2 m/b
22	05-K2	-	-	06-K2	10-K2	-	2-K2	931	Zahane	2 m/b
23	01-K2	-	-	08-K2	6-K2	-	3-K2	932	Zahane	2 m/b
24	03-K2	-	-	02-K2	7-K2	21-K2	1-K2	933	Zahane	2 m/b
25	-	-	-	04-K2	02-K2	-	1-K2	934	Zahane	2 m/b
26	02-K2	-	-	09-K2	04-K2	-	3-K2	935	Zahane	2 m/b
27	05-K2	01-K2	-	05-K2	10-K2	-	4-K2	936	Zahane	2 m/b
28	-	-	-	06-K2	10-K2	-	2-K2	937	Zahane	2 m/b
29	-	-	1-K2	08-K2	08-K2	-	2-K2	938	Zahane	2 m/b
30	02-K2	-	-	04-K2	10-K2	2-K2	6-K2	939	Zahane	2 m/b
31	-	-	-	08-K2	09-K2	-	2-K2	940	Zahane	2 m/b
32	02-K2	03-K2	1.5-K2	181-K2	298-K2	22-K2	99-K2	-	-	-

Handwritten notes: 20/01/2019, Zahane, H.K. dep. 5.



Annexure X: The Disposal of E-Waste is documented by the Concerned Department

**Mahatma Gandhi Mission's
Medical College & Hospital**
N-6, CIDCO, Aurangabad - 431003 Tel :91-0240-660193 Fax :91-0240-248773

Date: 01.03.2019

The following equipments given to Green E-Bin Electronic Waste Solution, Aurangabad for E-Waste disposal through Gate Pass No. MGMGPO180000334 dated 29.10.2018. The equipment detail is as follows.

Sr. no.	Equipment Name	Machine Sr.no	Model	Make	Qty
1	Ventilator	181517	900C	Siemens	2
2	Ventilator (Siemens 300) Display Monitor	02860.10352 05486.10359		Siemens	4
3	Blood Cell Counter	AB094175	Coulterdiff Act	Backmen	1
4	Multipara Monitor	4006A03147, 4006A86167, 4006A86171, 3950A66915, 3939A65300, 4006A76211, 4006A76216	V24	Hewlett-Packard	7
5	Multipara Monitor & Module / Rack	3805G33200, 3805G69539, 3805G99563, 3805G42344, 3305G99400, 3805G48016	V24	Hewlett-Packard	6
6	Cautery Machine	MH.03.KE54 SPE.01.144 SPE.02.1E24 SP-02-CE61	SSETE E+	Eclipse	4
7	Ophthalmic (Slit Lamp) Chair with Table			Appasamy	1
8	Gynic Table				1
9	ECG Machine	US71001187	TC-30	Philips	1
10	ABG Machine	7415	Cobas b 121	Roche	1

Biomedical Maintenance Dept., MGM Medical College & Hospital, Aurangabad.



Annexure XI: E- Waste Manifest (Form-6)

Form-6
[See rule 19]

E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)		MGM Medical College & Hospital, Aurangabad 0240-6601100	
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.		BO/MPCE-RO(HQ)/Aurangabad/CO/B-1012000759	
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle		(Truck/Tanker/ Special Vehicle)	
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:		GREEN e-bin electronic waste solution B-12, MIDC Chikalthana, Opp. CTR Mfg., Aurangabad	
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)		9 844 219	
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):			
	Name and Stamp:		Signature:	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	
12.	Transporter acknowledgement of receipt of E-waste			
	Name and Stamp:		Signature:	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste			
	Name and Stamp:		Signature:	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Form-6
[See rule 19]

E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)	MGM Trust N-6 CIDCO A.bad.		
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.	BO/MPCB/NO(HQ)/Aurangabad/CO/B-1012000759		
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle	(Truck/Tanker/ Special Vehicle)		
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:	gsoon e-bin electronic waste solution H-18 MIDC Chikalthana, Opp.CTR Mfg., Aurangabad		
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)	8	735	86
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):	<p>Signature: <i>[Signature]</i> Name and Stamp: Dean Medical Director MGM Medical College Aurangabad.</p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		
12.	Transporter acknowledgement of receipt of E-waste	<p>Name and Stamp: Signature:</p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste	<p>Name and Stamp: Signature: <i>[Signature]</i></p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Form-6
[See rule 19]
E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)	MGM Medical College & Hospital, Aurangabad 0240-660110		
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.	BO/MPCE/RO(HQ)/Aurangabad/CO/B-1612000759		
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle	(Truck/Tanker/ Special Vehicle)		
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:	green e-bin electronic waste solution B-18 MIDC Chikalthana, Opp. CTR Mfg., Aurangabad		
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)	3	905	113
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		
12.	Transporter acknowledgement of receipt of E-waste			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Annexure XII: Report showing unit Consumption from Electricity sourced from MSEDCL & from Own Solar Power Grid


MAHATMA GANDHI MISSION

Electrical unit consumption details of MSEB and Solar system for MGM HOSPITAL campus.

Sr.No.	Electrical Consumption in Units (MSEB)				Solar unit Generation	Remarks
	Month	Year-2017	Year-2018	Difference		
1	JAN	202410	217050	14640	NA	
2	FEB	199515	211635	12120	NA	
3	MAR	242340	280500	38160	NA	
4	APR	290055	340373	50318	NA	
5	MAY	308100	359685	51585	NA	
6	JUN	280275	296138	15863	NA	
7	JUL	272895	265027	-7868	19785	
8	AUG	266190	256808	-9382	6358	
9	SEP	273975	228420	-45555	54875	
10	OCT	266115	241183	-24932	71188	
11	NOV	225720	178417	-47303	63987	
12	DEC	224925	163289	-61636	69124	
Sr.No.	Electrical Consumption in Units (MSEB)				Solar unit Generation	Remarks
	Month	Year-2018	Year-2019	Difference		
1	JAN	217050	153720	-63330	67127	
2	FEB	211635	153997	-57638	64312	
3	MAR	280500	194527	-85973	93142	
4	APR	340373	255262	-85111	73209	
5	MAY	359685	275063	-84622	91651	
6	JUN	296138	287603	-8535	69010	
7	JUL	265028	265717	689	58064	
8	AUG					
9	SEP					
10	OCT					
11	NOV					
12	DEC					



Annexure XIII: Fire Mock Drills & Training



MAHATMA GANDHI MISSION

MGM MEDICAL COLLEGE & HOSPITAL

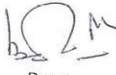
Fire Mock Drill Report

Location	Pediatrics Ward First Floor Block No 2	Date:	20.02.2019
----------	--	-------	------------


Emergency siren blown	Yes	Mock Drill completed	09.55 AM
Mock Drill Started	09.45 AM	Head Count & Green Signal after sharing observation	10. AM
Type of mock drill	Pre planned scenario : Fire		
Emergency Controller /observer	Chief Auditor :Mr Suri (MS) Chif Fire Officer AMC) Emergency controller: Mr S.B Patil Incident controller:Mr Sk Kashif Observer: Dr Aparna kakkad(CMS) Col RK Shrivastava Trainer: Mr Sk Sami (Fire And Safety Officer)		

Check For:	Yes / No	Remark
Did the team follow the emergency action plan sequence?	Yes	-
Did hospital staff check waiting room, canteen and confined areas?	Yes	-
Was the alarm audible?	Yes	-
Was the head count perfect?	Yes	-
Are key people knowledgeable in their assigned duties?	Yes	-
Was the drill conducted in an orderly manner and maintained timeliness?	Yes	-
Was the lift used during fire mock drill?	No	-
Did fire brigade /police station informed during fire mock drill?	yes No	-
Was the fire exit door used?	Yes	-
Did oxygen supply cut off immediately?	Yes	-
Did electrical supply Cut off immediately?	Yes	-


Sr no	Observation /area of improvement	Responsibility	status




Dean
MGMMCH



CMS/MS
MGMMCH




Fire & Safety officer
MGM



Chief Engineer
MGM




Medical College & Hospital
N-6, CIDCO, Aurangabad - 431003 Tel.-91-0240-660555 Fax-91-0240-2487727

Fire Control Mock Drill Preventive Training Attendance Sheet


Date: 20-02-2019 Trainer Name: Shaikh Sami
Time: 09 to 17:00 / Hose Training
Venue: _____ Section No: _____

Sr. No.	Name	Signature	Mobile No.	Remark
1	S.P. Jadhav	<i>[Signature]</i>		
2	S.L. Wadhwa	<i>[Signature]</i>	7798468787	
3	A.D. Rathod	<i>[Signature]</i>		
4	S.B. Athawale	<i>[Signature]</i>		
5	G.A. Athawale	<i>[Signature]</i>		
6	N.S. Rathod	<i>[Signature]</i>		
7	S. RATHOD	<i>[Signature]</i>		
8	N.S. Shirsath	<i>[Signature]</i>		
9	S.S. NARAYAN	<i>[Signature]</i>		
10	S.G. Dhadbhar	<i>[Signature]</i>		
11	M.P. Bajaj	<i>[Signature]</i>		
12	P.S. Jadhav	<i>[Signature]</i>		
13	S.Y. Dahi	<i>[Signature]</i>		
14	E.B. Rathod	<i>[Signature]</i>		
15	S.M. Jadhav	<i>[Signature]</i>		
16	A.M. Rathod	<i>[Signature]</i>		

[Signature]
Department Incharge

[Signature]
Fire & Safety Officer

[Signature]
MS
16/3



Energy audit Report

NAVI MUMBAI

UQSR. Certificate

MGM Institute of Health Sciences

**MGM Educational Campus, Sector 1, Kamothe, Kalamboli, Navi Mumbai,
Maharashtra- 410209, India**

And hereby declares that the organization is in conformance with:

ISO 14001: 2015

For the following scope of activities:

Education Institute and Hospital Courses

Further clarification regarding the scope of this certificate and the applicability of Environmental Management standard requirements (Energy Audit/ Green Audit) may be obtained by contacting the organization

Certificate No. UQSR-1450-MIHS

Current Issue Date: 07th Oct.

Original Issue Date: 07th Oct. 2019

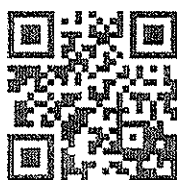
Issue No. 01 IAF Code: 37

2019

Expiry Date: 07th Sep. 2020

Recertification Date: 07th Sep. 2022*

* Validity of certificate is subjected to the continued satisfactory performance during surveillance audit



Authorized By


Certification Manager

Dr. Rajesh B. Goel
Registrar

MGM Institute of Health Sciences
(Deemed University u/s 3 of UGC Act)
Navi Mumbai- 410 209

UQSR Global Private Limited

Formerly known as

Universal Quality Standards Registrar

www.uqsr.org

For information concerning validity of certificate, you can visit the site: www.uqsr.org

This document is property of UQSR and should be returned on request. Any unauthorised alteration, forgery or fabrication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



Management System Certification Stage 2 Audit Report

Organization:	MGM Institute of Health Sciences		
Address:	3rd Floor, MGM Medical College, Sector -01 Kamothe, Navi Mumbai		
Standard(s):	ISO 14001:2015		
Representative:	Dr Rajesh Goel		
Site(s) audited:	3rd Floor, MGM Medical College, Sector -01 Kamothe, Navi Mumbai		
IAF Code:	37	Date(s) of audit(s):	18/09/2019
Lead auditor:	Mr. Amit Kumar	Additional team member(s):	
This report is confidential and distribution is limited to the audit team, client representative and the UQSR office.			

1. Audit objectives

The objectives of this audit were:

- to confirm that the management system has been planned to conform with all the requirements of the audit standard;
- To collect information and evidence about conformity to all requirements of the applicable management system standard or other normative document;
- To check performance monitoring, measuring, reporting and reviewing against key performance objectives and targets (consistent with the expectations in the applicable management system standard or other normative document);
- To check the client's management system and performance as regards legal compliance;
- To check operational control of the client's processes;
- To check internal auditing and management review;
- To check management responsibility for the client's policies;
- To check links between the normative requirements, policy, performance objectives and targets (consistent with the expectations in the applicable management system standard or other normative document), any applicable legal requirements, responsibilities, competence of personnel, operations, procedures, performance data and internal audit findings and conclusions.

2. Audit scope: Educational Institute and Teaching Hospital

For multi-site audits an Appendix listing all relevant sites and/or remote locations has been established (attached) and agreed with the client

3. Audit findings

None identified



Dr. Rajesh B. Goel
Registrar

MGM Institute of Health Sciences
(Deemed University u/s 3 of UGC Act)
Navi Mumbai- 410 299

4. Critical audit findings

The following findings, if not appropriately addressed, certificate cannot be issued without proper closure.

None identified

5. Audit Conclusions

The Stage 2 audit was successful in meeting the stated objectives: Yes

The stage 2 audit was limited in time and scope to the stated objectives and it is possible that additional weaknesses will be identified during future audit activities. With consideration to the findings identified in section 3 and 4 of this report, the overall conclusions of the audit area follows:

The management system has been implemented to conform with all the requirements of the audited standard
Yes

The management system is designed to achieve the organization's policy objectives Yes

Based on the information provided, the system is designed to identify and manage compliance with statutory, regulatory and contractual requirements:
Yes

The certificate should be issued Yes



A handwritten signature in blue ink, appearing to be "Dr. Rajesh B. Goel".

Dr. Rajesh B. Goel
Registrar
MGM Institute of Health Sciences
(Deemed University) n/s 2 of 1161
Navi Mumbai-410 209

AURANGABAD

Environmental Audit Report

For MGM's College & Hospital

Environmental audit is to promote the Environmental Management and Conservation at college and hospital campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of environmental sustainability in compliance with the applicable regulations, policies and standards.

*Report Prepared & Submitted by;
sd engineering services pvt. ltd, Aurangabad (NABET Accredited Consultant)*



Certificate

This is to Certified that,

MGM's Medical College & Hospital

N-6, CIDCO, Aurangabad, Maharashtra, India

Has been assessed & found to meet the requirements of

Environmental Audit as per guidelines of Ministry of Environment, Forest & Climate change

{MoEF&CC}

This Certificate is valid for following scope of activities;

"Environmental Audit"

Authorized By:



Mr. Deepak S. Sanghai
MD, sd engineering Services pvt ltd

Date of Certificate Issue: 10th December, 2019

Certificate Valid Until: 9th December, 2020

Certificate issuing Organization:

sd engineering services pvt ltd,
NABET Accredited Consultant [NABET/EIA/1922/RA0136]
14, Age Arcade, New Osmanapura, Near Sant Eknath Rang
Mandir,
Aurangabad, Maharashtra -431005





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Photograph No.	Photograph Name
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1.10	Fire Fighting System at MGM
1.11	Green Belt Development at MGM

Annexures

Annexure No.	Annexure Name
I	NABET Certificate
II	Layout of the Campus
III	Water consumption figures for the previous months
IV	Valid Consent Copy of MGM by Maharashtra Pollution Control Board
V	3rd party testing Reports for trade effluent and domestic effluent
VI	Schematic diagram of ETP and STP
VII	The certificate for work done for rain water harvesting and storm water management
VIII	Documents related to protocols, check points, recruitment of staff for housekeeping
IX	Sample Documentation maintained for BMW
X	The disposal of E Waste is documented by the concerned department
XI	E Waste Manifest (form -6)
XII	Report showing units consumption from electricity sourced from MSEDCL and from own solar power grid.
XIII	Fire Mock Drills & Training



Introduction

1.1 Introduction

MGM Hospital has appointed M/s sd engineering services pvt. ltd. to carry out environmental audit for their campus at Aurangabad. M/s sd engineering services pvt. ltd. is a leading environmental consultancy from this region and is accredited by NABET. The company is engaged in carrying out environmental impact assessment studies for various sectors. *{Annexure I: NABET Accredited Certificate}*

1.2 Introduction of the Trust

The Mahatma Gandhi Mission Trust was established on 20th December, 1982 with a futuristic vision to provide qualitative education by applying innovative and dynamic pedagogical techniques. Since inception, the Trust has focused on providing health care services, school education and higher education with dedication and commitment. The MGM Trust was established in Nanded, (Maharashtra) and in the course of time it extended its services to Aurangabad, Navi Mumbai and Parbhani in Maharashtra and Noida (New Delhi) in UP. A chain of Schools, Engineering, Architecture, Medical, Nursing, Management, Computer Science & IT, Bioinformatics & Biotechnology, Fine Arts and Journalism stand testimony to the endeavors of the Trust. The MGM has been instrumental in promoting Classical Dance and Music for art seekers. The Trust has also paid heed to the aspect of physical fitness by converting a vast expanse of land in to a sports complex with multiple amenities and sports equipment's. MGM's lush green and serene campuses are conducive to create a peaceful learning atmosphere.

Service to society at the grass root level has been the basic vocation of the Trust along with education. The Trust has been instrumental in providing prompt and efficient health care services to the economically weaker sections of the society. The Trust



hospitals and Medical colleges underscore its commitment to human resource development and social health and welfare. The Trust has made phenomenal progress under the able leadership of the founders led by Chairman, Hon. Shri. Kamal Kishore Kadam, Ex-Education Minister, Maharashtra Government. All the founder members are hard core academicians and visionaries inspired by Late Shri Nanasaheb Kadam, an ardent follower of the Gandhian ideology.

The recipient of International Environment Trophy, MGM continues its journey, imparting value based services, creating global technocrats and health care personnel.

1.2.1 Vision

- ✚ To ensure sustainable human development that encourages self-reliant and self-content society.
- ✚ To promote activities related to community services, social welfare and also Indian heritage and culture.
- ✚ To inculcate the culture of non-violence and truthfulness through vipassanna meditation and Gandhian Philosophy.
- ✚ To develop the culture of simple living and high thinking.

1.2.2 Mission

- ✚ To impart state of art education and technical expertise to students and give necessary training to teachers to create self-reliant society for future.
- ✚ To encourage students to participate in Indian and International activities in sports, literature, etc. so that future generation becomes base for free and liberal society.
- ✚ To educate students in areas like Management, Finance, Human relations to inculcate philosophy of simple living and high thinking value of simple economic society.
- ✚ To inculcate culture of non-violence and truthfulness through Vipassana.
- ✚ To sustain activities of Indian culture (viz. classical dance, music and fine arts) through establishing institutes like Mahagami, Naturopathy, etc.



1.2.3 The Beginning

On 2nd October 1982, a team of young engineers and doctors from Nanded district set for a new journey; a journey that was focused at realizing a wider meaning of education, knowledge, humanity and existence. The team started its journey in a modest way by setting up a health care center at village Nila, 11 kms away from Nanded. There were no health care and education facilities in this marginalized region, hence the newly started health care center was able to offer services to the village population and even to the patients from the adjoining regions.

An apt way to celebrate Gandhi Jayanti, the birth anniversary of Mahatma Gandhi and also a very thoughtful gesture of respect and gratitude to their father Shri Nanasaheb Kadam, a devout Gandhian; this was rather a beginning of a long, persistent and intense movement. Two months later, the desire to provide health care services and empower the people through education took a concrete shape in the form of Mahatma Gandhi Mission.

1.2.4 Journey

For more than three decades, Mahatma Gandhi Mission (MGM) has blazed a trail of academic excellence and state-of-art health care services. A strong, dynamic institution that keeps pace with the demands of the modern world, prominent locations and excellent education facilities makes MGM worthwhile and an exciting choice for education.

This organization is devoted to work for high standards in specialized academic field with primary objective of post-graduate education, instruction and training in various branches of learning, research for the advancement of knowledge and building up sound character. Health care, social services and research activities are also our prominent features.

The Mahatma Gandhi Mission trust is headed by eminent personalities from diverse field. The members are very well known for their social contribution to the society.

The members of the trust are as under;



Sr. No.	Name of the Trusty	Designation
1	<i>Shri. Kamal Kishore Kadam</i>	Chairman MGM Trust and Chancellor, MGM IHS Navi Mumbai
2	<i>Dr. P. M. Jadhav</i>	Vice Chairman
3	<i>Shri A. N. Kadam</i>	Secretary
4	<i>Shri Pratap Borade</i>	Treasurer
5	<i>Dr. S. N. Kadam</i>	Member
6	<i>Dr. N. N. Kadam</i>	Member
7	<i>Shri Ujwal Kadam</i>	Member





Introduction Of MGMIHS

2.1 Introduction of MGM Institute of Health Science

The Deemed to be University status was conferred by UGC under Section 3 of UGC at 1956 on 30 Aug. 2006 to the Institutions namely MGM Medical College, Navi Mumbai and MGM Medical College, Aurangabad which were established in the year 1989 and 1990 respectively with permission of government of Maharashtra. The MBBS and Postgraduate Courses (MD/MS/PG Diploma) of the Colleges under reference as above have been recognized by Medical Council of India from time to time.

2.2 Constituent Colleges/ Institute of MGM Deemed University

At the inception, the MGM Deemed University of Health Sciences has following approved Campuses;

-  MGM Medical College, Navi Mumbai
-  MGM Medical College, Aurangabad

Consequently, MGM Deemed to be University sought permission to start Nursing, Physiotherapy and other Biomedical Courses, which are allied to the core specialization of, have been started by the University.

MGM's Medical College was established in the year 1990 in a campus over 44 acres land. The Medical College is recognized by MCI since 1996 and is presently a constituent part of the MGM Institute of Health Sciences. The Institute is NAAC, NABH &



NABL accredited is rated among the top 40 Medical Colleges in India according to the India Today's survey.

2.3 Vision of the Deemed University

MGM Institute of Health Sciences aims to be a top ranking center of Excellence in Health Science Education, Health Care and Health Research.

2.4 Mission of the Deemed University

Students graduating from the Institute will have the required skills to deliver the quality health care to all sections of the society with compassion and benevolence, without prejudice or discrimination at an affordable cost.

As a Research Centre, it shall focus on finding better, safer and affordable ways of diagnosing, treating and preventing diseases. In doing so, it will maintain highest ethical standards.

Moto: To wipe every tear from every eye- Mahatma Gandhi

2.5 Hospital Complex

Hospital Complex includes;

- a) Administrative Block
- b) Academic Block
- c) Emergency Medical Services including Casualty
- d) Out Patient Department (OPD) with Multi - Specialty Clinical Departments
- e) In Patient Department (IPD)
- f) Intensive Care Unit (ICU)
- g) Critical Care Units

Distribution of Hospital Beds; General Beds

Sr. No	Name of Critical Care Unit	No. of Beds
1	Medicine Ward	150
2	Paediatric Ward	90
3	Dermatology Ward	30
4	Pulmonary Medicine Ward	30
5	Psychiatry Ward	30
6	Surgery Ward	150



7	Orthopedics Ward	90
8	Ophthalmology Ward	30
9	ENT Ward	30
10	OBGY Ward	90
11	Emergency Medical Services	30
12	Nephrology Ward	20
13	Urology Ward	20
14	Plastic Surgery Ward	20
15	Cardiology Ward	20
16	CVTS Ward	20
Total General Beds Including Charity Beds		850

Distribution of ICU Beds;

Sr. No	Name of Critical Care Unit	No. of Beds
1	MICU	13
2	SICU	13
3	EICU	8
4	OBGY- ICU	5
5	KT ICU	3
6	CCU	13
7	PICU	5
8	NICU	14
9	Dialysis Beds	10
10	MJPJAY ICU	5
	MCRI ICU	13
Total		102

Hospital Department includes;





- EMS Casualty Department* with Emergency Medical Services. 30 bedded Crisis expansion ward with 24 hours Ambulance service, Mob. No. 9923818181 and 9764999447.
- Radiology Department* with facility for CT scan, MRI 2D Echo, Ultrasound, Colour Doppler, Mammography and Interventional Radiography.
- Pathology Department* and Central Lab with state of the art lab equipment's like the Automatic Chemistry Analyzer, ABG machine and Automated Immuno Assay System.



- d) *Well-equipped Blood Bank*: FDA Approved with facility for Blood components.
- e) *Ten modern Operation Theaters* along with SICU, including OT for advanced Endoscopic Surgery, Joint Replacement Surgery and Ophthalmic Surgery.
- f) *Ophthalmology Department* with facilities for Retinal Angiography, Automated Perimeter, Diode Laser, Fundus Camera, Phaco Machine with Vitrectometer.
- g) *ENT Department* having facility for Micro surgery for Ear, Endoscopic sinus surgery along with total Audiology setup.
- h) *Orthopedic Department* with facilities for Arthroscopy, Endoscopic spinal surgeries and joint replacement surgery.
- i) *Obstetrics & Gynecology Department* with well-equipped Labor room, Maternal and child care units.
- j) *Pediatric Department* with PICU, NICU under Neonatologist.
- k) *Dermatology Department* with facility for hi - tech cosmetic surgery.
- l) *Endoscopy Department* with latest scopes. Including Gastroscope, Duodenoscope, Colonoscope, Bronchoscope and Arthroscope.

2.6 Program

MGM's Medical College and Hospital, Aurangabad is a constituent college of the MGM University of Health Sciences, Navi Mumbai and offers the following courses;

 M.B.B.S intake capacity	: 150
 PG intake capacity	: 72
 Super Speciality Intake	: 05
 Fellowship Intake	: 14



Objectives Of Study

3.1 Objectives of Study

The main objective of the audit is to promote the Environmental Management and Conservation at college and hospital campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of environmental sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying of audit are;

- a. To introduce and ware all stake holders to real concerns and its sustainability
- b. To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.

3.2 Methodology

In order to perform the audit, the methodology included different tools such as preparation of physical inspection of the campus, observation and appraisal of the documentation and data analysis, measurements and recommendations.

The audit covers following facets of the environment.

- ✚ Water Environment
- ✚ Air Environment
- ✚ Solid and Land Environment
- ✚ Energy Environment
- ✚ Safety and Health Environment
- ✚ Social Environment



Environmental Components

4.1 Present Infrastructure & Area

The institute has been spread over area of 44 acres and the area distribution is as below;

Sr. No.	Details	Area in SQM
1	Total plot area	178062.00
2	Total construction area	50050.87
3	Area of parking	7,318.08
4	Area of Road	1,713.98
5	Area of Utility	1,158.74
6	Area of green belt	2,381.11
7	Area of open space	115439.22

The layout of the campus showing all details is enclosed as [Annexure II](#)

The facility is well planned as per standard architectural norms providing adequate wide roads, open spaces, green spaces and adequate parking facility.

The campus has provided a dedicated multilevel parking facility for vehicles of staff, students and visitors. The total parking provided in the campus is as below;

- ✚ Multilevel Parking : Two Wheeler – 700 Nos., Four wheeler -120 Nos.
- ✚ Front Office Parking : Four wheelers – 60 Nos.
- ✚ MCRI Parking : Two Wheeler – 300 Nos., Four wheeler -120 Nos.
- ✚ Basement Parking at Gate no. 9: Two Wheeler – 800 Nos., Four wheeler -100 Nos.



Photographs No. 1.1 Parking Facility Provided by MGM

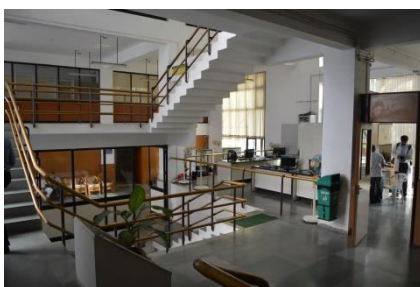




The institute has state of art infrastructure with special facilities like;

Advanced Laparoscopic Surgeries, Advanced Therapeutic Endoscopy, Hepato-Pancreatico-Biliary Surgery, Urology, Plastic Surgery, Cardiovascular Thoracic Surgery, Pediatric Surgery, Neuro Surgery, Onco Surgery, Orthoplasty (Joint Replacement Surgeries), Orthoscopy (Arthroscopy), Hemato-oncology, Pediatric nephrology, Pediatric cardiology, Critical Care Medicine, Obstetrics and Gynecology (including high risk Obstetrics), Pediatric Ophthalmology & ROP Clinic (Retinopathy of Prematurity), Anterior Segment Glaucoma & retina OCT (Optical Coherence Tomography), Comprehensive Glaucoma Clinic, Pulmonary Function Test –Diffusing capacity of the lung for carbon monoxide(PFT-DLCO), Electro convulsive Therapy (ECT), Immune-histochemistry, Urodynamics, Lithotripsy, Sleep Studies, Organ Transplant Unit, Dialysis and Interventional Radiology.

Photographs No. 1.2 General Infrastructure & Facility provided by MGM





4.2 Water Environment

Water Pollution has assumed alarming proportions. It has emerged as one of the most serious environmental threats in India. Both domestic and industrial reasons are contributing to this problem. Excessive use of soap, soda, bleaching powder, detergent or acids at home and chemicals in the industries are primarily responsible for water pollution. Urban sewage and industrial waste flows into the water sources without treatment. Despite all efforts of the Government in cities and towns, only 10 per cent of the total waste water is treated and rest of polluted material directly flows into ponds, rivers and ocean.

Polluted water leads to the worst effect on human health. According to the World Health Organization (WHO), every year due to contaminated water 50 million persons become the victims of death. About 360 persons per one lakh die in India and over 50 per cent patients getting admitted in hospitals are the patients of water borne diseases. The situation in underdeveloped countries is even worse where over 80 per cent of the patients are suffering from the diseases born out of polluted water.

Microbes, toxins and water containing unnecessary amounts of salts give rise to many diseases. Around the globe, more than 80% of water borne diseases are due to contaminated water. As per an estimate, almost 2.5 million people in over 34000 villages of India are suffering from cholera. Millions of tribal villagers in Rajasthan are suffering from various diseases due to drinking dirty water from the ponds. Contaminated water contains a variety of disease-causing bacteria that results in several types of ailment.

According to the scientists, a large number of diseases in India can be attributed to drinking of sewage mixed water. Various diseases like polio, cholera, patches, jaundice, fever, viral fever etc are spread through polluted water. Polluted water contains lead which when consumed by the humans while drinking water leads to producing various ailments such as joint pain, kidney disease and heart disease in them.

The waterborne diseases are infectious which spread primarily from polluted water. Hepatitis, cholera, dysentery and typhoid are the common waterborne diseases, which affect the majority of tropical area. Apart from diarrhea, and breathing problems, drinking polluted water causes skin diseases. If the polluted water gets stagnated, it becomes a breeding ground for mosquito and many other parasites which are very common in tropical areas.



Children often get sick if they drink polluted water and sometimes they even die due to intensity of the diseases. As per an estimate, 13 children die per hour in India, due to diarrhea caused by contaminated water.

Polluted water is like poison for human beings. Large amounts of chloride in drinking water deform the spine which becomes snaky and their teeth go yellow, start falling and moreover their hands and feet lose flexibility of the bones and their body deforms. It also increases the risk of kidney diseases. A large amount of sulphide in polluted water is the reason of various respiratory diseases and drinking water contaminated with urea increases intestinal disorder. Thus continuous intake of contaminated drinking water is the reasons behind various stomach related disorders and other diseases like lumps in throat, tooth decay, etc.

The factors causing most harm to human health through contaminated water are pathogenic microbes. Based on these, diseases generated by contaminated water are divided into the following main categories:

- ✚ By virus – Jaundice (Yellow Fever), polio, gastroenteritis, common cold, infectious liver Sod, and smallpox.
- ✚ By bacteria – Diarrhea, loose motions, paratyphoid, high fever, cholera, whooping cough, gonorrhea, syphilis, gastroenteritis, dysentery, and tuberculosis.
- ✚ By protozoa – Diarrhea, dysentery, narcolepsy (epidemic encephalitis), malaria, amoebiasis, and giardiasis.
- ✚ By worm – Filariasis, hydatid cyst and a variety of worm disease (various types of stomach worms).
- ✚ Leptospirosis disease – In addition to organisms that cause disease in our body, various types of toxic substances harm our health reaching our body through water. The main toxic elements among them include cadmium, lead, nickel, silver, arsenic, etc.
 - a) Excess quantities of iron, manganese, calcium, barium, chromium, copper, cilium, boron, and other salts such as nitrate, sulphate, borate, carbonate, etc in water have adverse effects on human health.
 - b) The excess of magnesium and Sulphate in water irritates the intestines.
 - c) In children, the excess of nitrate leads to the disease methemoglobinemia and generates stomach cancer by reaching the intestine.
 - d) Fluorosis is a disease caused by excess of fluorine.



- e) Excess level of mercury in fish is dangerous especially for small children and pregnant women or nursing women. It interferes with the central nervous system development in the fetuses and young children.

Water pollution is dangerous for all life forms in this universe. Pollution of water leads to several illnesses. To protect human beings, plants and other life forms, it is urgent to find out the solution of water pollution and collective efforts by individuals, society and the government are required to achieve this aim.

4.2.1 Water Requirement

The hospital and hostel need fresh water for various purposes like domestic use, cooling water make up, pathology laboratory, green belt maintenance, washings, laundry etc. The water is sourced from Aurangabad Municipal Corporation.

Water Requirement on daily basis: The campus includes college, hospital, hostel, canteen etc. and the total water requirement is about 697 cum/day on peak load capacity. However as of now as per records the water consumption is only 425 cum/day. The water consumption figures for the last one year are enclosed as [Annexure III](#).

4.2.2 Source of Water

Source of water is from Aurangabad Municipal Corporation and in case of non-availability the water is purchased through tankers from reputed agencies.

4.2.4 Man Power

The total manpower of the campus includes In-house Patient's, OPD Patients, Students, Staff, Faculties, Causal / Skilled / Unskilled workers, Permanent Hostel Residents, visitors etc. It is estimated that total manpower visiting the campus is @3000 numbers.

4.2.5 MPCB Approval

The hospital has received consent to operate under water Act 1974, Air Act 1981, Authorization under rule 5 of the Hazardous Wastes (M, H & T M) rules 2016 and Biomedical Waste Management rules 2016 from Maharashtra Pollution Control Board (Ref. Number Format 1.0/BO/UAN No. 62150 / CAC-1906001274 dated 25th June 2019 valid up to 31st Dec 2023). The copy of same is enclosed as [Annexure IV](#). As per the permission the quantities of sewage and effluent generation are as under;



- + Quantity of trade effluent : 22 cum/day
- + Quantity of Domestic Effluent : 540 cum/day

4.2.6 Trade & Domestic Effluent Treatment Facility

Treatment Plant: The hospital has provided state of art sewage and trade effluent treatment plant for following capacities.

- + Trade Effluent : 30 cum/day
- + Domestic effluent : 600 cum/day

The treatment Description is as under;

A] Trade Effluent: The trade effluent is mainly from pathology laboratory, laundry, operation theaters and other sources than the domestic effluent. The trade effluent is passed through a common drainage line and through coarse screen followed by oil and grease trap. The free and floating materials are collected from the screen chamber and disposed off as per the regulation. The oil skimming from the oil and grease trap are collected manually and disposed off as per regulation. The effluent then is collected in a collection tank and fed to the primary treatment unit comprising of flash mixer and settling tank. A dose of alum is added for enhancement of settling of solids in the settling tank. The sludge removed from the settling tank is discharged to sludge drying beds for natural drying. The dried sludge is disposed off to the CHWTSDF. The overflow of the settling tank is added to the MBBR tank of STP for further treatment. The treated effluent meets to the norms laid down by regulatory authorities. The management is carrying out 3rd party testing for trade effluent and domestic effluent and the same is enclosed as [Annexure V](#).

B] Domestic effluent: The raw sewage from various sources like toilets, canteen, hotel etc. are collected through a common drain line and collected in a collection tank. The raw sewage is then pumped to screen chamber and oil and grease trap for removal of screenings and free and floating oil. The screenings and oil skimming are disposed off as per the regulatory norms. The overflow of the oil and grease trap is taken to MBBR (Moving Bed Biological reactor). The MBBR tank is provided with PVC fill media and diffused aeration system for biological treatment of sewage. The microorganisms are grown on the PVC fill media in the form of colonies and consume BOD from the sewage as their substrate. The air supplied from twin lobe type air blowers through the fine air bubble diffusers shall act as an energy source for microorganisms.



The overflow of the MBBR tanks is being taken to secondary clarifier to remove the clogged colonies of microorganisms from the PVC fill media. The overflow of secondary clarifier is collected in an intermittent tank and pumped through a pressure sand filter. The filtered water is stored in a treated water tank and a dose of sodium hypo chloride is added to same for disinfection of sewage. The treated sewage is used for green belt development, cooling tower make up etc.

The schematic diagram of ETP and STP is enclosed as an [Annexure VI](#)

Third party certification of treated sewage and effluent: The untreated and treated trade and domestic effluents are tested on monthly basis through third party which is NABL and MOEFCC accredited. A copy of report is enclosed as an [Annexure V](#).

Photographs No. 1.3 Trade & Domestic Effluent Treatment Facility





4.3 Storm Water Environment & Rain Water Harvesting

Storm water is any water running off a land surface before it reaches a natural water body. It occurs when the rate of precipitation is greater than it can infiltrate, or soak, into the soil. Runoff also occurs when the soil is saturated. Runoff remains on the surface and flows into streams, rivers, and eventually large bodies such as lakes or the ocean. Movement of this storm water across the soil causes erosion. It can also carry and deposit untreated pollutants, such as sediment, nutrients and pesticides, into surface-water bodies. Impervious surfaces such as driveways, sidewalks, and streets block rainfall and other precipitation from infiltrating naturally into the ground, leading to even more storm water and potential pollutant runoff.

The average rainfall in the region is 700 mm and the storm water management system is designed for peak rainfall of 100 mm. The campus has provided 2.0m wide and 1.5 m deep trenches along the boundaries of the campus which are connected to the natural drainage outside of the campus. All roads and internal drains are connected to these storm water drains. All water on plain area and roofs is diverted systematically to these drains through the internal network of smaller drains of 0.5 M wide x 0.5m wide drains. The network of drains ensures that there is no flood like situation in the campus during peak rainfall.

Rainwater harvesting offers a small-scale best management practice to reduce storm water runoff and the problems associated with it. By harvesting the rainfall and storing it, you can slowly release the water back into the soil, either through irrigation or direct application. The water then moves into groundwater table, providing a steady supply of water to local streams and rivers.

The campus has topographic slope in the North and North West side and for collection of rain water storm water drains are provided as mentioned above. The rain water harvesting is done by construction of two deep percolation well having 3.0m diameter and 6.5m depth

The campus has provided two open wells and both wells are connected with horizontal bore to equalize the water level during the pumping. The percolated water is stored in another well of 4000 KL capacity.

The stored water is used for landscaping, play fields and tropical forest through drip irrigation system.

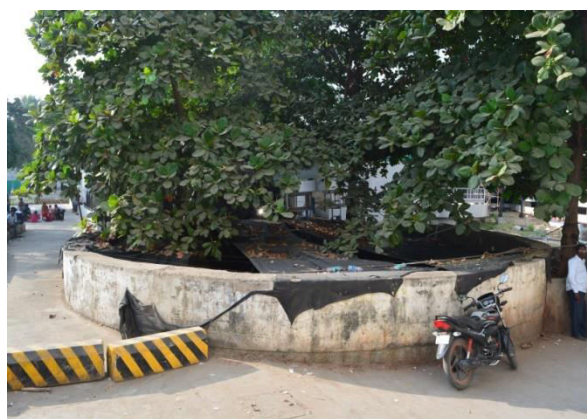


The open channel excess water is collected in two number of open lakes of two different locations on adjoining property of MGM trust. The lakes are covered with synthesis / bio synthesis plant for prevention of atmosphere evaporation. These lakes allow water to recharge in surrounding area to prevent erosion and provide organically rich fertile soil and landscape. This water harvesting system is utilized for all 17.5 ha MGM campus providing perfect ecological balance and oxygen pool to surrounding neighborhood.

The actual resultant of the system is honored appreciation of the trust from His Highness President of India.

The work done for rain water harvesting and storm water management under supervision of M/s Space Forum Architects Pvt. Ltd. The certificate and drawing in this respect is enclosed as [Annexure VII](#).

Photographs No. 1.4 Rain Water Harvesting in MGM



4.4 Air Environment

For the hospital campus the indoor as well as outdoor air quality is very important. The outdoor air quality shall depend on levels of dust, traffic, greenery, quality of roads, level of air pollution due to other sources nearby etc.

The immediate effects of poor outdoor air quality are hard to ignore. Watery eyes, coughing and difficulty breathing are acute and common reactions.



An estimated 92 percent of the world's populations live in areas with dangerous levels of air quality and even at seemingly imperceptible levels; air pollution can increase one's risk of cardiovascular and premature death.

Consistent poor air quality during pregnancy has been linked to miscarriages as well as premature birth, autism spectrum disorder and asthma in children.

Poor air quality may damage children's brain development, and pneumonia, which kills almost 1 million children under the age of 5 every year, is associated with poor air quality resulting from air pollution. Children who breathe in higher levels of pollutants also face a greater risk of short-term respiratory infections and lung damage.

Other conditions associated with high levels of poor air quality include emphysema and chronic bronchitis, as well as lung cancer.

Pollutants can affect cardiovascular health by hardening the arteries and increase the risk of heart attack and strokes, and there is even emerging evidence that air pollution may be linked to mental health conditions and degenerative brain diseases such as Alzheimer's disease, Parkinson's disease and schizophrenia

4.4.1 Effects of poor Air Quality on Human Beings

While poor air quality due to air pollution's link to respiratory disease may seem obvious, its relationship to heart, brain and fetal health is less so.

When the toxic soup of chemical particles and liquid droplets emitted by cars, power plants, fires and factories known as particulate matter is inhaled, the microscopic toxic dust can irritate nasal passages and result in an allergic-type response to the pollution, with symptoms like coughing and a runny nose.

Scientists believe that as the particles make their way deeper into the airways and into the lungs, the body may mistake it for an infection, triggering an inflammatory response.

"When you have a bad head cold, you feel sick everywhere and your muscles might ache," Gerber said. "The same thing can happen when you breathe in pollution."

Scientists also suspect that some toxic particles can escape the lungs and enter the bloodstream.



4.4.2 Ambient Air Quality

The hospital campus does not have boiler, incinerator or any other source of continuous emissions. The hospital campus has however provided 3 DG sets of total 1950 KVA (2 of 600 KVA and One of 750 KVA) capacities each as a stand by in case of power failure. The DG sets are used only in case of emergency. The fuel required for DG set is HSD (375 lit/hr) and DG sets are provided with acoustic enclosure and stack of adequate height. In order to maintain ambient air quality as per norms laid down by Central Pollution Control Board following precautions are taken by the management;

- ✚ Roads inside campus are tarred and concreted.
- ✚ Well-developed green belt is maintained.
- ✚ Roads are frequently cleaned and watered.
- ✚ Any civil work / repair work is done with proper cladding.
- ✚ Material movement is done in closed trucks.
- ✚ Only PUC certified vehicles are allowed in the campus.

The hospital campus in collaboration with Central Pollution Control Board is setting up continuous online ambient air quality monitoring station.

Photographs No. 1.5 DG Set with adequate Stack Height





4.4.3 Indoor Air Quality

Hospitals are the places we visit to get treatment in the case of any health-related issues. However, we often ignore that hospitals are also the host to many types of air pollutants hence causing airborne infections, commonly referred to as "Hospital Acquired Infection" [HAI].

Poor Indoor Air Quality inside healthcare facilities is more harmful as compared to bad indoor air of any other place, like hotels or workplaces as other than dust and other pollutants, it involves hospitals and pharma related chemicals, and various types of known and unknown bacteria and viruses responsible for spreading cross infections.

According to the World Health Organization, at any given time over 1.4 million people across the globe suffer from a nosocomial or HAI (Hospital Acquired Infection). HAIs account for 2 million ailment cases and about 80,000 deaths a year.

Hence, it becomes really important for healthcare facilities to maintain the indoor air quality to safeguard patients, staff, caregivers and also the visitors from hospital-acquired infections. Before we dive into the solutions, let us first understand the main factors responsible for poor air quality inside healthcare facilities and where are they found;

1. Outpatient departments:

OPDs are the busiest areas in any hospital. Every day, average 1300 of patients visit for the first-hand check-up. Many of these patients are carriers of harmful bacteria and viruses and they are highly infectious because their medication hasn't even started. They all sit in the same room for hours and this might cause cross infection to others and also to the doctor and other staff.

2. Operation Theatres

Surgical care is one of the most crucial and integral parts of healthcare however, it is also associated with risks related to infections. Surgical site infections (SSIs) remain one of the most common causes of serious surgical complications in Healthcare Associated Infections (HAI) and one of the main factors for these infections is circulation of stale air and poor air quality.



3. Intensive Care Unit

Several patients are kept inside the Intensive Care Unit for observation and also to protect them from outside infection. A visit to by any outsider to ICU is often taken with precautions still the prevalence of HAI remains really high in ICUs. And, this influences the mortality and morbidity pattern of ICUs.

4. Maternity wards, Neo-natal and Pediatric ICUs:

Maternity wards and Pediatric ICUs can be breeding grounds of several infections and they affect mothers and infants at a time when they are most vulnerable.

5. Waiting areas and halls:

These are the places where people gather in large numbers and not all healthcare facilities are adequate enough to maintain cleanliness and proper air quality in these spaces, hence it enhances the risk of infections amongst visitor and caregivers.

6. Storage units

It is really important for the staff to maintain the hygiene of storing places because just the presence of fungi in hospital air is a matter of great concern as many spores can be released leading to an incidence of HAIs and occupational infections.

4.4.4 How to improve Indoor Air Quality?

The above are just a few examples of how the infection spreads through impure Air in Hospitals, clinics, diagnostics labs, IVF labs, etc. There are several other sources through which HAI can spread.

The hospital is taking following steps to improve the Indoor Air Quality.

- a. Presence of patients is the main reason for any hospitals for maintaining the IAQ but patients are also the major source of air contaminants, like bacteria, viruses and foul smell coming from the wounds and other infections. The facility staff comes in direct and immediate contact with patients so it is important for staff to use proper masks and gloves while handling patients and follow all hygiene protocol designated & facilitated for them.
- b. The hospital has awarded housekeeping contract to a very well-known and experienced agency in this field (Bharat Vikas Group). Protocols for housekeeping as



per the various departments of hospital are fixed and critically followed. The company carrying out these works is ISO certified and few documents related to protocols, check points, recruitment of staff for housekeeping are enclosed as [Annexure VIII](#).

- c. Adequate ventilation and illumination is provided as per standards.
- d. Proper humidity is maintained.
- e. HVAC system is provided to maintain proper quality in wards, operation theaters, and various departments.
- f. Differential Pressure controls are maintained as per standards.

The hospital maintains following standards of various measures to keep the indoor air quality as per norms. Following Air changes are maintained for various departments;

	Outdoor air	Total air	Outdoor air
Area	change rate	change rate	requirement
	ACH*	ACH	L/s/Person
Patient room	2	4	13
Operating theatre	15	15	15
Intensive care unit	2	6	8
Infectious isolation room	2	6	–
Protective isolation room	2	15	–
Laboratory	2	6	–
Delivery room	15	15	–

The Filtration systems are provided at various departments with following efficiencies;

Area	Filter	
	Pre-filter	Final Filter
Patient room	25–30%	90%
Infectious isolation room	25–30%	90%
Protective isolation room	25–30%	90–99.97%
Intensive care unit	25–30%	90%
Delivery room	25–30%	90%
Laboratory	80%	--
Operating/surgical room	25–30%	99.97% (90%Plus Additional)



Thus the hospital campus is taking proper care to maintain very good quality of outdoor as well as indoor air quality.

4.5 Waste Generation & Management

The hospital campus is generating various types of hazardous and non-hazardous solid wastes as under.

- ✚ Bio Medical Waste
- ✚ E Waste
- ✚ Municipal Solids Waste
- ✚ Non Hazardous waste like metal scraps, papers etc.

The hospital has also made SOP for condemnation of disposal of items wide Doc ref. SOP/MGM/FMS4 g. Under the said SOP detailed procedure is outlined for disposal of various items.

4.5.1 Biomedical Waste

The Ministry of Environment and Forests and Climate Change has published Biomedical Waste Rules in 2016 wide GSR 343 (E) dated 28th Mar 2016 and the same are subsequently amended in the year 2018 wide GSR 234 (E) dated 16th Mar 2018. The notification specifies the practice to be followed for disposal of biomedical waste and compliances to be made. The hospital has obtained authorization for bio medical waste from Maharashtra Pollution Control Board wide Ref. Number Format 1.0/BO/UAN No. 62150 / CAC-1906001274 dated 25th June 2019 valid up to 31st Dec 2023). The copy of same is enclosed as [Annexure IV](#).

- ✚ Bio-medical waste means “any waste which is generated during;
 - the diagnosis,
 - treatment or
 - immunization of human beings or animals or
 - in research activities or
 - in production or testing of biological and
 - Including categories as mentioned in schedule – 1”

Biomedical waste poses hazard due to two principal reasons;

- Infectivity and
- Toxicity.



✚ Bio Medical waste consists of;

- a. Human anatomical waste like tissues, organs and body parts
- b. Animal wastes generated during research from veterinary hospitals
- c. Microbiology and biotechnology wastes
- d. Waste sharps like hypodermic needles, syringes, scalpels and broken glass
- e. Discarded medicines and cytotoxic drugs
- f. Soiled waste such as dressing, bandages, plaster casts, material contaminated with blood, tubes and catheters
- g. Liquid waste from any of the infected areas
- h. Incineration ash and other chemical wastes

✚ Main groups at risk are:

- a) Doctors, nurses and paramedical workers
- b) Patients in health-care establishments
- c) Visitors to health-care establishments
- d) Workers in allied services e.g. laundry, waste handling and transportation and
- e) Workers in waste disposal facilities (including rag pickers)e.g. landfills and incinerators

✚ Health Hazards of Healthcare Waste;

A] Hazard from infectious waste and sharps

- HIV
- Hepatitis B
- Hepatitis C
- Antibiotic resistant bacteria

B] Chemical and pharmaceutical waste

- Corrosive
- Burns
- Explosives



C] Genotoxic waste:

- Toxic manifestations depend upon
 - Substance toxicity
 - Amount exposed to and
 - Time period of exposure

D] Radio – active waste

- Headache, dizziness and vomiting after small exposure
- Serious health problems if exposure is high

E] Public sensitivity:

- Public is very sensitive to the visual impact of health care waste
- Especially anatomical waste

F] Hazard from infectious waste and sharps

- HIV
- Hepatitis B
- Hepatitis C
- Antibiotic resistant bacteria

G] Chemical and pharmaceutical waste

- Corrosive
- Burns
- Explosives

✚ Need of biomedical waste management in hospitals

The reasons due to which there is great need of management of hospitals waste such as:

- a. Injuries from sharps leading to infection to all categories of hospital personnel and waste handlers
- b. Nosocomial infections in patients from poor infection control practices and poor waste management.
- c. Risk of infection outside the hospital for waste handlers and scavengers and sometimes general public living in the vicinity of hospitals.



- d. Risk associated with hazardous chemicals, drugs to persons handling wastes
- e. "Disposable" being repacked and sold by unscrupulous elements without even being washed.
- f. Drugs which have been disposed of, being repacked and sold off to unsuspecting buyers.
- g. Risk of air, water and soil pollution directly due to waste, or due to defective incineration emissions and ash.

BMW Management

The biomedical waste from the hospital campus is categorized in four categories as per the BMW rules. The waste arising out of various departments is sorted out and stored in dedicated containers with Yellow, White, Red and Blue color. The waste is further stored and classified as per Categories mentioned in BMW rules. The category wise waste is weighted and documented. The waste is daily collected by the Authorized facility operator for scientific disposal. The records of daily waste generation and disposal are maintained by the concerned department. A system of gate pass is maintained at the time of handling over waste to the Authorized representative of facility operator. A sample copy of documentation maintained is enclosed as [Annexure - IX](#). The Biomedical waste is stored in the dedicated area which has access to authorized personnel only.

Photographs No. 1.6 Biomedical Waste Management in MGM





4.5.2 E- Waste

Electronic waste (e-waste) is when electronic products that have come towards the end of their “useful life.” Electronic waste has detrimental effects on our environment, the health of humans and animals. Recycling of used electronic devices is important to make sure that we are protecting the environment. Following are 5 reasons why electronic waste is such a problem:

1] Electronic waste keeps growing and growing: Today people are buying more and more electronic devices and the electronic devices are being retired faster. In case of hospital campus of various types of electronic equipment's are used for diagnostic purpose and the same are needed to be disposed off due to replacement for up gradation of due to end of life or failure. The hospital uses various electronic equipment's like ventilator, ventilator display monitor, blood cell counter, multipara monitor, cautery machine, ABG machine, ECG Monitor, LCD displays etc.

2] Environmental effects of e-waste: The toxic materials from electronic devices are released into bodies of water, groundwater, soil and air, affecting both land and sea animals. When you throw out your e-waste they wind up in landfills, causing toxic materials to seep into groundwater. When e-waste is warmed up, toxic chemicals are released into the air damaging the atmosphere.

3] Tons of e-waste is shipped overseas: Much of this is left in junkyard which pollutes the environment or is burned for scrap by people. Informal recycling markets in China, India, Pakistan, Vietnam, and Philippines handle anywhere from 50 percent to 80 percent of the world's e-waste. In Guiyu, China, one of the largest electronic waste landfill sites in the world. When electronic devices are dumped in these developing countries the impact is detrimental to the environment of the country and the health of the people.

4] Health implications of electronic waste: Computers and most electronics contain toxic materials such as lead, zinc, nickel, barium and chromium, specifically with lead, if released into the environment can cause damage to human blood, kidneys, as well as central and peripheral nervous systems. Residents of Guiyu, China exhibit substantial digestive, neurological, respiratory and bone problems. The impact of electronic waste is detrimental to the health of the people in these developing countries.



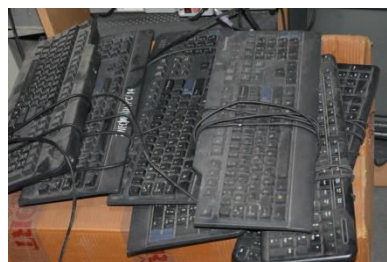
5] Electronic waste and data security: One should be concerned with where their electronic equipment is going after disposal because they are worried about sensitive data loss, identity theft, consumer scams, data breaches and loss of integrity. These are just a few of the problems that can be caused by not properly disposing of your electronic waste due to people stealing information from the hard drives in e-waste.

In order to have scientific management of E Waste the Ministry of Environment and Forests and Climate Change has published E Waste Management rules wide GSR 338 (E) dated 23rd Mar 2016 and the same are subsequently amended wide GSR 261 (E) dated 22nd Mar 2018. These rules makes every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational to meet the compliances as specified in these rules.

E-Waste Management

The management of the hospital campus has entered into agreement with M/s Green E-Bin Electronic Waste Solutions Pvt Ltd., for disposal of E Waste generated from the hospital and college campus. The said firm has valid consent to operate from Maharashtra Pollution Control Board wide reference number BO/MPCB/RO(HQ)/AD/CE/B-1806000425 dated 11th June 2016. The disposal of E Waste is documented by the concerned department giving all details of the equipment's to be disposed off like Name of Equipment, Serial Number, Model, Make and Quantity. A sample copy of same is enclosed as [Annexure X](#). The E Waste is handed over to the authorized recycler and E Waste Manifest (form -6) is prepared as per the rules of E Waste rules. A sample copy of manifest is enclosed as [Annexure XI](#).

Photographs No. 1.7 E- Waste Management in MGM





4.5.3 Municipal Solid and Other Wastes Management at MGM Hospital Campus

The ministry of Environment and Forests and Climate Change has published notification for handling of Municipal and other solid waste wide GSR 1357 (E) dated 8th Apr 2016 which apply to every urban local body, outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbors, defense establishments, special economic zones, State and Central government organizations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time and to every domestic, institutional, commercial and any other nonresidential solid waste generator situated in the areas except industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986.

The hospital campus generates various types of waste like food waste from canteen and mess, lawn cuttings, tree leaves, papers, metal scrap of various types, waste material etc. These wastes are segregated into various categories like bio degradable and non-biodegradable. A dedicated area is marked for storage of these types of wastes. Only authorized persons are allowed to enter the same.

The biodegradable waste from the whole campus consisting of food waste, tree leaves, lawn cuttings is estimated to be 600 to 700 kgs/day. The said waste is converted into bio compost by use of 7 tank process. Special microbial culture is used for accelerating the bio composting process.

The process of bio compost is invented by *Padmashri late Dr. R. T. Doshi* and it has been modified and enhanced by *Dr. R. R. Deshpande* using bio-culture and biocatalyst developed by BERI Pune. It is a self-operating and self-improving system and producing enriched compost.

The bio compost is used as manure for green belt in the campus. Other waste is segregated as per the category and is sold to authorized recycler. The records of waste disposed are maintained by the stores department.



Photographs No. 1.8 Bio-Composting (Clean India Initiative)





4.6 Energy Environment

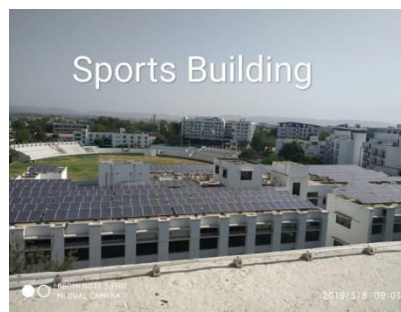
Electricity in hospitals is used for wide variety of purposes like lighting, cooling/heating equipment, air compressors, water pumps, fans, laundry, kitchen, medical equipment's, ovens, etc. The hospital and college campus is presently buying electricity from Maharashtra State Electricity Distribution Co. Ltd. The hospital campus has sanctioned load of 1200 KW and connected load of 600 KW. The average monthly unit consumption is 200,000 units.

Energy Conservation / Use of Non-Conventional Energy Sources

The hospital campus has made power purchase agreement for Solar power with M/s Agro Solar Power Pvt. Ltd. For settling up of 1500 KW grid connected Rooftop Solar PV Power project under BOOT model. The implementation of solar power generation has started since Aug 2018 and till this month end the average power generation for solar power is @70000 units/month. This shall result in saving of @42000 kg of emissions of CO₂.

This shows the commitment of management towards sustainability. The [Annexure XII](#) shows the units consumption from electricity sourced from MSDCL and from own solar power grid.

Photographs No. 1.9 Solar System Installed at MGM





✚ Following energy conservation measures are undertaken by the management;

- a) Maximizing usage of natural light during the day through passages and corridors;
- b) Turning off office equipment, fans and air-conditioners during unoccupied hours;
- c) Educating people about reasonable and efficient usage of water heaters and other electrical appliances;
- d) Plugging air leakages in air-conditioned rooms such as office spaces, operation theatre;
- e) Turning off water pumps when the tanks filled up
- f) Catchy campaigns that made use of easy to remember slogans;
- g) Use of various communication tools such as posters at strategic locations to inform staff of the steps that can be taken to conserve energy and minimize wastage
- h) Installation of Lighting controls including timers and occupancy sensors
- i) Use of Variable Speed Drives (VSD)
- j) Upgrades to Heating Ventilation Air-Conditioning and Cooling (HVAC) – Dampers, actuators and controls
- k) Voltage Regulation Units (VRUs)
- l) Demand response management
- m) Building Automation
- n) Building sealing

4.7 Safety and Health Environment

Hospitals are representative of complex environment in which different aspects including patients, staff, equipment, services, and information are interfaced. Maintaining a safe environment with respect safety and health reflects a level of competent healthcare that must be fulfilled for patient safety. In this context, the clinical engineer plays an important role in providing safe environment within hospital.



Fire Safety

Following provisions have been made to deal with fire safety.

- a. Provision of Full fledge fire detection, fire hydrant and fire extinguisher's system as per the requirement. Aurangabad Municipal Corporation has issued Final Fire NOC to the campus wide their letter dated 21 Mar 2017 with Ref. number AMC/FIRE/1184/2017. The same is enclosed herewith as Annexure.
- b. Disaster Management Plan for the whole campus is in place. (Ref. Doc No. – MAN/MGM/COP 4 dated 19 Nov 2016)
- c. Regular fire drills and trainings are undertaken and records are maintained. A copy of sample record is enclosed as [Annexure XIII](#).
- d. Fire escape plan are made and are displayed at various locations. The fire exits are well defined and end on the ground floor or refuge area or any safe place decided by the management. The Fire Signage's are appropriate and placed at the right locations. Emergency fire signage's are glow in dark signage's. The Fire Signage's are visible and are bilingual, with one local language. The egress routes are free from any materials that would cause hindrance in the evacuation. The Fire Doors have a proper fire rating and open outside.
- e. The campus has implemented Code Red 5555 system for fire emergency
- f. All the equipment have an organized preventive maintenance schedule that is recorded and stickers put on the computer showing the date of preventive maintenance check and the next time for maintenance. Fire systems are regularly checked and the records are made by Fireman. A sample copy of records is enclosed as [Annexure XIV](#).
- g. A plan showing locations of fire hydrants / fire extinguishers is displayed at prominent location.
- h. The appropriate type and several fire extinguishers have been installed according to the kind of fire that could take place like Kitchen, MRI, Electrical room, data centre area The Fire Extinguishers have a regular preventive maintenance schedule and stickers are put showing the date of checking and the next scheduled date for verification. Approx. 10% of Fire Extinguishers are used every year for checking the same. Fire extinguishers are regularly checked and replenished before the expiry period. A contract with the competent agency is made for same.



- i. A multidisciplinary safety committee is formed, with a senior person as the chairman of the safety committee. The safety committee meetings are held at least once in 3 months.
- j. The organization has appointed Fire Safety Officer-in-charge of all concerns related to Fire Prevention & Safety.
- k. It also has a written plan for Fire Prevention and Safety and has a Fire Safety Manual approved by the safety committee.
- l. It also has an Emergency Command Centre that becomes functional immediately whenever there is an emergency. There are a written protocol and written constitution for the committee. The Fire Command Centre is also updated with the name of the members. A designated person has the responsibility of informing all the Emergency Command members.
- m. The HVAC system has appropriate fire dampers to prevent the spread of the fire that functions correctly in case of fire. The dampers are tested and have a regular preventive maintenance schedule.
- n. Gas cylinders and medical oxygen cylinders are secured and stored properly. Medical oxygen monitoring system is in place.

Patient and Staff Safety

The hospital has well laid SOP for patient and staff safety. (Ref. Doc No. : PGM/MGM/CQI 2, dated 19th Dec 2016). The document covers following important aspects;

- a. Defining Policy
- b. Formation of Safety Committee
- c. Defining role of committee.
- d. Monitoring of sentinel / adverse events and near misses.
- e. Staff safety related to prevention of HAI
- f. Environmental safety aspects covering smoking limitation policy, patient safety, facility building and installations.
- g. Various safety related SOP's like Smoking Limitation Policy, Radiation Safety Program, safety in pathology and Microbiology labs, management of hazardous material , safety related to medical gases, needle handling policy, disinfection and decontamination protocols and incident reporting are in place.
- h. Safety related quality indicators are fixed for various mock drills, incidences of falls in hospital, number of sentinel events and critical equipment down time.



Photographs No. 1.10 Fire Fighting System at MGM





Radiation Safety

Radiation protection is a public health issue for a number of reasons. First, health effects of radiation are not unique. Second, individuals have only a limited ability to structure or control their own environment. Although radiation exposure awareness has increased among the general public, there is still very little monitoring of cumulative radiation exposure over a patient's lifetime. Successful radiation safety programs must balance engineered safety and personnel training considering technical, scientific, economic, human, and ethical aspects of radiation use. The medical safety programs must adequately protect patients, care givers, visitors, and the general public.

Nonionizing radiation is also a significant health hazard in all hospitals. This type includes ultraviolet, microwave and laser radiation. Ultraviolet (UV) radiation is frequently used in sterilization procedures. In fact, UV exposures are best controlled by limiting exposures as function of energy. In application, Microwave radiation is commonly used in hospital diathermy treatment and in microwave ovens. Microwave radiation is controlled by limiting exposure and sources should be periodically surveyed with measurement equipment. On the other side, Lasers have an increasing role in medical treatment. Eyewear is the most common method of protection.

The hospital has well laid protocols and procedures for radiation safety.

In case of handling of equipment's like MRI/CT Scan/X-Ray, following precautions are taken;

MRI Machines

- MRI Machine Rooms are isolated Properly from surrounding with key locking door
- MRI technician is properly trained
- MRI compatible ventilator available for emergency
- Helium gas emergency drain outside of hospital area
- All warning signed are displayed in waiting area

CT scan / X-Ray Machines

- The CT gantry room walls are 9' and are lined by 2mm lead sheet
- Technicians are properly trained
- All warning signs are displayed outside CT scan area
- Lead Apron provided to staff
- Periodical QA performed for machine



- Do's and Don'ts Displaced on Machine

Infection Control

Infection control provides a framework for identification of a hazard and development of an action plan to eliminate the hazard or minimize its effect through control measures. Control has been achieved by recognizing the means of growth, reproduction and transmission of pathogenic microorganisms. The main components of an effective infection control program are listed as following. The hospital management is taking effective steps related to same in following manner.

- Education and training to staff
- Surveillance of infection
- well defined Policies, procedures, and guidelines
- Conducting regular Audit's.
- Regular Monitoring of hospital hygiene
- Following Standard precautions are being taken
 - Hand washing and antisepsis (hand hygiene)
 - Use of personnel protective equipment when handling blood, body substances, and secretions
 - Appropriate handling of patient care equipment and soiled linen
 - Prevention of needle stick / sharp injuries
 - Environmental cleaning and spills-management
 - Appropriate handling of waste
- Additional (transmission-based) precautions while ensuring standard precautions include
 - Airborne precautions
 - Droplet precautions
 - Contact precautions

4.8 Noise / Aesthetics / Social Environment

4.8.1 Noise

Noise is defined as unwanted sound. Several studies have been conducted for hospital noise that linked hospital noise to a variety of negative physiological



outcomes. The WHO has recommended that noise level should not exceed 35 dB in rooms where patients are treated or observed and 30 dB in wards rooms.

Hospitals have various sources of noise such as alarms, paging systems, telephones, computer printers, televisions, delivery carts, staff conversation, equipment, housekeeping activities, air conditioning systems, doors opening and closing, and sounding systems. Of course, one physical effect of the noise is human stress which should be avoided in hospital environment. Topf and Dillon (1988) have described human effects due to noise-induced stress as decrease in sustained attention, rapid detection, multiple single tasks, and incidental memory.

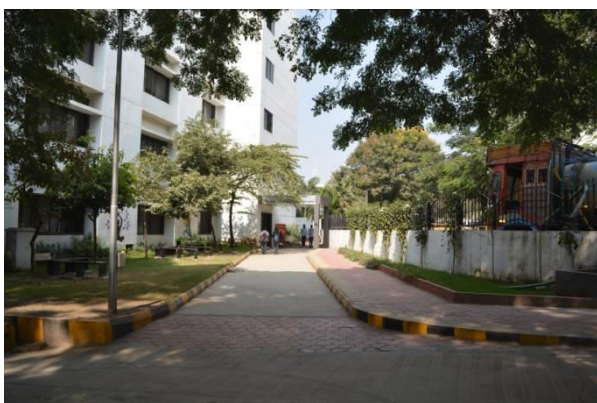
To overcome the problem of noise within hospitals, following preventive procedures are being carried out.

- A regular check and maintenance to all systems that are considered as sources of noise including equipment.
- Regular Monitoring of noise levels
- Acoustic enclosure to high noise machine like DG set.

4.8.2 Aesthetics / Green Belt

The hospital campus has provided 30% of total area for green belt and open spaces. Various types of trees (@ 1500) are planted in the campus and treated sewage is being used for green belt development.

Photographs No. 1.11 Green Belt Development at MGM





4.8.3 Social Environment

The hospital is managed by the charitable trust and service to the humanity is its motto. The hospital provides direct and indirect employment to about 2000 persons. Various CSR activities are carried out by the hospital like

- Medical camps
- Free Medicines to the needy
- Free food to poor patients
- Free treatment to the poor patients
- Awareness programs for Breast Feeding.
- For staff welfare following activities is undertaken by the management Medical Facilities;



- i. All the MGM Employees Get Charity Card, in which the employee and their immediate family members can avail MGM OPD Facility for free of cost.
- ii. Salary Advance: If any Employee is in financial need at any point of time he/she can request for salary advance.
- iii. Sports Complex Facilities: All the Employees get a discount if using any of the sports / stadium facility. Concession in tuition fees. (Excluding Clover Dale School)
- iv. Employee Kids who are with MGM School's get concession in their tuition fees.
- v. Uniform: Every Year all the employees get one set Uniform from MGM.
- vi. Diwali Gift: Diwali Sweets are distributed to every employee.
- vii. MGM Society benefit: MGM Society benefits like loan, LIC, emergency cash can be availed in it.



Conclusion

4.1 Conclusion of Study

The SD engineering services Pvt Ltd. Team had carried out environmental audit covering various aspects. The audit included field visit, verifications of documentation and discussions with concerned. The MGM Hospital and College Campus is meeting to the all regulatory requirements applicable to them.



Annexures



Annexure I: NABET Accredited Certificate




Quality Council of India
National Accreditation Board for
Education & Training

CERTIFICATE OF ACCREDITATION

Sd engineering services pvt. ltd.
14, Age Arcade, New Osmanpura, Near Sant Eknath Rang Mandir,
Aurangabad -431005, Maharashtra

Accredited as **Category - A** organization under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations: Version 3 for preparing EIA-EMP reports in the following Sectors:

Sl. No.	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals - opencast mining only	1	1(a) (i)	B
2	Offshore and onshore oil and gas exploration, development & production	2	1 (b)	A
3	Thermal power plants	4	1 (d)	B
4	Mineral beneficiation	7	2 (b)	B
5	Metallurgical industries - (ferrous)	8	3 (a)	A
6	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	21	5 (f)	A
7	Distilleries	22	5 (g)	A
8	Sugar Industry	25	5 (j)	B
9	Isolated storage & handling of hazardous chemicals (As per threshold planning quality indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 2000)	28	6 (b)	B
10	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	32	7 (d)	A
11	Bio-medical waste treatment facilities	32A	7 (da)	B
12	Common effluent treatment plants (CETPs)	36	7 (h)	B
13	Building and Construction projects	38	8(a)	B
14	Township and area development projects	39	8(b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RA AC minutes dated June 07, 2019 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/19/1023 dated August 05, 2019. The accreditation needs to be renewed before the expiry date by sd engineering services pvt. ltd., Aurangabad, following due process of assessment.

Sr. Director, NABET
Dated: August 05, 2019

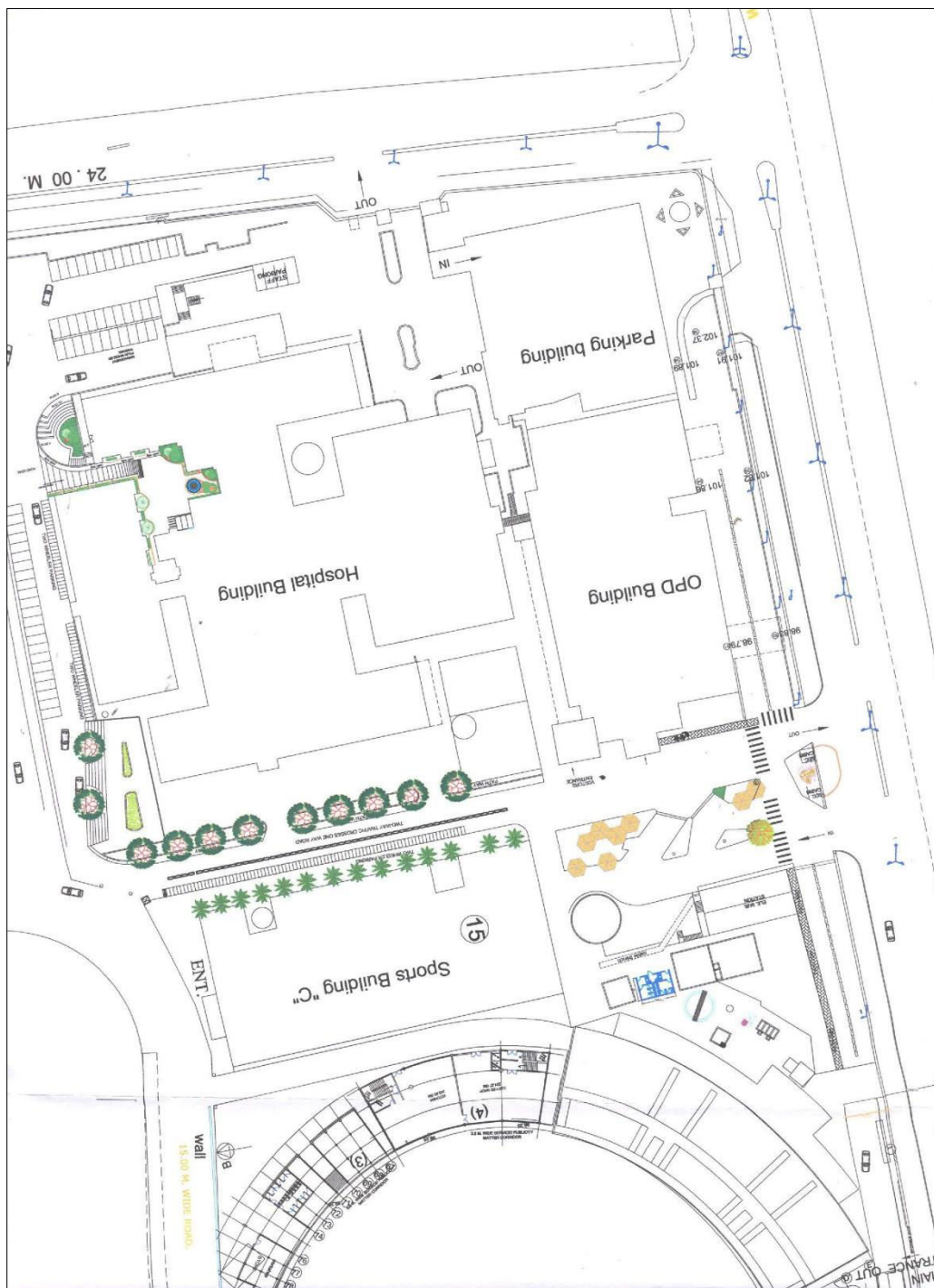
Certificate No.
NABET/ EIA/1922/ RA 0136

Valid till
10.02.2022

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.



Annexure II: Layout of Campus





Environmental Audit Report For MGM's Medical College & Hospital

d

Annexure III: Water Consumption figures for the previous months

MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A' B' AD																							
LOG SHEET FOR WATER CONSUMPTION M.G.M.																							
Feb-19																							
DATE	L2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B. NO 4	M3	OPD BUL	M3	SPO BUL	M3	GEST HOU	M3	OPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP			
OLD	14923		14476		66647		54409		119824		49493		44669		18135		10416	9338	79930	19991	59553	29849	29849
1	35138	205	14485	9	66720	73	54483	74	119944	120	49536	43	44699	30	18150	15	10425	9370	79930	20096	59596	29849	29849
2	35343	215	14492	7	66796	76	54553	70	120079	135	49574	38	44738	39	18162	12	10436	9407	79930	20199	59727	29871	29871
3	35548	205	14499	7	66861	65	54626	73	120200	121	49621	47	44790	52	18176	14	10445	9439	79930	20307	59853	29877	29877
4	35749	201	14507	8	66926	65	54710	84	120316	116	49664	43	44840	50	18190	14	10456	9478	79930	20400	59977	29881	29881
5	35956	207	14517	10	67006	80	54780	70	120464	148	49701	37	44893	53	18210	20	10465	9527	79930	20501	60018	29943	29943
6	36176	220	14526	9	67091	85	54850	70	120594	130	49751	50	44946	53	18236	26	10476	9570	79930	20606	60158	30002	30002
7	36401	225	14530	4	67166	75	54925	75	120719	125	49796	45	45001	55	18266	30	10485	9613	79930	20712	60293	30053	30053
8	36616	215	14535	5	67241	75	54993	68	120851	132	49852	56	45050	49	18287	21	10495	9656	79930	20821	60389	30063	30063
9	36839	223	14542	7	67317	76	55068	75	120991	140	49901	49	45093	43	18313	26	10504	9694	79930	20931	60530	30150	30150
10	37057	218	14547	5	67379	62	55141	73	121111	120	49953	52	45149	56	18329	16	10512	9737	79930	21038	60636	30195	30195
11	37283	226	14551	4	67445	66	55204	63	121246	135	50002	49	45198	49	18355	26	10523	9782	79930	21141	60658	30195	30195
12	37489	206	14559	8	67522	77	55262	58	121336	90	50045	43	45249	51	18380	25	10532	9822	79930	21231	60836	30278	30278
13	37689	200	14574	15	67597	75	55319	57	121461	125	50103	58	45292	43	18395	15	10541	9852	79930	21329	60936	30335	30335
14	37879	190	14589	15	67677	80	55379	60	121591	130	50151	48	45336	44	18415	20	10550	9887	79930	21429	61043	30385	30385
15	38068	189	14602	13	67750	73	55436	57	121711	120	50194	43	45381	45	18432	17	10562	9925	79930	21526	61081	30405	30405
16	38269	201	14621	19	67830	80	55489	53	121817	126	50240	46	45421	40	18442	10	10570	9959	79930	21626	61180	30423	30423
17	38479	210	14634	13	67906	76	55549	60	121945	128	50287	47	45469	38	18455	13	10580	9991	79930	21724	61347	30423	30423
18	38666	187	14648	14	67972	66	55601	52	122092	127	50323	36	45502	43	18472	17	10589	9999	79930	21822	61366	30445	30445
19	38880	214	14650	2	68049	77	55666	65	122242	150	50378	55	45541	39	18483	11	10599	10044	79942	21932	61512	30518	30518
20	39100	220	14660	10	68120	71	55736	70	122372	130	50423	45	45583	42	18496	13	10609	10086	79971	22044	61621	30518	30518
21	39325	225	14672	12	68189	69	55803	67	122492	120	50470	47	45631	48	18510	14	10621	10126	79948	22148	61762	30562	30562
22	39535	210	14680	8	68266	77	55876	73	122629	137	50522	52	45673	42	18520	10	10630	10165	79948	22255	61778	30595	30595
23	39761	225	14683	3	68345	79	55946	70	122759	130	50569	47	45710	37	18529	8	10649	10211	79941	22362	61929	30595	30595
24	39971	210	14694	11	68419	74	56010	64	122874	115	50619	50	45759	49	18541	13	10658	10250	79941	22461	62010	30666	30666
25	40180	209	14712	18	68498	79	56077	67	122993	119	50677	58	45802	43	18552	11	10668	10296	79942	22576	62040	30666	30666
26	40378	198	14727	15	68589	91	56134	57	123099	97	50741	64	45849	47	18564	12	10678	10339	79942	22672	62225	30736	30736
27	40573	195	14745	18	68659	70	56202	68	123204	114	50787	46	45879	30	18572	8	10689	10389	79942	22807	62341	30811	30811
28	40765	192	14765	20	68744	85	56266	64	123317	113	50847	60	45907	28	18581	9	10699	10444	79942	22917	62443	30867	30867
29																							
30																							
31																							
TOTAL		5842		289		2097		1857		3493		1354		1238		446	262	1106	291	2926	2890	1018	1018
PER DAY	208 M3		10 M3		74 M3		66 M3		125 M3		48 M3		44 M3		16 M3		9 M3		39 M3+104 M3+128 M3= 271 M3				

MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A'B'AD																							
LOG SHEET FOR WATER CONSUMPTION M.G.M.																							
Mar-19																							
DATE	L2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B. NO 4	M3	OPD BUL	M3	SPO BUL	M3	GEST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP			
OLD	40765		14745		68744		56266		123317		50847		45907		18581		10699	10444	74221	22917	62463	30867	30867
1	40963	198	14784	39	68809	65	56327	61	123429	112	50893	46	45935	28	18591	10	10709	10491	74263	23022	62541	30927	30927
2	41156	193	14807	23	68876	67	56394	67	123547	118	50943	50	45962	27	18598	8	10720	10540	74308	23129	62621	30960	30960
3	41352	196	14824	17	68940	64	56462	68	123663	116	50991	48	45999	37	18607	8	10731	10582	74353	23231	62803	30997	30997
4	41559	207	14835	11	68997	57	56527	65	123774	111	51015	24	46045	46	18617	10	10741	10634	74397	23317	62832	30997	30997
5	41754	195	14845	10	69059	62	56597	70	123889	115	51060	45	46085	40	18632	15	10750	10669	74433	23414	62994	31049	31049
6	41959	205	14859	14	69118	59	56654	57	124001	112	51105	45	46128	43	18648	16	10759	10719	74469	23516	63029	31101	31101
7	42175	216	14865	6	69185	67	56713	59	124121	120	51149	44	46169	41	18662	14	10767	10768	74518	23620	63184	31112	31112
8	42388	213	14875	10	69255	70	56779	66	124235	134	51199	50	46212	43	18680	18	10776	10813	74552	23716	63299	31161	31161
9	42603	215	14882	7	69319	64	56840	61	124386	131	51253	54	46255	43	18696	16	10785	10865	74599	23818	63399	31212	31212
10	42821	218	14896	14	69377	58	56897	57	124526	140	51308	55	46303	48	18714	18	10796	10918	74649	23915	63551	31270	31270
11	43031	210	14909	13	69432	55	56960	63	124661	135	51359	51	46339	36	18728	14	10804	10963	74700	24017	63580	31320	31320
12	43224	193	14921	12	69496	64	57036	76	124778	117	51415	56	46382	43	18743	15	10813	11014	74715	24146	63727	31328	31328
13	43429	205	14941	20	69557	101	57110	74	124903	125	51460	45	46424	42	18755	12	10824	11062	74715	24261	63863	31348	31348
14	43640	211	14966	25	69702	105	57180	70	125029	126	51502	42	46469	45	18765	10	10835	11112	74715	24371	64036	31387	31387
15	43845	205	14991	25	69812	110	57249	69	125169	140	51534	32	46515	46	18778	13	10845	11152	74787	24487	64202	31439	31439
16	44046	199	15015	24	69927	115	57330	81	125298	129	51586	52	46555	40	18790	12	10857	11185	74824	24601	64313	31496	31496
17	44269	224	15033	18	70022	95	57398	68	125415	117	51643	43	46597	32	18806	16	10869	11217	74864	24726	64477	31555	31555
18	44453	185	15040	16	70106	84	57467	69	125545	130	51689	46	46592	15	18815	9	10880	11250	74903	24708	64477	31555	31555
19	44637	184	15055	6	70181	75	57511	44	125640	95	51788	49	46628	36	18827	12	10887	11280	74949	24833	64628	31555	31555
20	44841	204	15070	15	70261	80	57586	75	125770	130	51743	45	46663	35	18835	8	10896	11320	74977	24783	64827	31609	31609
21	45046	205	15082	12	70349	79	57656	70	125890	120	51824	41	46698	35	18843	8	10905	11365	75021	24961	64926	31668	31668
22	45243	197	15096	14	70418	78	57739	83	126022	132	51873	49	46735	37	18849	6	10913	11460	75064	25053	64997	31668	31668
23	45448	205	15107	11	70494	76	57814	75	126138	116	51909	36	46727	22	18857	8	10921	11432	75104	25137	65091	31746	31746
24	45643	215	15120	13	70569	75	57879	65	126266	128	51957	48	46802	45	18866	9	10930	11463	75140	25252	65270	31827	31827
25	45848	225	15132	12	70657	68	57949	70	126392	126	52009	52	46853	51	18872	6	10939	11492	75141	25371	65299	31827	31827
26	46087	199	15142	10	70707	70	58008	59	126519	117	52063	43	46887	46	18881	15	10950	11518	75178	25473	65438	31827	31827
27	46262	175	15152	10	70787	80	58076	68	126629	110	52096	44	46923	26	18890	9	10960	11573	75216	25539	65605	31827	31827
28	46472	120	15161	9	70872	85	58147	71	126736	107	52142	46	46951	28	18902	12	10969	11615	75260	25712	65635	31827	31827
29	46697	225	15162	1	70957	85	58212	65	126840	104	52183	41	46983	32	18915	13	10973	11661	75304	25817	65818	31827	31827
30	46905	208	15172	10	71039	82	58289	77	126949	109	52230	47	47018	35	18922	7	10980	11699	75342	25934	65955	31827	31827
31	47124	219	15182	10	71121	82	58358	69	127040	91	52270	40	47050	32	18938	8	10991	11738	75384	26037	65955	31827	31827
TOTAL		6359		437		2377		2092		3723		1423		1143		349	252	1294	1294	3120	3492	1160	
PERDAY	205 M3		14 M3		76 M3		67 M3		120 M3		45 M3		36 M3		11 M3		9.6 M3		41 M3+100 M3+150 M3= 291 M3				



Environmental Audit Report For MGM's Medical College & Hospital

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MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A/BAD																							
LOG SHEET FOR WATER CONSUMPTION M.G.M.																							
Apr-19																							
DATE	1,2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B.NO 4	M3	OPD BUIL	EST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP						
OLD	47124		15182		71121		58358		127040		52720		18930		10991	11738	75384	26037	65955	31827			
1	47342	218	15208	26	71210	89	58421	63	127129	89	52312	4	18962	15	11002	11784	75422	26154	65955	31827			
2	47610	268	15232	24	71300	90	58486	65	127239	110	52355	43	17121	38	18962	17	11013	11829	75472	26238	65955	31881	
3	47850	240	15256	24	71384	84	58561	75	127334	95	52400	45	47166	45	18980	18	11026	11855	75475	26340	65955	31918	
4	48082	232	15289	33	71474	90	58637	76	127425	91	52450	50	47224	58	18992	12	11035	11855	75491	26442	65955	31938	
5	48340	258	15321	32	71569	95	58707	70	127529	104	52492	42	47267	43	19009	17	11048	11855	75491	26546	65955	31997	
6	48579	239	15350	29	71662	93	58783	76	127639	110	52535	43	47313	46	19021	12	11059	11855	75491	26650	65955	32033	
7	48822	243	15376	26	71759	97	58853	70	127752	113	52586	51	47354	41	19040	19	11072	11855	75491	26755	65955	32046	
8	49056	234	15398	22	71842	83	58926	73	127858	106	52618	32	47392	38	19054	14	11083	11855	75491	26858	65955	32069	
9	49287	231	15425	27	71927	85	59003	77	127949	91	52665	47	47436	44	19072	18	11094	11855	75491	26964	65955	32069	
10	49519	232	15442	17	72012	85	59069	66	128037	88	52704	39	47486	50	19094	22	11104	11855	75491	27094	65955	32069	
11	49754	235	15457	15	72093	81	59139	70	128147	110	52746	42	47534	48	19114	20	11115	11855	75491	27234	65955	32069	
12	49984	230	15479	22	72183	90	59209	70	128265	118	52789	43	47579	45	19134	20	11125	11855	75491	27369	65955	32069	
13	50226	242	15505	26	72261	78	59271	62	128373	108	52827	38	47630	51	19158	24	11137	11855	75491	27494	65955	32069	
14	50461	235	15529	24	72348	87	59334	63	128423	50	52872	45	47679	49	19176	18	11145	11855	75500	27629	65955	32105	
15	50701	240	15535	6	72428	80	59402	68	128423	0	52901	29	47725	46	19200	24	11157	11855	75500	27754	65955	32149	
16	50911	210	15545	10	72526	98	59465	63	128423	0	52938	37	47778	53	19225	25	11167	11858	75500	27878	65955	32216	
17	51160	249	15562	17	72616	90	59535	70	128520	97	52978	40	47840	62	19250	25	11178	11858	75500	27973	65955	32275	
18	51400	240	15580	18	72690	74	59602	67	128614	94	53021	43	47910	70	19278	28	11188	11858	75500	28071	65955	32330	
19	51645	245	15594	14	72790	100	59667	65	128614	0	53055	34	47975	65	19299	21	11199	11858	75532	28171	65955	32389	
20	51901	256	15613	19	72880	90	59740	73	128680	66	53107	52	48042	67	19323	24	11209	11858	75535	28276	65955	32466	
21	52158	257	15631	18	72949	69	59804	64	128785	105	53153	46	48095	53	19345	22	11219	11858	75536	28369	65955	32554	
22	52405	247	15652	21	73035	86	59873	69	128879	94	53187	34	48161	66	19368	23	11220	11858	75536	28453	65955	32601	
23	52632	227	15669	17	73119	84	59940	67	128990	11	53238	51	48217	56	19372	4	11231	11872	75500	28453	65955	32658	
24	52864	232	15684	15	73204	85	60008	68	128902	12	53290	52	48271	54	19378	6	11246	11885	75532	28453	65955	32658	
25	53100	236	15698	14	73295	91	60072	64	128987	85	53335	45	48316	45	19403	25	11258	11898	75500	28453	65955	32689	
26	53315	215	15720	22	73379	84	60140	68	129079	92	53376	41	48370	54	19426	23	11270	11912	75500	28453	65955	32689	
27	53636	321	15732	12	73489	110	60295	155	129112	33	53456	80	48410	40	19437	11	11274	11948	75532	28453	65955	32689	
28	53819	183	15753	21	73562	73	60314	19	129113	1	53478	22	48420	10	19445	8	11287	11927	75535	28453	65955	32689	
29	54002	183	15775	22	73636	74	60333	19	129114	1	53501	23	48430	10	19454	9	11299	11969	75536	28453	65955	32689	
30	54245	243	15797	22	73721	85	60404	71	129126	12	53553	52	48471	41	19489	35	11310	12014	75536	28453	65955	32689	
31																							
TOTAL			7121		615		2600		2046		2086		1283		1421		559	319	276	152	2416	0	862
PERDAY	237.36 M3		20.05 M3		86.66 M3		68.2 M3		69.53 M3		42.76 M3		47.36 m3		18.63 M3		10.63 m3		14 M3+80 M3+ 28 M3= 122 m3				


MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A/BAD																							
LOG SHEET FOR WATER CONSUMPTION M.G.M.																							
May-19																							
DATE	1,2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B.NO 4	M3	OPD BUL	EST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP						
OLD	54245		15797		73721		60404		129126		53553		19489		11310	12014	75536	28453	65955	32689			
1	54484	237	15817	20	73794.5	73.5	60470	66	129126	0	53595	43	48602	65.5	19502	13	11320	12058	75536	28453	65955	32689	
2	54719	237	15837	20	73868	73.5	60536	66	129126	0	53638	43	48656	54	19550	25	11340	12106	75540	28453	66101	32689	
3	55008	289	15859	22	73969	101	60637	101	99	96	53683	45	48697	41	19554	4	11350	12140	75543	28453	66101	32689	
4	55208	200	15884	25	74058	89	60697	60	249	150	53722	39	48731	34	19559	5	11361	12168	75565	28654	66170	32689	
5	55442	234	15904	20	74133	75	60768	71	388	139	53771	24	48731	34	19559	5	11361	12168	75565	28654	66170	32689	
6	55676	234	15936	32	74238	105	60840	72	528	140	53771	25	48765	34	19563	4	11372	12167	75588	28655	66240	32689	
7	55953	277	15965	29	74349	111	60935	95	677	149	53815	44	48814	49	19580	17	11382	12228	75617	29133	66263	32690	
8	56181	228	15990	25	74451	102	60989	54	808	131	53865	50	48862	48	19590	10	11393	12271	75651	29346	66347	32690	
9	56505	324	16016	26	74554	103	61085	96	960	152	53924	59	48902	40	19590	0	11405	12336	75702	29605	66380	32690	
10	56649	144	16039	23	74642	88	61134	49	1051	91	53948	24	48931	29	19590	0	11411	12360	75718	29730	66380	32692	
11	56973	324	16059	20	74737	95	61225	91	1221	170	54008	24	48965	34	19606	16	11426	12440	75775	30056	66380	32695	
12	57153	180	16074	15	74803	66	61286	61	1324	103	54054	23	49006	41	19617	11	11433	12476	75700	30212	66380	32695	
13	57383	180	16090	16	74870	67	61347	61	1428	104	54054	23	49048	42	19624	7	11440	12513	75826	30368	66380	32695	
14	57590	257	16120	30	74990	120	61426	79	1545	117	54102	48	49093	45	19657	33	11449	12565	75857	30548	66380	New meter	
15	57777	187	16136	16	75088	98	61503	77	1689	144	54164	62	49150	57	19673	16	11459	12611	75884	30742	66380	0	
16	58165	388	16152	16	75186	98	61580	77	1834	145	54226	62	49207	57	19690	17	11470	12657	75912	30937	66391	26	
17	58495	330	16181	29	75300	114	61679	99	2011	177	54271	45	49297	90	19714	24	11481	12726	75936	31128	66391	100	
18	58730	235	16199	18	75375	75	61749	70	2131	120	54316	45	49337	40	19726	12	11492	12746	75956	31386	66506	122	
19	58970	240	16218	19	75454	79	61819	70	2256	125	54361	45	49379	42	19735	9	11499	12767	75979	31573	66622	140	
20	59195	225	16240	22	75526	72	61892	73	2386	130	54408	47	49416	37	19746	11	11508	12791	75998	31753	66745	160	
21	59429	234	16262	22	75599	73	61967	75	2504	118	54447	39	49455	39	19757	11	11519	12811	76016	31928	66869	182	
22	59653	224	16280	18	75678	79	62040	73	2620	116	54489	42	49497	42	19769	12	11528	12835	76039	32088	66986	199	
23	59891	238	16299	19	75753	75	62091	51	2746	126	54520	31	49528	31	19783	14	11539	12842	76052	32243	67071	218	
24	60164	273	16324	25	75824	71	62180	89	2875	129	54575	55	49593	65	19796	13	11550	12855	76082	32470	67247	286	
25	60426	262	16350	26	75939	115	62248	68	2996	121	54655	80	49657	64	19828	32	11561	12864	76113	32651	67438	375	
26	60680	254	16373	23	76051	112	62333	85	3126	130	54700	45	49699	42	19828	0	11572	12932	76136	32851	67509	395	
27	60917	237	16399	26	76162	111	62409	76	3246	120	54742	42	49736	37	19828	0	11584	12961	76155	33021	67650	405	
28	61167	250	16416	17	76268	106	62485	76	3387	141	54795	53	49770	34	19834	6	11596	12981	76191	33248	67867	430	
29	61430	263	16441	25	76348	80	62575	90	3549	162	54855	60	49821	51	19846	12	11606	13019	76230	33398	68002	480	
30	61693	263	16460	19	76439	91	62660	85	3698	149	54905	50	49862	41	19857	11	11615	13053	76258	33541	68126	520	
31	61961	268	16480	20	76524	85	62730	70	3856	158	54961	56	49921	59	19868	11	11622	13089	76270	33660	68276	570	
TOTAL		7716		683		2803		2326		3853		1408		1450		379	312	1075		734	5207	2321	570
PERDAY		248 M3		22 M3		82 M3		75 M3		124 M3		45 M3		46 m3		12 M3		10 M3		34 M3+167 M3+93 M3=294 M3			



Annexure IV: Valid Consent Copy of MGM by MPCB

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010437/24020781/24014701
Fax: 24024068 /24023515
Website: <http://mpcb.gov.in>
E-mail : cac-cell@mpcb.gov.in



Kalpatur Point, 2nd - 4th Floor,
Opp. Cine Planet Cinema,
Near Sion Circle, Sion (E)
Mumbai - 400 022

Red/LSI
Consent No: Format 1.0/BO/UAN No.62150 /CAC - 1906001274 Date 25/6/2019.

To,
M/s MGM's Medical College and Hospital,
N-6, CIDCO Aurangabad-432003.

Sub : Combined Consent to operate and BMW Authorization under RED Category to Health Care Establishment (HCE's).

Ref : 1.Consent granted by the Board vide no.BO/CAC-Cell/CCA-9767 Dated 12.08.2016 valid up to 31.12.2018.
2. Your application for combine consent to operate and BMW Authorization dated 07.12.2018.
3. The minutes of Consent Appraisal Committee meeting dated 02.05.2019.

Combined Consent to Establish and BMW Authorization.
under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2016 and Biomedical Waste Management Rules 2016 and amendment in Rules 2018 is considered and the consent is hereby granted subject to following terms and conditions and as detailed in the schedule I, II, III, IV & V annexed to this order:

- The conditional combined consent to operate and BMW authorization is granted for period up to 31.12.2023.
- The capital investment of the HCE is Rs.154.96 Crs.(As per C. A. Certificate submitted)
- The Consent is valid for the Activity of -

Sr. No.	Activity	
1	Hospital	
a)	Beds	700 Nos.
b)	Total Plot Area	20,000 Sq. Mtrs
c)	Total Built up Area	16,787 Sq. Mtrs
- Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1	Trade effluent	22.0	As per Schedule -I	The treated trade effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body.
2	Domestic effluent	540.0	As per Schedule -I	

M/s MGM's Medical College and Hospital, UAN No.62150

Page 1 of 9



5. Conditions under Air (P & CP) Act, 1981 for air emissions:

Sr. no.	Description of stack / source	Number of Stack	Standards to be achieved
1	D.G.Set [600 KVA]	1	As per Schedule-II
2	D.G.Set [600 KVA]	1	
3	D.G.Set [750 KVA]	1	

6. Conditions under Hazardous Wastes (Management, Handling Transboundary and Other Waste) Rule 2016 for treatment and disposal of Hazardous Waste:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	35.3 Chemical sludge from ETP	As actual	Nil	--	At CHWTSDF

7. Non-Hazardous Solid Wastes:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	Wet Garbage	As actual	Kg/Day	OWC	Manure
2	Dry Garbage	As actual	Kg/Day	---	Recycle or hand over to local body
3	STP Sludge	As actual	Kg/Day	---	Manure

8. The authorization is granted for generation and disposal of Bio-Medical Waste (BMW) to CBMWTSDF in waste categories and quantities listed here in below:

Sr. No.	Category	Type of Waste	Quantity not to exceed (Kg/M)	Segregation Color coding	Treatment & Disposal	
1	Yellow	a) Human Anatomical waste	90.0	Yellow colored non-chlorinated plastic bags	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.	
		b) Animal Anatomical Waste	---			
		c) Soiled Waste	250.0			
		d) Expired or Discarded Medicines	2.0			
		e) Chemical Waste	---	Separate collection system leading to effluent treatment system		
		f) Chemical Liquid Waste	---			
		g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.	9.0			
		h) Microbiology Biotechnology and other clinical laboratory waste	5.0	Autoclave safe plastic bags or containers		



2	Red	Contaminated waste (Recyclable)	300	Red colored non chlorinated plastic bags or containers	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.
3	White (Translucent)	Waste sharps including Metals	135	Puncture proof, Leak proof, tamper proof container	
4	Blue	a) Glassware b) Metallic body implants	31 ---	Puncture proof & leak proof boxes or containers with blue colored marking.	

9. If Built up area exceeds more than 20,000 sq. meters and if hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 2006 as Amended.

10. This consent is issued subject to conditions mentioned below,

- The "authorized Person" shall comply with provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
- Any unauthorized change in equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
- If the built-up area exceeds more than 20,000 sq. Mtrs. and if the hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 14.09.2006 by obtaining Environment Clearance.
- You shall submit details of Management and Handling of outdated, discarded, unused Cytotoxic drugs generated in the Cancer centers, research and health care in the format prescribed by CPCB which is available on www.cpcb.nic.in along with Annual Report to MPCB with a copy to CPCB before 31st January every year.
- You shall manage the Mercury Waste in the HCE in environmentally sound manner (including storage, spilled collection, transportation and disposal) as per CPCB guidelines published on CPCB website www.cpcb.nic.in dated: 07.09.2010 as detailed in document entitled "Environmentally Sound Management of Mercury Waste in Health Care Facilities".
- You shall ensure phase out of chlorinated plastic bags, gloves and blood bags by HCEs within two years;
- You shall establish Bar code system within one year



- h. You shall ensure that the liquid waste is treated and disposed by all the occupier or operator of a CBWTF in accordance with the Water Act, 1974;
 - i. You shall maintain day to day basis and display the monthly record Including Annual report on its website within two years from the date of Notification.
 - j. You shall submit separate Bank Guarantees towards compliance of condition mentioned at Annexure – IV to Regional Office, within 30 days.
 - k. You shall submit compliance of Bank Guarantee conditions every six months to Regional Officer, for verification purpose.
 - l. You shall submit application for renewal of Combined Consent and Biomedical Waste authorization before 120 days along with appropriate fees.
11. This Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
 12. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government agencies.
 13. Project Proponent shall not take effective steps towards establishment prior to obtaining Environmental Clearance As per EIA Notification 2006 and amendment thereto. As per para 2 of EIA Notification dated 14.09.2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MOEF & CC vide office memorandum no.J-1103/41/2006-IA,II (I), Dated 19.08.2010, fencing of the site to protect it from getting encroached and construction of temporary shed (S) for the guard(S) & acquisition of land may not be treated as an effective steps.

For and on behalf of the
Maharashtra Pollution Control Board

(E. Ravendiran, IAS)
Member Secretary

Received Consent fee of –

Sr. No.	Amount (Rs.)	D.R. No.	Date	Bank
1	15,49,623	TXN 1812001366	12.12.2018	E- Payment
2	75,000/-	TXN 1812002590	24.12.2018	E- Payment
3	1,00,000/-	TXN 1901000998	09.01.2019	E- Payment
4	1,24,817/-	TXN 19060000847	11.06.2019	E- Payment

Copy to:

1. Regional Officer – MPCB, Aurangabad and Sub –Regional Officer – Aurangabad -1, MPCB – They are directed to ensure the compliance of the CCA conditions.
2. Chief Accounts Officer, MPCB, Mumbai- for information.
3. CAC/CC desk - for record & website updation purposes.



Schedule-I

I) Terms & Conditions for compliance of Water Pollution Control

- 1) A] As per your application you have provided Effluent treatment plant (ETP) of capacity 30 CMD for the treatment of trade effluent generated from the hospital activity.
- B] The applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	100
03	Oil & Grease	10
04	BOD (3 days 27°C)	30
05	COD	250
06	Detergent	2.0
07	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent

- C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.
- 2) A] As per your application you have provided sewage treatment plant (STP) of design capacity of 600 CMD for treatment of domestic sewage generated from the hospital and thereafter the treated effluent shall be discharged followed by Chlorination and the treated effluent shall be disposal to Municipal Sewer / Land application after achieving standard prescribed below:
- B] The applicant shall operate the sewage treatment plant (STP) to treat the domestic effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	50
03	Oil & Grease	10
04	BOD (3 days 27°C)	30
05	COD	100
06	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent

- C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.



- 3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waste water & the system for the disposal of effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps for expansion / modify or establish any modification to treatment and disposal system or an extension or addition thereto.
- 4) You shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
- 5) You shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time.

Water Consumption details:

Sr. No.	Purpose for water consumed	Water Consumption quantity CMD
1.	Industrial Cooling and boiler feed etc.,	---
2.	Domestic purpose	670.0
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	27.0
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	--
5	Other such as agriculture, gardening, etc.	--

Schedule-II

Terms & conditions for compliance of Air Pollution Control

1. As per your application, you have proposed / provided the Air pollution control (APC) system and also proposed to erect/erected following stack (s) to observe the following fuel pattern-

Sr. No.	Stack Attached to	Height in meter	Type of Fuel	Fuel Qty	SO ₂ In Kg/Day
1	D.G.Set [600 KVA]	4.5	HSD	130 Kg/hrs	62.4
2	D.G.Set [600 KVA]	4.5	HSD	130 Kg/hrs	62.4
3	D.G.Set [750 KVA]	4.5	HSD	132 Kg/hrs	63.36

2. The applicant shall provide stack height of mtrs operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	150 mg/Nm ³
--------------------	---------------	------------------------
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).



5. Conditions for D.G. Set

- Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
- Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
- Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
- D.G. Set shall be operated only in case of power failure.
- The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
- The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel.

Schedule-IV: Bank Guarantees

Statement of conditions to be complied and Bank Guarantee imposed to ensure timely compliance to be observed by

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
I (A)	Operation and Maintenance		
1	To Segregate and Handle BMW as per Rule	Continuous	Rs. 1,00,000/-
2	To provide STP adequate capacity within 3 months and Towards Operation and Maintenance of STP/ETP to achieve prescribed discharge standards	Continuous	Rs. 1,00,000/-
I (B)	Records		
1	To Maintain records of BMW and submission of Annual Report in Form -II before 31 st January	Continuous	Rs. 25,000/-
2	To maintain records of BMW material delivered to CBMWTSDF	Continuous	Rs. 25,000/-
II	Performance		
1	To provide BMW separate storage facility as per guidelines of CPCB	Continuous	Rs. 75,000/-

Note: You shall submit the B.G. valid for additional 4 month period after the validity of your granted CCA.



Schedule-V
General Conditions

The following general conditions shall apply as per the type of the industry

- 1) You shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) You should monitor effluent quality, stack emissions, noise and ambient air quality quarterly.
- 3) You shall provide ports in the chimney(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) You shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) You shall submit, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992 to Regional Office, , the 30th day of September every year.
- 7) You shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW (MH&TM) Rules 2008, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) You shall comply with the Hazardous Waste (M, H & TM) Rules, 2008 and submit the Annual Returns to RO- as per Rule 5(6) & 22(2) of Hazardous Waste (M, H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30th June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the HCE.
- 10) You shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
- 11) You shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent & authorization condition towards Environment Protection.
- 12) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.



- 13) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the HCE.
- 14) You shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 15) You should not cause any nuisance in surrounding area.
- 16) You shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- 17) You shall maintain good housekeeping.
- 18) You shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement to Regional Office by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
- 19) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 20) You shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. You will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 21) You shall submit Six Monthly statement in respect of obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
- 22) You shall submit official e-mail address and any change will be duly informed to the MPCB, forthwith.
- 23) You shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 16.11.2009 as amended
- 24) You shall observe provisions of E-waste (Management and Handling) Rules 2011 and Battery Waste (Management and Handling) Rules 2001, as amended.

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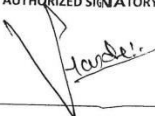



Annexure V: 3rd Party Reports for Trade & Domestic Effluents

GREEN ENVIROSAFE
Engineers & Consultant Pvt Ltd. CIN No. : U74900PN2013PTC149666

Survey No-1465/06 Mayuri Residency, Shop No-16, 2nd Floor, Sanaswad, Tal-Shirur, Pune-41250.
Mob : 9545084620 | E-mail:gesec12@gmail.com | www.greenenvirosafe.co.in

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE				
Report No: GESEC/PRO/2019-20/06/392		Date of Report	13/06/2019	
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling	04/06/2019	
		Start Date of Analysis	05/06/2019	
		End Date of Analysis	12/06/2019	
		Sample Details	ETP Inlet	
		Nature of sample	Liquid	
Sample Collected By		Envirotech Research Pvt. Ltd.		
Water Analysis Report				
Sr. No.	Parameter	Result	Unit(s)	Standard Method
Physical Parameter				
1.	TDS	603	ppm	APHA 2540-C
2.	Total Suspended Solid	134	mg/lit	APHA 2540-D
Chemical Parameter				
3.	pH	7.75	--	APHA 4500-H'
4.	BOD at 27°C for 3 days	149	mg/lit	APHA 5210 B
5.	Oil and grease	2	mg/lit	APHA 5520 B
6.	COD	220	mg/lit	APHA 5220 B
7.	Detergent	0.03	mg/lit	Methylene blue extraction method
ANALYZED BY:		AUTHORIZED SIGNATORY		
				
				

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory legal requirement.
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



GREEN ENVISAGE
Engineers & Consultant Pvt. Ltd. Survey No-1406/06, Mayun Residency, Shop No-16, 2nd Floor, Saraswadi, Kal Shirur, Pune-412
Mob-+ 9545084620 | E-mail: gsec12@gmail.com | www.greenenvisage.co.in
CIN No- U74900PN2013PTC149666
Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company.

TEST CERTIFICATE					
Report No: GESEC/PRO/2019-20/06/393		Date of Report		13/06/2019	
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling		04/06/2019	
		Start Date of Analysis		05/06/2019	
		End Date of Analysis		12/06/2019	
		Sample Details		ETP OUTLET	
Sample Collected By		Nature of sample		Liquid	
		Envirotech Research Pvt. Ltd.			
Water Analysis Report					
Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
Physical Parameter					
1.	TDS	598	2100	ppm	APHA 2540-C
2.	Total Suspended Solid	30	100	mg/lit	APHA 2540-D
Chemical Parameter					
3.	pH	8.2	5.5-9.0	--	APHA 4500-H ⁺
4.	BOD at 27°C for 3 days	17	30	mg/lit	APHA 5210 B
5.	Oil and grease	BDL	<10	mg/lit	APHA 5520 B
6.	COD	48	<250	mg/lit	APHA 5220 B
7.	Detergent	BDL	2	mg/lit	Methylene blue extraction method
Remark(s): ➤ All parameters are within the MPCB limit.					
ANALYZED BY-		AUTHORIZED SIGNATORY			

- Terms and conditions**
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 - The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
 - Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
 - We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
 - MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



Survey No-1409/06, Mayan Residency, Shop No-18, 2nd Floor, Sandewadi, Tel-Chinai, Pune-412
Mob- + 9545084620 | E-mail-gesec12@gmail.com | www.greenenvirosafe.co.in
Engineers & Consultant Pvt Ltd. CIN No. U74900PN2013PTC149066

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE				
Report No: GESEC/PRO/2019-20/06/391		Date of Report		13/06/2019
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling		04/06/2019
		Start Date of Analysis		05/06/2019
		End Date of Analysis		12/06/2019
		Sample Details		STP Inlet
		Nature of sample		Liquid
Sample Collected By		Envirotech Research Pvt. Ltd.		
Water Analysis Report				
Sr. No.	Parameter	Result	Unit(s)	Standard Method
Physical Parameter				
1.	Total Suspended Solid	137	mg/lit	APHA 2540-D
Chemical Parameter				
2.	BOD at 27°C for 3 days	165	mg/lit	APHA 5210 B
3.	COD	316	mg/lit	APHA 5220 B
4.	Residual chlorine	NA	ppm	Chlortext Method
ANALYZED BY-		AUTHORIZED SIGNATORY		

Terms and conditions

1. The report is refer only to the sample tested and not applies to the bulk.
2. The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
3. The test report can not be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
4. Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
5. We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
6. MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.





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Engineers & Consultant Pvt Ltd. CIN No. U74900PN2013PTC149666

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE

Report No: GESEC/PRO/2019-20/06/394	Date of Report	13/06/2019
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.	Date of Sampling	04/06/2019
	Start Date of Analysis	05/06/2019
	End Date of Analysis	12/06/2019
	Sample Details	STP OUTLET
	Nature of sample	Liquid
Sample Collected By	Envirotech Research Pvt. Ltd.	

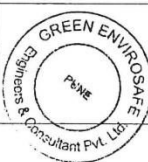
Water Analysis Report

Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
Physical Parameter					
1.	Total Suspended Solid	07	10	mg/lit	APHA 2540-D
Chemical Parameter					
2.	BOD at 27°C for 3 days	05	<10	mg/lit	APHA 5210 B
3.	COD	23	<50	mg/lit	APHA 5220 B
4.	Residual Chlorine	0.5	1	ppm	Chlortext Method

Remark(s): All parameters are within the MPCB limit.

ANALYZED BY-

[Signature]



AUTHORIZED SIGNATORY

[Signature]

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
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- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.





Annexure VII: Certificate for Work done for Rain Water Harvesting & Storm Water Management

space forum architects pvt. ltd.

aurangabad office : 173, mandanvan colony, cantonment, aurangabad-431 002 tel.:(0240) 2370119
email : space4rum@yahoo.co.in

CERTIFICATE

**CERTIFICATE OF RAIN WATER / SURFACE WATER HARVESTING
(RE-CHARGING) AT MGM'S MEDICAL COLLEGE HOSPITALA AND OPD
BUILDING AT CIDCO TOWN CENTER, CIDCO, AURANGABAD.**

This is to certify that the rain water / surface water harvesting design and execution. Supervision work carried out by our organization and same is completed to our satisfaction, which yielding great positive result and save natural resources as shown in drawing no.

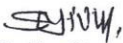
The adopted methodology : The Mgm's Medical College Hospital campus have 2 ha. Site area having topographic slope towards North and North West side. The same sloping situation / direction utilized for collecting the entire terrace rain water and surface water at lowest ground level. The terrace rain water is collected in built up channels and surface water is also collected through catchment chambers and it is connected to the main channels of 2.0 m. width. The open channels lead towards existing slope and water is recharged in the deep percolation well having 3.0 m. dia and 6.5 m. depth. The campus have two such open wells, both the wells are connected with horizontal bores to equalize the water level during the pumping. The percolated water is stored in another open well of 4000 KL storing capacity.

The store water is reutilized for landscaping, play fields and tropical forest through drip irrigation system.

The open channel excess water is collected in two number of open lakes on two different locations on adjoining property of MGM trust. The lakes are covered with water synthesis / bio-synthesis plant for prevention of atmosphere evaporation. These lakes allow water to recharge in surrounding area to prevent soil erosion and provide organically rich fertile soil for landscape.

This water harvesting system utilized for all 17.5 ha. MGM campus providing perfect ecological balance and oxygen pool to surrounding neighborhood.

The actual resultant of the system is honored appreciation to the trust from His Highness President of India.


Ar. Shekhar Jivrag
Space Forum Architects Pvt. Ltd.

S. N. JIVRAG
CA/83/7566

regd. office : 114, aarhiya plaza, block-b, 27/2, manoramaganj, indore - 452001 tel.:(0731)2494930



Annexure VIII: Documents related to Protocol, Check points, recruitment of staff for Housekeeping

BVG INDIA LTD.								
PARTICULAR	MOR		GER		EVE		NIG	
HOUSEKEEPING	79		0		35		25	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	35	44	0	0	17	18	15	10
C BUILDING HK	4		2		1		0	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	3	1	1	1	1	0	0	0
PATIENT CARE	65		87		67		60	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	35	30	45	42	32	35	23	37
SUPERVISOR'S	6		3		4		3	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	6	0	1	2	3	1	3	0



Environmental Audit Report
For MGM's Medical College & Hospital

V

bvg Humanity Ahead			
BVG INDIA LTD			
HOUSEKEEPING 1ST SHIFT SUPERVISOR JOB CARD			
Sr NO.	TIME	ACTIVITY	REMARK
1	05.45AM TO 06.00AM	TOTAL EMPLOYEES BRIEFING	
2	06.00AM TO 06.15AM	DEPLOYMENT & MATERIAL DISTRIBUTION	
3	06.15AM TO 06.30AM	ALL EMPLOYEES CHECKING IN WARD ARE PRESENT.	
4	06.30AM TO 08.15AM	1) ALL WARD & WARD WASHROOM & GENERAL WASHROOM CLEANING CHECKING	
5	08.15AM TO 08.30AM	BREAKFAST	
6	08.30AM TO 09.15AM	PERSONAL ROUND TO ALL FLOOR CLEANING CHECKING	
7	09.15AM TO 11.00AM	ROUND WITH CLIENT	
8	11.00AM TO 12.00PM	ALL CLIENT ROUND ISSUE POINT ARE CLEAR	
9	12.00PM TO 12.45PM	LUNCH TIME	
10	12.45PM TO 01.45PM	EMPLOYEE CHECKING IN WARD. & CHECK LIST SING.	
11	01.45PM TO 02.00PM	TOTAL DAY ARE COMPLIMENT AND ISSUE ARE BRIEFING	
12	02.00PM TO 02.30PM	TOTAL CHECKLIST (GROOMING, BRIEFING, MACHINE UTILIZATION, HAND OVER TAKE OVER) AND ATTENDANCE ARE COMPLETED	

Report Prepared & Submitted By: sd engineering services pvt. Ltd., Aurangabad |
NABET Accredited Consultant |





bvg Humanity Ahead			
BVG INDIA LTD			
HOUSEKEEPING 2ND SHIFTSUPERVISOR JOB CARD			
Sr NO.	TIME	ACTIVITY	REMARK
1	12..45PM TO 01.00PM	TOTAL EMPLOYEES BRIEFING	
2	01.00PM TO 01.15PM	DEPLOYMENT & MATERIAL DISTRIBUTION	
3	01.15PM TO 02.00PM	ALL EMPLOYEES CHECKING IN WARD ARE PRASENT.	
4	02.00PM TO 04.00PM	1) ALL WARD & WARD WASHROOM & GANERAL WASHROOM CLEANING CHEKING	
5	05.00PM TO 05.30PM	LUNCH TIME	
6	05.30PM TO 06.15PM	PERSONAL ROUND TO ALL FLOOR CLEANING CHEKING	
7	06.15AM TO 08.45PM	ALL CLIENT ROUND ISSUE POINT ARE CLEAR WITH CHECK LIST SING.	
8	08.45.PM TO 09.00PM	TOTAL DAY ARE COMPLENT AND ISSUE ARE BRIEFING	
9	09.00 TO 09.30	TOTAL CHECKLIST (GROUMING,BRIEFFING,MACHINE UTILIZATION,HAND OVER TAKE OVER)AND ATTENDANCE ARE COPMLEDED	



BVG INDIA LTD					
FAN CLEANING SCHEDULE MONTH OF JUN- 19					
SR NO.		WARD NAME	SUP SIGN/ Name	AUTHORISED SIGN	AUTHORISED SIGN
LOWER BASEMENT					
1	01/06/2019	CASULTY			
2	02/06/2019	EICU			
3	03/06/2019	PSY WARD			
BASEMENT FLOOR					
4	04/06/2019	ENT			
5	04/06/2019	OPHTHAL			
6	05/06/2019	ONCOLOGY			
7	06/06/2019	MCRI NEW			
GROUND FLOOR					
8	07/06/2019	NEW DELUX			
9	08/06/2019	TB CHEST			
10	09/06/2019	TIME OFFICE & PASSAGE			
11	10/06/2019	MICU			
1ST FLOOR					
12	11/06/2019	PAEDIATRIC 1			
13	12/06/2019	NICU			
14	12/06/2019	PICU			
15	13/06/2019	CCU/CVTS			
16	14/06/2019	PAEDIATRIC 2			
17	15/06/2019	MALE MEDI.			
18	15/06/2019	FEMALE MEDI.			
2ND FLOOR					
19	16/06/2019	MALE SURGERY			
20	17/06/2019	FEMALE SURGERY			
21	18/06/2019	OT COMPLEX			
22	18/06/2019	URO/PLASTY			
23	19/06/2019	OBGY ICU			
24	19/06/2019	CSSD			
25	20/06/2019	SICU			
3RD FLOOR					
26	21/06/2019	MJPY WARD			
27	22/06/2019	TL WARD			
28	23/06/2019	OLD DELUXE			
4TH FLOOR					
29	24/06/2019	MALE ORTHO			
30	24/06/2019	FEMALE ORTHO			
31	25/06/2019	SUPER DELUXE			
5TH FLOOR					
32	26/06/2019	NEPHRO WARD			
33	27/06/2019	DIALYSIS & KT ICU			
6TH FLOOR					
34	28/06/2019	MCRI DELUX WARD			
7TH FLOOR					
35	29/06/2019	NEW MCRI ICU			
LOWER BASEMENT					
36	30/06/2019	CASULTY			

[Handwritten signature]



MGM'S Medical College & Hospital Jan-2019

Colour Coded Container for the segregation and Storage of Bio-Medical Waste Categories

Month:

Date	Yellow				Red Cat-7	Blue Cat-4		Gate Pass No.	Name of Person Hand Over	Name of Company BMW
	Cat-1 H.A. W.	Cat-3, Mic- Bio- W	Cat-5 Discar- Med. Cyto	Cat-6 Soil- W	Solid Waste	White Translucent Container for Sharps & needle	Glass Items			
1	03-K2	-	-	06-K2	10-K2	02-K2	2-K2	910	Zahane	2 m/b
2	02-K2	-	-	06-K2	10-K2	-	5-K2	911	Zahane	2 m/b
3	08-K2	-	-	08-K2	8-K2	-	3-K2	912	Zahane	2 m/b
4	-	-	-	04-K2	7-K2	-	4-K2	913	Zahane	2 m/b
5	06-K2	-	-	08-K2	10-K2	3-K2	10-K2	914	Zahane	2 m/b
6	04-K2	-	-	04-K2	12-K2	-	6-K2	915	Zahane	2 m/b
7	-	-	-	09-K2	10-K2	-	4-K2	916	Zahane	2 m/b
8	03-K2	01-K2	-	04-K2	6-K2	3-K2	6-K2	917	Zahane	2 m/b
9	05-K2	-	1-K2	03-K2	11-K2	-	2-K2	918	Zahane	2 m/b
10	04-K2	-	-	08-K2	20-K2	-	2-K2	919	Zahane	2 m/b
11	02-K2	-	-	06-K2	09-K2	-	3-K2	920	Zahane	2 m/b
12	04-K2	-	-	04-K2	06-K2	02-K2	3-K2	921	Zahane	2 m/b
13	-	-	-	05-K2	11-K2	-	2-K2	922	Zahane	2 m/b
14	-	-	-	08-K2	10-K2	-	3-K2	923	Zahane	2 m/b
15	04-K2	-	-	04-K2	11-K2	-	5-K2	924	Zahane	2 m/b
16	03-K2	01-K2	-	05-K2	10-K2	02-K2	3-K2	925	Zahane	2 m/b
17	-	-	-	09-K2	12-K2	-	2-K2	926	Zahane	2 m/b
18	08-K2	-	-	08-K2	11-K2	-	1-K2	927	Zahane	2 m/b
19	02-K2	-	-	05-K2	12-K2	-	2-K2	928	Zahane	2 m/b
20	06-K2	-	1-K2	03-K2	10-K2	04-K2	3-K2	929	Zahane	2 m/b
21	-	-	-	04-K2	12-K2	-	2-K2	930	Zahane	2 m/b
22	05-K2	-	-	06-K2	10-K2	-	2-K2	931	Zahane	2 m/b
23	01-K2	-	-	08-K2	6-K2	-	3-K2	932	Zahane	2 m/b
24	03-K2	-	-	02-K2	7-K2	21-K2	1-K2	933	Zahane	2 m/b
25	-	-	-	04-K2	02-K2	-	1-K2	934	Zahane	2 m/b
26	02-K2	-	-	09-K2	04-K2	-	3-K2	935	Zahane	2 m/b
27	05-K2	01-K2	-	05-K2	10-K2	-	4-K2	936	Zahane	2 m/b
28	-	-	-	06-K2	10-K2	-	2-K2	937	Zahane	2 m/b
29	-	-	1-K2	08-K2	08-K2	-	2-K2	938	Zahane	2 m/b
30	02-K2	-	-	04-K2	10-K2	2-K2	6-K2	939	Zahane	2 m/b
31	-	-	-	08-K2	09-K2	-	2-K2	940	Zahane	2 m/b
32	02-K2	03-K2	1.5-K2	181-K2	298-K2	22-K2	99-K2	-	-	-

Handwritten notes: 20/01/2019, Zahane, H.K. dep. 5.



Annexure X: The Disposal of E-Waste is documented by the Concerned Department

**Mahatma Gandhi Mission's
Medical College & Hospital**
N-6, Cidco, Aurangabad - 431003 Tel :91-0240-660193 Fax :91-0240-248773

Date: 01.03.2019

The following equipments given to Green E-Bin Electronic Waste Solution, Aurangabad for E-Waste disposal through Gate Pass No. MGMGPO180000334 dated 29.10.2018. The equipment detail is as follows.

Sr. no.	Equipment Name	Machine Sr.no	Model	Make	Qty
1	Ventilator	181517	900C	Siemens	2
2	Ventilator (Siemens 300) Display Monitor	02860.10352 05486.10359		Siemens	4
3	Blood Cell Counter	AB094175	Coulterdiff Act	Backmen	1
4	Multipara Monitor	4006A03147, 4006A86167, 4006A86171, 3950A66915, 3939A65300, 4006A76211, 4006A76216	V24	Hewlett-Packard	7
5	Multipara Monitor & Module / Rack	3805G33200, 3805G69539, 3805G99563, 3805G42344, 3305G99400, 3805G48016	V24	Hewlett-Packard	6
6	Cautery Machine	MH.03.KE54 SPE.01.144 SPE.02.1E24 SP-02-CE61	SSETE E+	Eclipse	4
7	Ophthalmic (Slit Lamp) Chair with Table			Appasamy	1
8	Gynic Table				1
9	ECG Machine	US71001187	TC-30	Philips	1
10	ABG Machine	7415	Cobas b 121	Roche	1

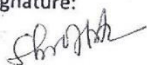
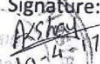
Biomedical Maintenance Dept., MGM Medical College & Hospital, Aurangabad.



Annexure XI: E- Waste Manifest (Form-6)

Form-6
[See rule 19]

E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)		MGM Medical College & Hospital, Aurangabad 0240-6601100	
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.		BO/MPCE-RO(HQ)/Aurangabad/CO/B-1012000759	
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle		(Truck/Tanker/ Special Vehicle)	
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:		GREEN e-bin electronic waste solution B-12, MIDC Chikalthana, Opp. CTR Mfg., Aurangabad	
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)		9 844 219	
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):			
	Name and Stamp:		Signature: 	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	
12.	Transporter acknowledgement of receipt of E-waste			
	Name and Stamp:		Signature:	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste			
	Name and Stamp:		Signature: 	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Form-6
[See rule 19]

E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)	MGM Trust N-6 CIDCO A.bad.		
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.	BO/MPCB/NO(HQ)/Aurangabad/CO/B-1012000759		
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle	(Truck/Tanker/ Special Vehicle)		
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:	gsoon e-bin electronic waste solution H-18 MIDC Chikalthana, Opp.CTR Mfg., Aurangabad		
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)	8	735	86
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):	<p>Signature: <i>[Signature]</i> Name and Stamp: Dean Medical Director MGM Medical College Aurangabad.</p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		
12.	Transporter acknowledgement of receipt of E-waste	<p>Name and Stamp: Signature:</p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste	<p>Name and Stamp: Signature: <i>[Signature]</i></p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Form-6
[See rule 19]
E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)	MGM Medical College & Hospital, Aurangabad 0240-660110		
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.	BO/MPCE/RO(HQ)/Aurangabad/CO/B-1612000759		
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle	(Truck/Tanker/ Special Vehicle)		
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:	green e-bin electronic waste solution B-18 MIDC Chikalthana, Opp. CTR Mfg., Aurangabad		
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)	3	905	113
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		
12.	Transporter acknowledgement of receipt of E-waste			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.




Annexure XII: Report showing unit Consumption from Electricity sourced from MSEDCL & from Own Solar Power Grid

MAHATMA GANDHI MISSION Electrical unit consumption details of MSEB and Solar system for MGM HOSPITAL campus.						
Sr.No.	Electrical Consumption in Units (MSEB)				Solar unit Generation	Remarks
	Month	Year-2017	Year-2018	Difference		
1	JAN	202410	217050	14640	NA	
2	FEB	199515	211635	12120	NA	
3	MAR	242340	280500	38160	NA	
4	APR	290055	340373	50318	NA	
5	MAY	308100	359685	51585	NA	
6	JUN	280275	296138	15863	NA	
7	JUL	272895	265027	-7868	19785	
8	AUG	266190	256808	-9382	6358	
9	SEP	273975	228420	-45555	54875	
10	OCT	266115	241183	-24932	71188	
11	NOV	225720	178417	-47303	63987	
12	DEC	224925	163289	-61636	69124	
Sr.No.	Electrical Consumption in Units (MSEB)				Solar unit Generation	Remarks
	Month	Year-2018	Year-2019	Difference		
1	JAN	217050	153720	-63330	67127	
2	FEB	211635	153997	-57638	64312	
3	MAR	280500	194527	-85973	93142	
4	APR	340373	255262	-85111	73209	
5	MAY	359685	275063	-84622	91651	
6	JUN	296138	287603	-8535	69010	
7	JUL	265028	265717	689	58064	
8	AUG					
9	SEP					
10	OCT					
11	NOV					
12	DEC					



Annexure XIII: Fire Mock Drills & Training



MAHATMA GANDHI MISSION

MGM MEDICAL COLLEGE & HOSPITAL

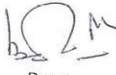
Fire Mock Drill Report

Location	Pediatrics Ward First Floor Block No 2	Date:	20.02.2019
----------	--	-------	------------


Emergency siren blown	Yes	Mock Drill completed	09.55 AM
Mock Drill Started	09.45 AM	Head Count & Green Signal after sharing observation	10. AM
Type of mock drill	Pre planned scenario : Fire		
Emergency Controller /observer	Chief Auditor :Mr Suri (MS) Chif Fire Officer AMC) Emergency controller: Mr S.B Patil Incident controller:Mr Sk Kashif Observer: Dr Aparna kakkad(CMS) Col RK Shrivastava Trainer: Mr Sk Sami (Fire And Safety Officer)		

Check For:	Yes / No	Remark
Did the team follow the emergency action plan sequence?	Yes	-
Did hospital staff check waiting room, canteen and confined areas?	Yes	-
Was the alarm audible?	Yes	-
Was the head count perfect?	Yes	-
Are key people knowledgeable in their assigned duties?	Yes	-
Was the drill conducted in an orderly manner and maintained timeliness?	Yes	-
Was the lift used during fire mock drill?	No	-
Did fire brigade /police station informed during fire mock drill?	yes No	-
Was the fire exit door used?	Yes	-
Did oxygen supply cut off immediately?	Yes	-
Did electrical supply Cut off immediately?	Yes	-


Sr no	Observation /area of improvement	Responsibility	status




Dean
MGMMCH



CMS/MS
MGMMCH




Fire & Safety officer
MGM



Chief Engineer
MGM

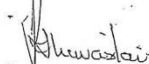




Medical College & Hospital
N-6, Cidco, Aurangabad - 431003 Tel.-91-0240-660555 Fax-91-0240-2487727


Fire Control Mock Drill Preventive Training Attendance Sheet


Date: 20-02-2019 Trainer Name: Shaikh Sami
Time: 09 to 17:00 / Hose Training
Venue: Section No:

Sr. No.	Name	Signature	Mobile No.	Remark
1	S.P. Jadhav			
2	S.L. Wadhwa		97798468787	
3	A.D. Rathod			
4	S.B. Athawale			
5	G.A. Athawale			
6	N.S. Rathod			
7	S. RATHOD			
8	N.S. Shirsath			
9	S.S. NARAYAN			
10	S.G. Dhadhane			
11	M.P. Bajaj			
12	P.S. Jadhav			
13	S.Y. Dahi			
14	E.B. Rathod			
15	S.M. Jadhav			
16	A.M. Rathod			


Department Incharge


Fire & Safety Officer





Environment audit Report

NAVI MUMBAI

UQSR. Certificate

MGM Institute of Health Sciences

**MGM Educational Campus, Sector 1, Kamothe, Kalamboli, Navi Mumbai,
Maharashtra- 410209, India**

And hereby declares that the organization is in conformance with:

ISO 14001: 2015

For the following scope of activities:

Education Institute and Hospital Courses

Further clarification regarding the scope of this certificate and the applicability of Environmental Management standard requirements (Energy Audit/ Green Audit) may be obtained by contacting the organization

Certificate No. UQSR-1450-MIHS

Current Issue Date: 07th Oct.

Original Issue Date: 07th Oct. 2019

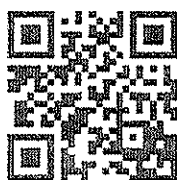
Issue No. 01 IAF Code: 37

2019

Expiry Date: 07th Sep. 2020

Recertification Date: 07th Sep. 2022*

* Validity of certificate is subjected to the continued satisfactory performance during surveillance audit



Authorized By


Certification Manager

Dr. Rajesh B. Goel
Registrar

MGM Institute of Health Sciences
(Deemed University u/s 3 of UGC Act)
Navi Mumbai- 410 209

UQSR Global Private Limited

Formerly known as

Universal Quality Standards Registrar

www.uqsr.org

For information concerning validity of certificate, you can visit the site: www.uqsr.org

This document is property of UQSR and should be returned on request. Any unauthorised alteration, forgery or fabrication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



Management System Certification Stage 2 Audit Report

Organization:	MGM Institute of Health Sciences		
Address:	3rd Floor, MGM Medical College, Sector -01 Kamothe, Navi Mumbai		
Standard(s):	ISO 14001:2015		
Representative:	Dr Rajesh Goel		
Site(s) audited:	3rd Floor, MGM Medical College, Sector -01 Kamothe, Navi Mumbai		
IAF Code:	37	Date(s) of audit(s):	18/09/2019
Lead auditor:	Mr. Amit Kumar	Additional team member(s):	
This report is confidential and distribution is limited to the audit team, client representative and the UQSR office.			

1. Audit objectives

The objectives of this audit were:

- to confirm that the management system has been planned to conform with all the requirements of the audit standard;
- To collect information and evidence about conformity to all requirements of the applicable management system standard or other normative document;
- To check performance monitoring, measuring, reporting and reviewing against key performance objectives and targets (consistent with the expectations in the applicable management system standard or other normative document);
- To check the client's management system and performance as regards legal compliance;
- To check operational control of the client's processes;
- To check internal auditing and management review;
- To check management responsibility for the client's policies;
- To check links between the normative requirements, policy, performance objectives and targets (consistent with the expectations in the applicable management system standard or other normative document), any applicable legal requirements, responsibilities, competence of personnel, operations, procedures, performance data and internal audit findings and conclusions.

2. Audit scope: Educational Institute and Teaching Hospital

For multi-site audits an Appendix listing all relevant sites and/or remote locations has been established (attached) and agreed with the client

3. Audit findings

None identified



Dr. Rajesh B. Goel
Registrar

MGM Institute of Health Sciences
(Deemed University u/s 3 of UGC Act)
Navi Mumbai-410 299

4. Critical audit findings

The following findings, if not appropriately addressed, certificate cannot be issued without proper closure.

None identified

5. Audit Conclusions

The Stage 2 audit was successful in meeting the stated objectives: Yes

The stage 2 audit was limited in time and scope to the stated objectives and it is possible that additional weaknesses will be identified during future audit activities. With consideration to the findings identified in section 3 and 4 of this report, the overall conclusions of the audit area follows:

The management system has been implemented to conform with all the requirements of the audited standard
Yes

The management system is designed to achieve the organization's policy objectives Yes

Based on the information provided, the system is designed to identify and manage compliance with statutory, regulatory and contractual requirements:
Yes

The certificate should be issued Yes



A handwritten signature in blue ink, appearing to be "Dr. Rajesh B. Goel".

Dr. Rajesh B. Goel
Registrar
MGM Institute of Health Sciences
(Deemed University) n/s 2 of 1161
Navi Mumbai-410 209

AURANGABAD

Environmental Audit Report

For MGM's College & Hospital

Environmental audit is to promote the Environmental Management and Conservation at college and hospital campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of environmental sustainability in compliance with the applicable regulations, policies and standards.

*Report Prepared & Submitted by;
sd engineering services pvt. ltd, Aurangabad (NABET Accredited Consultant)*



Certificate

This is to Certified that,

MGM's Medical College & Hospital

N-6, CIDCO, Aurangabad, Maharashtra, India

Has been assessed & found to meet the requirements of

Environmental Audit as per guidelines of Ministry of Environment, Forest & Climate change

{MoEF&CC}

This Certificate is valid for following scope of activities;

"Environmental Audit"

Authorized By:



Mr. Deepak S. Sanghai
MD, sd engineering Services pvt ltd

Date of Certificate Issue: 10th December, 2019

Certificate Valid Until: 9th December, 2020

Certificate issuing Organization:

sd engineering services pvt ltd,
NABET Accredited Consultant [NABET/EIA/1922/RA0136]
14, Age Arcade, New Osmanapura, Near Sant Eknath Rang
Mandir,
Aurangabad, Maharashtra -431005





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Photographs

Photograph No.	Photograph Name
1.1	Parking Facility Provided by MGM
1.2	General Infrastructure & Facility provided by MGM
1.3	Trade & Domestic Effluent Treatment Facility
1.4	Rain Water Harvesting in MGM
1.5	DG Set with adequate Stack Height
1.6	Biomedical Waste Management in MGM
1.7	E- Waste Management in MGM
1.8	Bio-Composting (Clean India Initiative)
1.9	Solar System Installed at MGM
1.10	Fire Fighting System at MGM
1.11	Green Belt Development at MGM

Annexures

Annexure No.	Annexure Name
I	NABET Certificate
II	Layout of the Campus
III	Water consumption figures for the previous months
IV	Valid Consent Copy of MGM by Maharashtra Pollution Control Board
V	3rd party testing Reports for trade effluent and domestic effluent
VI	Schematic diagram of ETP and STP
VII	The certificate for work done for rain water harvesting and storm water management
VIII	Documents related to protocols, check points, recruitment of staff for housekeeping
IX	Sample Documentation maintained for BMW
X	The disposal of E Waste is documented by the concerned department
XI	E Waste Manifest (form -6)
XII	Report showing units consumption from electricity sourced from MSEDCL and from own solar power grid.
XIII	Fire Mock Drills & Training



Introduction

1.1 Introduction

MGM Hospital has appointed M/s sd engineering services pvt. ltd. to carry out environmental audit for their campus at Aurangabad. M/s sd engineering services pvt. ltd. is a leading environmental consultancy from this region and is accredited by NABET. The company is engaged in carrying out environmental impact assessment studies for various sectors. *{Annexure I: NABET Accredited Certificate}*

1.2 Introduction of the Trust

The Mahatma Gandhi Mission Trust was established on 20th December, 1982 with a futuristic vision to provide qualitative education by applying innovative and dynamic pedagogical techniques. Since inception, the Trust has focused on providing health care services, school education and higher education with dedication and commitment. The MGM Trust was established in Nanded, (Maharashtra) and in the course of time it extended its services to Aurangabad, Navi Mumbai and Parbhani in Maharashtra and Noida (New Delhi) in UP. A chain of Schools, Engineering, Architecture, Medical, Nursing, Management, Computer Science & IT, Bioinformatics & Biotechnology, Fine Arts and Journalism stand testimony to the endeavors of the Trust. The MGM has been instrumental in promoting Classical Dance and Music for art seekers. The Trust has also paid heed to the aspect of physical fitness by converting a vast expanse of land in to a sports complex with multiple amenities and sports equipment's. MGM's lush green and serene campuses are conducive to create a peaceful learning atmosphere.

Service to society at the grass root level has been the basic vocation of the Trust along with education. The Trust has been instrumental in providing prompt and efficient health care services to the economically weaker sections of the society. The Trust



hospitals and Medical colleges underscore its commitment to human resource development and social health and welfare. The Trust has made phenomenal progress under the able leadership of the founders led by Chairman, Hon. Shri. Kamal Kishore Kadam, Ex-Education Minister, Maharashtra Government. All the founder members are hard core academicians and visionaries inspired by Late Shri Nanasaheb Kadam, an ardent follower of the Gandhian ideology.

The recipient of International Environment Trophy, MGM continues its journey, imparting value based services, creating global technocrats and health care personnel.

1.2.1 Vision

- ✚ To ensure sustainable human development that encourages self-reliant and self-content society.
- ✚ To promote activities related to community services, social welfare and also Indian heritage and culture.
- ✚ To inculcate the culture of non-violence and truthfulness through vipassanna meditation and Gandhian Philosophy.
- ✚ To develop the culture of simple living and high thinking.

1.2.2 Mission

- ✚ To impart state of art education and technical expertise to students and give necessary training to teachers to create self-reliant society for future.
- ✚ To encourage students to participate in Indian and International activities in sports, literature, etc. so that future generation becomes base for free and liberal society.
- ✚ To educate students in areas like Management, Finance, Human relations to inculcate philosophy of simple living and high thinking value of simple economic society.
- ✚ To inculcate culture of non-violence and truthfulness through Vipassana.
- ✚ To sustain activities of Indian culture (viz. classical dance, music and fine arts) through establishing institutes like Mahagami, Naturopathy, etc.



1.2.3 The Beginning

On 2nd October 1982, a team of young engineers and doctors from Nanded district set for a new journey; a journey that was focused at realizing a wider meaning of education, knowledge, humanity and existence. The team started its journey in a modest way by setting up a health care center at village Nila, 11 kms away from Nanded. There were no health care and education facilities in this marginalized region, hence the newly started health care center was able to offer services to the village population and even to the patients from the adjoining regions.

An apt way to celebrate Gandhi Jayanti, the birth anniversary of Mahatma Gandhi and also a very thoughtful gesture of respect and gratitude to their father Shri Nanasaheb Kadam, a devout Gandhian; this was rather a beginning of a long, persistent and intense movement. Two months later, the desire to provide health care services and empower the people through education took a concrete shape in the form of Mahatma Gandhi Mission.

1.2.4 Journey

For more than three decades, Mahatma Gandhi Mission (MGM) has blazed a trail of academic excellence and state-of-art health care services. A strong, dynamic institution that keeps pace with the demands of the modern world, prominent locations and excellent education facilities makes MGM worthwhile and an exciting choice for education.

This organization is devoted to work for high standards in specialized academic field with primary objective of post-graduate education, instruction and training in various branches of learning, research for the advancement of knowledge and building up sound character. Health care, social services and research activities are also our prominent features.

The Mahatma Gandhi Mission trust is headed by eminent personalities from diverse field. The members are very well known for their social contribution to the society.

The members of the trust are as under;



Sr. No.	Name of the Trusty	Designation
1	<i>Shri. Kamal Kishore Kadam</i>	Chairman MGM Trust and Chancellor, MGM IHS Navi Mumbai
2	<i>Dr. P. M. Jadhav</i>	Vice Chairman
3	<i>Shri A. N. Kadam</i>	Secretary
4	<i>Shri Pratap Borade</i>	Treasurer
5	<i>Dr. S. N. Kadam</i>	Member
6	<i>Dr. N. N. Kadam</i>	Member
7	<i>Shri Ujwal Kadam</i>	Member





Introduction Of MGMIHS

2.1 Introduction of MGM Institute of Health Science

The Deemed to be University status was conferred by UGC under Section 3 of UGC at 1956 on 30 Aug. 2006 to the Institutions namely MGM Medical College, Navi Mumbai and MGM Medical College, Aurangabad which were established in the year 1989 and 1990 respectively with permission of government of Maharashtra. The MBBS and Postgraduate Courses (MD/MS/PG Diploma) of the Colleges under reference as above have been recognized by Medical Council of India from time to time.

2.2 Constituent Colleges/ Institute of MGM Deemed University

At the inception, the MGM Deemed University of Health Sciences has following approved Campuses;

-  MGM Medical College, Navi Mumbai
-  MGM Medical College, Aurangabad

Consequently, MGM Deemed to be University sought permission to start Nursing, Physiotherapy and other Biomedical Courses, which are allied to the core specialization of, have been started by the University.

MGM's Medical College was established in the year 1990 in a campus over 44 acres land. The Medical College is recognized by MCI since 1996 and is presently a constituent part of the MGM Institute of Health Sciences. The Institute is NAAC, NABH &



NABL accredited is rated among the top 40 Medical Colleges in India according to the India Today's survey.

2.3 Vision of the Deemed University

MGM Institute of Health Sciences aims to be a top ranking center of Excellence in Health Science Education, Health Care and Health Research.

2.4 Mission of the Deemed University

Students graduating from the Institute will have the required skills to deliver the quality health care to all sections of the society with compassion and benevolence, without prejudice or discrimination at an affordable cost.

As a Research Centre, it shall focus on finding better, safer and affordable ways of diagnosing, treating and preventing diseases. In doing so, it will maintain highest ethical standards.

Moto: To wipe every tear from every eye- Mahatma Gandhi

2.5 Hospital Complex

Hospital Complex includes;

- a) Administrative Block
- b) Academic Block
- c) Emergency Medical Services including Casualty
- d) Out Patient Department (OPD) with Multi - Specialty Clinical Departments
- e) In Patient Department (IPD)
- f) Intensive Care Unit (ICU)
- g) Critical Care Units

Distribution of Hospital Beds; General Beds

Sr. No	Name of Critical Care Unit	No. of Beds
1	Medicine Ward	150
2	Paediatric Ward	90
3	Dermatology Ward	30
4	Pulmonary Medicine Ward	30
5	Psychiatry Ward	30
6	Surgery Ward	150



7	Orthopedics Ward	90
8	Ophthalmology Ward	30
9	ENT Ward	30
10	OBGY Ward	90
11	Emergency Medical Services	30
12	Nephrology Ward	20
13	Urology Ward	20
14	Plastic Surgery Ward	20
15	Cardiology Ward	20
16	CVTS Ward	20
Total General Beds Including Charity Beds		850

Distribution of ICU Beds;

Sr. No	Name of Critical Care Unit	No. of Beds
1	MICU	13
2	SICU	13
3	EICU	8
4	OBGY- ICU	5
5	KT ICU	3
6	CCU	13
7	PICU	5
8	NICU	14
9	Dialysis Beds	10
10	MJPJAY ICU	5
	MCRI ICU	13
Total		102

Hospital Department includes;





- EMS Casualty Department* with Emergency Medical Services. 30 bedded Crisis expansion ward with 24 hours Ambulance service, Mob. No. 9923818181 and 9764999447.
- Radiology Department* with facility for CT scan, MRI 2D Echo, Ultrasound, Colour Doppler, Mammography and Interventional Radiography.
- Pathology Department* and Central Lab with state of the art lab equipment's like the Automatic Chemistry Analyzer, ABG machine and Automated Immuno Assay System.



- d) *Well-equipped Blood Bank*: FDA Approved with facility for Blood components.
- e) *Ten modern Operation Theaters* along with SICU, including OT for advanced Endoscopic Surgery, Joint Replacement Surgery and Ophthalmic Surgery.
- f) *Ophthalmology Department* with facilities for Retinal Angiography, Automated Perimeter, Diode Laser, Fundus Camera, Phaco Machine with Vitrectometer.
- g) *ENT Department* having facility for Micro surgery for Ear, Endoscopic sinus surgery along with total Audiology setup.
- h) *Orthopedic Department* with facilities for Arthroscopy, Endoscopic spinal surgeries and joint replacement surgery.
- i) *Obstetrics & Gynecology Department* with well-equipped Labor room, Maternal and child care units.
- j) *Pediatric Department* with PICU, NICU under Neonatologist.
- k) *Dermatology Department* with facility for hi - tech cosmetic surgery.
- l) *Endoscopy Department* with latest scopes. Including Gastroscope, Duodenoscope, Colonoscope, Bronchoscope and Arthroscope.

2.6 Program

MGM's Medical College and Hospital, Aurangabad is a constituent college of the MGM University of Health Sciences, Navi Mumbai and offers the following courses;

 M.B.B.S intake capacity	: 150
 PG intake capacity	: 72
 Super Speciality Intake	: 05
 Fellowship Intake	: 14



Objectives Of Study

3.1 Objectives of Study

The main objective of the audit is to promote the Environmental Management and Conservation at college and hospital campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of environmental sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying of audit are;

- a. To introduce and ware all stake holders to real concerns and its sustainability
- b. To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.

3.2 Methodology

In order to perform the audit, the methodology included different tools such as preparation of physical inspection of the campus, observation and appraisal of the documentation and data analysis, measurements and recommendations.

The audit covers following facets of the environment.

- ✚ Water Environment
- ✚ Air Environment
- ✚ Solid and Land Environment
- ✚ Energy Environment
- ✚ Safety and Health Environment
- ✚ Social Environment



Environmental Components

4.1 Present Infrastructure & Area

The institute has been spread over area of 44 acres and the area distribution is as below;

Sr. No.	Details	Area in SQM
1	Total plot area	178062.00
2	Total construction area	50050.87
3	Area of parking	7,318.08
4	Area of Road	1,713.98
5	Area of Utility	1,158.74
6	Area of green belt	2,381.11
7	Area of open space	115439.22

The layout of the campus showing all details is enclosed as [Annexure II](#)

The facility is well planned as per standard architectural norms providing adequate wide roads, open spaces, green spaces and adequate parking facility.

The campus has provided a dedicated multilevel parking facility for vehicles of staff, students and visitors. The total parking provided in the campus is as below;

- ✚ Multilevel Parking : Two Wheeler – 700 Nos., Four wheeler -120 Nos.
- ✚ Front Office Parking : Four wheelers – 60 Nos.
- ✚ MCRI Parking : Two Wheeler – 300 Nos., Four wheeler -120 Nos.
- ✚ Basement Parking at Gate no. 9: Two Wheeler – 800 Nos., Four wheeler -100 Nos.



Photographs No. 1.1 Parking Facility Provided by MGM

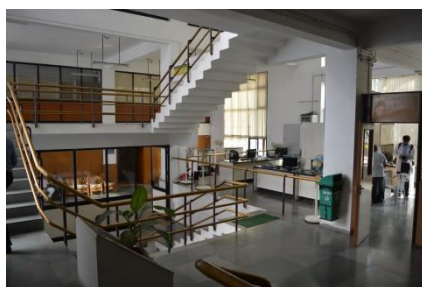




The institute has state of art infrastructure with special facilities like;

Advanced Laparoscopic Surgeries, Advanced Therapeutic Endoscopy, Hepato-Pancreatico-Biliary Surgery, Urology, Plastic Surgery, Cardiovascular Thoracic Surgery, Pediatric Surgery, Neuro Surgery, Onco Surgery, Orthoplasty (Joint Replacement Surgeries), Orthoscopy (Arthroscopy), Hemato-oncology, Pediatric nephrology, Pediatric cardiology, Critical Care Medicine, Obstetrics and Gynecology (including high risk Obstetrics), Pediatric Ophthalmology & ROP Clinic (Retinopathy of Prematurity), Anterior Segment Glaucoma & retina OCT (Optical Coherence Tomography), Comprehensive Glaucoma Clinic, Pulmonary Function Test –Diffusing capacity of the lung for carbon monoxide(PFT-DLCO), Electro convulsive Therapy (ECT), Immune-histochemistry, Urodynamics, Lithotripsy, Sleep Studies, Organ Transplant Unit, Dialysis and Interventional Radiology.

Photographs No. 1.2 General Infrastructure & Facility provided by MGM





4.2 Water Environment

Water Pollution has assumed alarming proportions. It has emerged as one of the most serious environmental threats in India. Both domestic and industrial reasons are contributing to this problem. Excessive use of soap, soda, bleaching powder, detergent or acids at home and chemicals in the industries are primarily responsible for water pollution. Urban sewage and industrial waste flows into the water sources without treatment. Despite all efforts of the Government in cities and towns, only 10 per cent of the total waste water is treated and rest of polluted material directly flows into ponds, rivers and ocean.

Polluted water leads to the worst effect on human health. According to the World Health Organization (WHO), every year due to contaminated water 50 million persons become the victims of death. About 360 persons per one lakh die in India and over 50 per cent patients getting admitted in hospitals are the patients of water borne diseases. The situation in underdeveloped countries is even worse where over 80 per cent of the patients are suffering from the diseases born out of polluted water.

Microbes, toxins and water containing unnecessary amounts of salts give rise to many diseases. Around the globe, more than 80% of water borne diseases are due to contaminated water. As per an estimate, almost 2.5 million people in over 34000 villages of India are suffering from cholera. Millions of tribal villagers in Rajasthan are suffering from various diseases due to drinking dirty water from the ponds. Contaminated water contains a variety of disease-causing bacteria that results in several types of ailment.

According to the scientists, a large number of diseases in India can be attributed to drinking of sewage mixed water. Various diseases like polio, cholera, patches, jaundice, fever, viral fever etc are spread through polluted water. Polluted water contains lead which when consumed by the humans while drinking water leads to producing various ailments such as joint pain, kidney disease and heart disease in them.

The waterborne diseases are infectious which spread primarily from polluted water. Hepatitis, cholera, dysentery and typhoid are the common waterborne diseases, which affect the majority of tropical area. Apart from diarrhea, and breathing problems, drinking polluted water causes skin diseases. If the polluted water gets stagnated, it becomes a breeding ground for mosquito and many other parasites which are very common in tropical areas.



Children often get sick if they drink polluted water and sometimes they even die due to intensity of the diseases. As per an estimate, 13 children die per hour in India, due to diarrhea caused by contaminated water.

Polluted water is like poison for human beings. Large amounts of chloride in drinking water deform the spine which becomes snaky and their teeth go yellow, start falling and moreover their hands and feet lose flexibility of the bones and their body deforms. It also increases the risk of kidney diseases. A large amount of sulphide in polluted water is the reason of various respiratory diseases and drinking water contaminated with urea increases intestinal disorder. Thus continuous intake of contaminated drinking water is the reasons behind various stomach related disorders and other diseases like lumps in throat, tooth decay, etc.

The factors causing most harm to human health through contaminated water are pathogenic microbes. Based on these, diseases generated by contaminated water are divided into the following main categories:

- ✚ By virus – Jaundice (Yellow Fever), polio, gastroenteritis, common cold, infectious liver Sod, and smallpox.
- ✚ By bacteria – Diarrhea, loose motions, paratyphoid, high fever, cholera, whooping cough, gonorrhea, syphilis, gastroenteritis, dysentery, and tuberculosis.
- ✚ By protozoa – Diarrhea, dysentery, narcolepsy (epidemic encephalitis), malaria, amoebiasis, and giardiasis.
- ✚ By worm – Filariasis, hydatid cyst and a variety of worm disease (various types of stomach worms).
- ✚ Leptospirosis disease – In addition to organisms that cause disease in our body, various types of toxic substances harm our health reaching our body through water. The main toxic elements among them include cadmium, lead, nickel, silver, arsenic, etc.
 - a) Excess quantities of iron, manganese, calcium, barium, chromium, copper, cilium, boron, and other salts such as nitrate, sulphate, borate, carbonate, etc in water have adverse effects on human health.
 - b) The excess of magnesium and Sulphate in water irritates the intestines.
 - c) In children, the excess of nitrate leads to the disease methemoglobinemia and generates stomach cancer by reaching the intestine.
 - d) Fluorosis is a disease caused by excess of fluorine.



- e) Excess level of mercury in fish is dangerous especially for small children and pregnant women or nursing women. It interferes with the central nervous system development in the foetuses and young children.

Water pollution is dangerous for all life forms in this universe. Pollution of water leads to several illnesses. To protect human beings, plants and other life forms, it is urgent to find out the solution of water pollution and collective efforts by individuals, society and the government are required to achieve this aim.

4.2.1 Water Requirement

The hospital and hostel need fresh water for various purposes like domestic use, cooling water make up, pathology laboratory, green belt maintenance, washings, laundry etc. The water is sourced from Aurangabad Municipal Corporation.

Water Requirement on daily basis: The campus includes college, hospital, hostel, canteen etc. and the total water requirement is about 697 cum/day on peak load capacity. However as of now as per records the water consumption is only 425 cum/day. The water consumption figures for the last one year are enclosed as [Annexure III](#).

4.2.2 Source of Water

Source of water is from Aurangabad Municipal Corporation and in case of non-availability the water is purchased through tankers from reputed agencies.

4.2.4 Man Power

The total manpower of the campus includes In-house Patient's, OPD Patients, Students, Staff, Faculties, Causal / Skilled / Unskilled workers, Permanent Hostel Residents, visitors etc. It is estimated that total manpower visiting the campus is @3000 numbers.

4.2.5 MPCB Approval

The hospital has received consent to operate under water Act 1974, Air Act 1981, Authorization under rule 5 of the Hazardous Wastes (M, H & T M) rules 2016 and Biomedical Waste Management rules 2016 from Maharashtra Pollution Control Board (Ref. Number Format 1.0/BO/UAN No. 62150 / CAC-1906001274 dated 25th June 2019 valid up to 31st Dec 2023). The copy of same is enclosed as [Annexure IV](#). As per the permission the quantities of sewage and effluent generation are as under;



- + Quantity of trade effluent : 22 cum/day
- + Quantity of Domestic Effluent : 540 cum/day

4.2.6 Trade & Domestic Effluent Treatment Facility

Treatment Plant: The hospital has provided state of art sewage and trade effluent treatment plant for following capacities.

- + Trade Effluent : 30 cum/day
- + Domestic effluent : 600 cum/day

The treatment Description is as under;

A] Trade Effluent: The trade effluent is mainly from pathology laboratory, laundry, operation theaters and other sources than the domestic effluent. The trade effluent is passed through a common drainage line and through coarse screen followed by oil and grease trap. The free and floating materials are collected from the screen chamber and disposed off as per the regulation. The oil skimming from the oil and grease trap are collected manually and disposed off as per regulation. The effluent then is collected in a collection tank and fed to the primary treatment unit comprising of flash mixer and settling tank. A dose of alum is added for enhancement of settling of solids in the settling tank. The sludge removed from the settling tank is discharged to sludge drying beds for natural drying. The dried sludge is disposed off to the CHWTSDF. The overflow of the settling tank is added to the MBBR tank of STP for further treatment. The treated effluent meets to the norms laid down by regulatory authorities. The management is carrying out 3rd party testing for trade effluent and domestic effluent and the same is enclosed as [Annexure V](#).

B] Domestic effluent: The raw sewage from various sources like toilets, canteen, hotel etc. are collected through a common drain line and collected in a collection tank. The raw sewage is then pumped to screen chamber and oil and grease trap for removal of screenings and free and floating oil. The screenings and oil skimming are disposed off as per the regulatory norms. The overflow of the oil and grease trap is taken to MBBR (Moving Bed Biological reactor). The MBBR tank is provided with PVC fill media and diffused aeration system for biological treatment of sewage. The microorganisms are grown on the PVC fill media in the form of colonies and consume BOD from the sewage as their substrate. The air supplied from twin lobe type air blowers through the fine air bubble diffusers shall act as an energy source for microorganisms.



The overflow of the MBBR tanks is being taken to secondary clarifier to remove the clogged colonies of microorganisms from the PVC fill media. The overflow of secondary clarifier is collected in an intermittent tank and pumped through a pressure sand filter. The filtered water is stored in a treated water tank and a dose of sodium hypo chloride is added to same for disinfection of sewage. The treated sewage is used for green belt development, cooling tower make up etc.

The schematic diagram of ETP and STP is enclosed as an [Annexure VI](#)

Third party certification of treated sewage and effluent: The untreated and treated trade and domestic effluents are tested on monthly basis through third party which is NABL and MOEFCC accredited. A copy of report is enclosed as an [Annexure V](#).

Photographs No. 1.3 Trade & Domestic Effluent Treatment Facility





4.3 Storm Water Environment & Rain Water Harvesting

Storm water is any water running off a land surface before it reaches a natural water body. It occurs when the rate of precipitation is greater than it can infiltrate, or soak, into the soil. Runoff also occurs when the soil is saturated. Runoff remains on the surface and flows into streams, rivers, and eventually large bodies such as lakes or the ocean. Movement of this storm water across the soil causes erosion. It can also carry and deposit untreated pollutants, such as sediment, nutrients and pesticides, into surface-water bodies. Impervious surfaces such as driveways, sidewalks, and streets block rainfall and other precipitation from infiltrating naturally into the ground, leading to even more storm water and potential pollutant runoff.

The average rainfall in the region is 700 mm and the storm water management system is designed for peak rainfall of 100 mm. The campus has provided 2.0m wide and 1.5 m deep trenches along the boundaries of the campus which are connected to the natural drainage outside of the campus. All roads and internal drains are connected to these storm water drains. All water on plain area and roofs is diverted systematically to these drains through the internal network of smaller drains of 0.5 M wide x 0.5m wide drains. The network of drains ensures that there is no flood like situation in the campus during peak rainfall.

Rainwater harvesting offers a small-scale best management practice to reduce storm water runoff and the problems associated with it. By harvesting the rainfall and storing it, you can slowly release the water back into the soil, either through irrigation or direct application. The water then moves into groundwater table, providing a steady supply of water to local streams and rivers.

The campus has topographic slope in the North and North West side and for collection of rain water storm water drains are provided as mentioned above. The rain water harvesting is done by construction of two deep percolation well having 3.0m diameter and 6.5m depth

The campus has provided two open wells and both wells are connected with horizontal bore to equalize the water level during the pumping. The percolated water is stored in another well of 4000 KL capacity.

The stored water is used for landscaping, play fields and tropical forest through drip irrigation system.

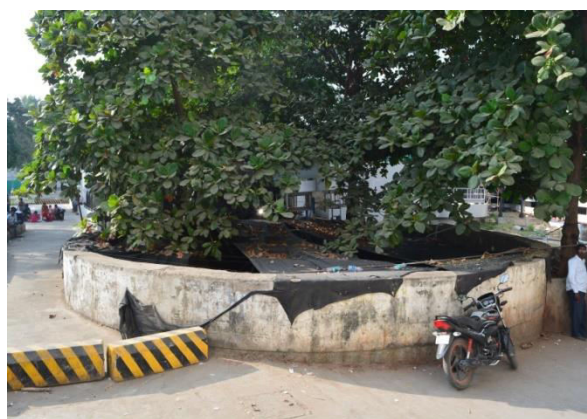


The open channel excess water is collected in two number of open lakes of two different locations on adjoining property of MGM trust. The lakes are covered with synthesis / bio synthesis plant for prevention of atmosphere evaporation. These lakes allow water to recharge in surrounding area to prevent erosion and provide organically rich fertile soil and landscape. This water harvesting system is utilized for all 17.5 ha MGM campus providing perfect ecological balance and oxygen pool to surrounding neighborhood.

The actual resultant of the system is honored appreciation of the trust from His Highness President of India.

The work done for rain water harvesting and storm water management under supervision of M/s Space Forum Architects Pvt. Ltd. The certificate and drawing in this respect is enclosed as [Annexure VII](#).

Photographs No. 1.4 Rain Water Harvesting in MGM



4.4 Air Environment

For the hospital campus the indoor as well as outdoor air quality is very important. The outdoor air quality shall depend on levels of dust, traffic, greenery, quality of roads, level of air pollution due to other sources nearby etc.

The immediate effects of poor outdoor air quality are hard to ignore. Watery eyes, coughing and difficulty breathing are acute and common reactions.



An estimated 92 percent of the world's populations live in areas with dangerous levels of air quality and even at seemingly imperceptible levels; air pollution can increase one's risk of cardiovascular and premature death.

Consistent poor air quality during pregnancy has been linked to miscarriages as well as premature birth, autism spectrum disorder and asthma in children.

Poor air quality may damage children's brain development, and pneumonia, which kills almost 1 million children under the age of 5 every year, is associated with poor air quality resulting from air pollution. Children who breathe in higher levels of pollutants also face a greater risk of short-term respiratory infections and lung damage.

Other conditions associated with high levels of poor air quality include emphysema and chronic bronchitis, as well as lung cancer.

Pollutants can affect cardiovascular health by hardening the arteries and increase the risk of heart attack and strokes, and there is even emerging evidence that air pollution may be linked to mental health conditions and degenerative brain diseases such as Alzheimer's disease, Parkinson's disease and schizophrenia

4.4.1 Effects of poor Air Quality on Human Beings

While poor air quality due to air pollution's link to respiratory disease may seem obvious, its relationship to heart, brain and fetal health is less so.

When the toxic soup of chemical particles and liquid droplets emitted by cars, power plants, fires and factories known as particulate matter is inhaled, the microscopic toxic dust can irritate nasal passages and result in an allergic-type response to the pollution, with symptoms like coughing and a runny nose.

Scientists believe that as the particles make their way deeper into the airways and into the lungs, the body may mistake it for an infection, triggering an inflammatory response.

"When you have a bad head cold, you feel sick everywhere and your muscles might ache," Gerber said. "The same thing can happen when you breathe in pollution."

Scientists also suspect that some toxic particles can escape the lungs and enter the bloodstream.



4.4.2 Ambient Air Quality

The hospital campus does not have boiler, incinerator or any other source of continuous emissions. The hospital campus has however provided 3 DG sets of total 1950 KVA (2 of 600 KVA and One of 750 KVA) capacities each as a stand by in case of power failure. The DG sets are used only in case of emergency. The fuel required for DG set is HSD (375 lit/hr) and DG sets are provided with acoustic enclosure and stack of adequate height. In order to maintain ambient air quality as per norms laid down by Central Pollution Control Board following precautions are taken by the management;

- ✚ Roads inside campus are tarred and concreted.
- ✚ Well-developed green belt is maintained.
- ✚ Roads are frequently cleaned and watered.
- ✚ Any civil work / repair work is done with proper cladding.
- ✚ Material movement is done in closed trucks.
- ✚ Only PUC certified vehicles are allowed in the campus.

The hospital campus in collaboration with Central Pollution Control Board is setting up continuous online ambient air quality monitoring station.

Photographs No. 1.5 DG Set with adequate Stack Height





4.4.3 Indoor Air Quality

Hospitals are the places we visit to get treatment in the case of any health-related issues. However, we often ignore that hospitals are also the host to many types of air pollutants hence causing airborne infections, commonly referred to as "Hospital Acquired Infection" [HAI].

Poor Indoor Air Quality inside healthcare facilities is more harmful as compared to bad indoor air of any other place, like hotels or workplaces as other than dust and other pollutants, it involves hospitals and pharma related chemicals, and various types of known and unknown bacteria and viruses responsible for spreading cross infections.

According to the World Health Organization, at any given time over 1.4 million people across the globe suffer from a nosocomial or HAI (Hospital Acquired Infection). HAIs account for 2 million ailment cases and about 80,000 deaths a year.

Hence, it becomes really important for healthcare facilities to maintain the indoor air quality to safeguard patients, staff, caregivers and also the visitors from hospital-acquired infections. Before we dive into the solutions, let us first understand the main factors responsible for poor air quality inside healthcare facilities and where are they found;

1. Outpatient departments:

OPDs are the busiest areas in any hospital. Every day, average 1300 of patients visit for the first-hand check-up. Many of these patients are carriers of harmful bacteria and viruses and they are highly infectious because their medication hasn't even started. They all sit in the same room for hours and this might cause cross infection to others and also to the doctor and other staff.

2. Operation Theatres

Surgical care is one of the most crucial and integral parts of healthcare however, it is also associated with risks related to infections. Surgical site infections (SSIs) remain one of the most common causes of serious surgical complications in Healthcare Associated Infections (HAI) and one of the main factors for these infections is circulation of stale air and poor air quality.



3. Intensive Care Unit

Several patients are kept inside the Intensive Care Unit for observation and also to protect them from outside infection. A visit to by any outsider to ICU is often taken with precautions still the prevalence of HAI remains really high in ICUs. And, this influences the mortality and morbidity pattern of ICUs.

4. Maternity wards, Neo-natal and Pediatric ICUs:

Maternity wards and Pediatric ICUs can be breeding grounds of several infections and they affect mothers and infants at a time when they are most vulnerable.

5. Waiting areas and halls:

These are the places where people gather in large numbers and not all healthcare facilities are adequate enough to maintain cleanliness and proper air quality in these spaces, hence it enhances the risk of infections amongst visitor and caregivers.

6. Storage units

It is really important for the staff to maintain the hygiene of storing places because just the presence of fungi in hospital air is a matter of great concern as many spores can be released leading to an incidence of HAIs and occupational infections.

4.4.4 How to improve Indoor Air Quality?

The above are just a few examples of how the infection spreads through impure Air in Hospitals, clinics, diagnostics labs, IVF labs, etc. There are several other sources through which HAI can spread.

The hospital is taking following steps to improve the Indoor Air Quality.

- a. Presence of patients is the main reason for any hospitals for maintaining the IAQ but patients are also the major source of air contaminants, like bacteria, viruses and foul smell coming from the wounds and other infections. The facility staff comes in direct and immediate contact with patients so it is important for staff to use proper masks and gloves while handling patients and follow all hygiene protocol designated & facilitated for them.
- b. The hospital has awarded housekeeping contract to a very well-known and experienced agency in this field (Bharat Vikas Group). Protocols for housekeeping as



per the various departments of hospital are fixed and critically followed. The company carrying out these works is ISO certified and few documents related to protocols, check points, recruitment of staff for housekeeping are enclosed as [Annexure VIII](#).

- c. Adequate ventilation and illumination is provided as per standards.
- d. Proper humidity is maintained.
- e. HVAC system is provided to maintain proper quality in wards, operation theaters, and various departments.
- f. Differential Pressure controls are maintained as per standards.

The hospital maintains following standards of various measures to keep the indoor air quality as per norms. Following Air changes are maintained for various departments;

	Outdoor air	Total air	Outdoor air
Area	change rate	change rate	requirement
	ACH*	ACH	L/s/Person
Patient room	2	4	13
Operating theatre	15	15	15
Intensive care unit	2	6	8
Infectious isolation room	2	6	–
Protective isolation room	2	15	–
Laboratory	2	6	–
Delivery room	15	15	–

The Filtration systems are provided at various departments with following efficiencies;

Area	Filter	
	Pre-filter	Final Filter
Patient room	25–30%	90%
Infectious isolation room	25–30%	90%
Protective isolation room	25–30%	90–99.97%
Intensive care unit	25–30%	90%
Delivery room	25–30%	90%
Laboratory	80%	--
Operating/surgical room	25–30%	99.97% (90%Plus Additional)



Thus the hospital campus is taking proper care to maintain very good quality of outdoor as well as indoor air quality.

4.5 Waste Generation & Management

The hospital campus is generating various types of hazardous and non-hazardous solid wastes as under.

- ✚ Bio Medical Waste
- ✚ E Waste
- ✚ Municipal Solids Waste
- ✚ Non Hazardous waste like metal scraps, papers etc.

The hospital has also made SOP for condemnation of disposal of items wide Doc ref. SOP/MGM/FMS4 g. Under the said SOP detailed procedure is outlined for disposal of various items.

4.5.1 Biomedical Waste

The Ministry of Environment and Forests and Climate Change has published Biomedical Waste Rules in 2016 wide GSR 343 (E) dated 28th Mar 2016 and the same are subsequently amended in the year 2018 wide GSR 234 (E) dated 16th Mar 2018. The notification specifies the practice to be followed for disposal of biomedical waste and compliances to be made. The hospital has obtained authorization for bio medical waste from Maharashtra Pollution Control Board wide Ref. Number Format 1.0/BO/UAN No. 62150 / CAC-1906001274 dated 25th June 2019 valid up to 31st Dec 2023). The copy of same is enclosed as [Annexure IV](#).

- ✚ Bio-medical waste means “any waste which is generated during;
 - the diagnosis,
 - treatment or
 - immunization of human beings or animals or
 - in research activities or
 - in production or testing of biological and
 - Including categories as mentioned in schedule – 1”

Biomedical waste poses hazard due to two principal reasons;

- Infectivity and
- Toxicity.



✚ Bio Medical waste consists of;

- a. Human anatomical waste like tissues, organs and body parts
- b. Animal wastes generated during research from veterinary hospitals
- c. Microbiology and biotechnology wastes
- d. Waste sharps like hypodermic needles, syringes, scalpels and broken glass
- e. Discarded medicines and cytotoxic drugs
- f. Soiled waste such as dressing, bandages, plaster casts, material contaminated with blood, tubes and catheters
- g. Liquid waste from any of the infected areas
- h. Incineration ash and other chemical wastes

✚ Main groups at risk are:

- a) Doctors, nurses and paramedical workers
- b) Patients in health-care establishments
- c) Visitors to health-care establishments
- d) Workers in allied services e.g. laundry, waste handling and transportation and
- e) Workers in waste disposal facilities (including rag pickers)e.g. landfills and incinerators

✚ Health Hazards of Healthcare Waste;

A] Hazard from infectious waste and sharps

- HIV
- Hepatitis B
- Hepatitis C
- Antibiotic resistant bacteria

B] Chemical and pharmaceutical waste

- Corrosive
- Burns
- Explosives



C] Genotoxic waste:

- Toxic manifestations depend upon
 - Substance toxicity
 - Amount exposed to and
 - Time period of exposure

D] Radio – active waste

- Headache, dizziness and vomiting after small exposure
- Serious health problems if exposure is high

E] Public sensitivity:

- Public is very sensitive to the visual impact of health care waste
- Especially anatomical waste

F] Hazard from infectious waste and sharps

- HIV
- Hepatitis B
- Hepatitis C
- Antibiotic resistant bacteria

G] Chemical and pharmaceutical waste

- Corrosive
- Burns
- Explosives

✚ Need of biomedical waste management in hospitals

The reasons due to which there is great need of management of hospitals waste such as:

- a. Injuries from sharps leading to infection to all categories of hospital personnel and waste handlers
- b. Nosocomial infections in patients from poor infection control practices and poor waste management.
- c. Risk of infection outside the hospital for waste handlers and scavengers and sometimes general public living in the vicinity of hospitals.



- d. Risk associated with hazardous chemicals, drugs to persons handling wastes
- e. "Disposable" being repacked and sold by unscrupulous elements without even being washed.
- f. Drugs which have been disposed of, being repacked and sold off to unsuspecting buyers.
- g. Risk of air, water and soil pollution directly due to waste, or due to defective incineration emissions and ash.

BMW Management

The biomedical waste from the hospital campus is categorized in four categories as per the BMW rules. The waste arising out of various departments is sorted out and stored in dedicated containers with Yellow, White, Red and Blue color. The waste is further stored and classified as per Categories mentioned in BMW rules. The category wise waste is weighted and documented. The waste is daily collected by the Authorized facility operator for scientific disposal. The records of daily waste generation and disposal are maintained by the concerned department. A system of gate pass is maintained at the time of handling over waste to the Authorized representative of facility operator. A sample copy of documentation maintained is enclosed as [Annexure - IX](#). The Biomedical waste is stored in the dedicated area which has access to authorized personnel only.

Photographs No. 1.6 Biomedical Waste Management in MGM





4.5.2 E- Waste

Electronic waste (e-waste) is when electronic products that have come towards the end of their “useful life.” Electronic waste has detrimental effects on our environment, the health of humans and animals. Recycling of used electronic devices is important to make sure that we are protecting the environment. Following are 5 reasons why electronic waste is such a problem:

1] Electronic waste keeps growing and growing: Today people are buying more and more electronic devices and the electronic devices are being retired faster. In case of hospital campus of various types of electronic equipment's are used for diagnostic purpose and the same are needed to be disposed off due to replacement for up gradation of due to end of life or failure. The hospital uses various electronic equipment's like ventilator, ventilator display monitor, blood cell counter, multipara monitor, cautery machine, ABG machine, ECG Monitor, LCD displays etc.

2] Environmental effects of e-waste: The toxic materials from electronic devices are released into bodies of water, groundwater, soil and air, affecting both land and sea animals. When you throw out your e-waste they wind up in landfills, causing toxic materials to seep into groundwater. When e-waste is warmed up, toxic chemicals are released into the air damaging the atmosphere.

3] Tons of e-waste is shipped overseas: Much of this is left in junkyard which pollutes the environment or is burned for scrap by people. Informal recycling markets in China, India, Pakistan, Vietnam, and Philippines handle anywhere from 50 percent to 80 percent of the world's e-waste. In Guiyu, China, one of the largest electronic waste landfill sites in the world. When electronic devices are dumped in these developing countries the impact is detrimental to the environment of the country and the health of the people.

4] Health implications of electronic waste: Computers and most electronics contain toxic materials such as lead, zinc, nickel, barium and chromium, specifically with lead, if released into the environment can cause damage to human blood, kidneys, as well as central and peripheral nervous systems. Residents of Guiyu, China exhibit substantial digestive, neurological, respiratory and bone problems. The impact of electronic waste is detrimental to the health of the people in these developing countries.



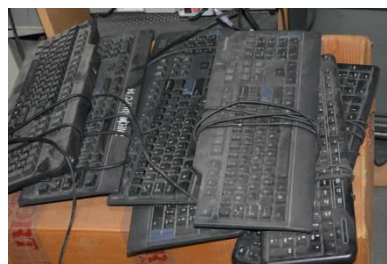
5] **Electronic waste and data security:** One should be concerned with where their electronic equipment is going after disposal because they are worried about sensitive data loss, identity theft, consumer scams, data breaches and loss of integrity. These are just a few of the problems that can be caused by not properly disposing of your electronic waste due to people stealing information from the hard drives in e-waste.

In order to have scientific management of E Waste the Ministry of Environment and Forests and Climate Change has published E Waste Management rules wide GSR 338 (E) dated 23rd Mar 2016 and the same are subsequently amended wide GSR 261 (E) dated 22nd Mar 2018. These rules makes every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational to meet the compliances as specified in these rules.

E-Waste Management

The management of the hospital campus has entered into agreement with M/s Green E-Bin Electronic Waste Solutions Pvt Ltd., for disposal of E Waste generated from the hospital and college campus. The said firm has valid consent to operate from Maharashtra Pollution Control Board wide reference number BO/MPCB/RO(HQ)/AD/CE/B-1806000425 dated 11th June 2016. The disposal of E Waste is documented by the concerned department giving all details of the equipment's to be disposed off like Name of Equipment, Serial Number, Model, Make and Quantity. A sample copy of same is enclosed as [Annexure X](#). The E Waste is handed over to the authorized recycler and E Waste Manifest (form -6) is prepared as per the rules of E Waste rules. A sample copy of manifest is enclosed as [Annexure XI](#).

Photographs No. 1.7 E- Waste Management in MGM





4.5.3 Municipal Solid and Other Wastes Management at MGM Hospital Campus

The ministry of Environment and Forests and Climate Change has published notification for handling of Municipal and other solid waste wide GSR 1357 (E) dated 8th Apr 2016 which apply to every urban local body, outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbors, defense establishments, special economic zones, State and Central government organizations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time and to every domestic, institutional, commercial and any other nonresidential solid waste generator situated in the areas except industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986.

The hospital campus generates various types of waste like food waste from canteen and mess, lawn cuttings, tree leaves, papers, metal scrap of various types, waste material etc. These wastes are segregated into various categories like bio degradable and non-biodegradable. A dedicated area is marked for storage of these types of wastes. Only authorized persons are allowed to enter the same.

The biodegradable waste from the whole campus consisting of food waste, tree leaves, lawn cuttings is estimated to be 600 to 700 kgs/day. The said waste is converted into bio compost by use of 7 tank process. Special microbial culture is used for accelerating the bio composting process.

The process of bio compost is invented by *Padmashri late Dr. R. T. Doshi* and it has been modified and enhanced by *Dr. R. R. Deshpande* using bio-culture and biocatalyst developed by BERI Pune. It is a self-operating and self-improving system and producing enriched compost.

The bio compost is used as manure for green belt in the campus. Other waste is segregated as per the category and is sold to authorized recycler. The records of waste disposed are maintained by the stores department.



Photographs No. 1.8 Bio-Composting (Clean India Initiative)





4.6 Energy Environment

Electricity in hospitals is used for wide variety of purposes like lighting, cooling/heating equipment, air compressors, water pumps, fans, laundry, kitchen, medical equipment's, ovens, etc. The hospital and college campus is presently buying electricity from Maharashtra State Electricity Distribution Co. Ltd. The hospital campus has sanctioned load of 1200 KW and connected load of 600 KW. The average monthly unit consumption is 200,000 units.

Energy Conservation / Use of Non-Conventional Energy Sources

The hospital campus has made power purchase agreement for Solar power with M/s Agro Solar Power Pvt. Ltd. For settling up of 1500 KW grid connected Rooftop Solar PV Power project under BOOT model. The implementation of solar power generation has started since Aug 2018 and till this month end the average power generation for solar power is @70000 units/month. This shall result in saving of @42000 kg of emissions of CO₂.

This shows the commitment of management towards sustainability. The [Annexure XII](#) shows the units consumption from electricity sourced from MSSEDCL and from own solar power grid.

Photographs No. 1.9 Solar System Installed at MGM





✚ Following energy conservation measures are undertaken by the management;

- a) Maximizing usage of natural light during the day through passages and corridors;
- b) Turning off office equipment, fans and air-conditioners during unoccupied hours;
- c) Educating people about reasonable and efficient usage of water heaters and other electrical appliances;
- d) Plugging air leakages in air-conditioned rooms such as office spaces, operation theatre;
- e) Turning off water pumps when the tanks filled up
- f) Catchy campaigns that made use of easy to remember slogans;
- g) Use of various communication tools such as posters at strategic locations to inform staff of the steps that can be taken to conserve energy and minimize wastage
- h) Installation of Lighting controls including timers and occupancy sensors
- i) Use of Variable Speed Drives (VSD)
- j) Upgrades to Heating Ventilation Air-Conditioning and Cooling (HVAC) – Dampers, actuators and controls
- k) Voltage Regulation Units (VRUs)
- l) Demand response management
- m) Building Automation
- n) Building sealing

4.7 Safety and Health Environment

Hospitals are representative of complex environment in which different aspects including patients, staff, equipment, services, and information are interfaced. Maintaining a safe environment with respect safety and health reflects a level of competent healthcare that must be fulfilled for patient safety. In this context, the clinical engineer plays an important role in providing safe environment within hospital.



Fire Safety

Following provisions have been made to deal with fire safety.

- a. Provision of Full fledge fire detection, fire hydrant and fire extinguisher's system as per the requirement. Aurangabad Municipal Corporation has issued Final Fire NOC to the campus wide their letter dated 21 Mar 2017 with Ref. number AMC/FIRE/1184/2017. The same is enclosed herewith as Annexure.
- b. Disaster Management Plan for the whole campus is in place. (Ref. Doc No. – MAN/MGM/COP 4 dated 19 Nov 2016)
- c. Regular fire drills and trainings are undertaken and records are maintained. A copy of sample record is enclosed as [Annexure XIII](#).
- d. Fire escape plan are made and are displayed at various locations. The fire exits are well defined and end on the ground floor or refuge area or any safe place decided by the management. The Fire Signage's are appropriate and placed at the right locations. Emergency fire signage's are glow in dark signage's. The Fire Signage's are visible and are bilingual, with one local language. The egress routes are free from any materials that would cause hindrance in the evacuation. The Fire Doors have a proper fire rating and open outside.
- e. The campus has implemented Code Red 5555 system for fire emergency
- f. All the equipment have an organized preventive maintenance schedule that is recorded and stickers put on the computer showing the date of preventive maintenance check and the next time for maintenance. Fire systems are regularly checked and the records are made by Fireman. A sample copy of records is enclosed as [Annexure XIV](#).
- g. A plan showing locations of fire hydrants / fire extinguishers is displayed at prominent location.
- h. The appropriate type and several fire extinguishers have been installed according to the kind of fire that could take place like Kitchen, MRI, Electrical room, data centre area The Fire Extinguishers have a regular preventive maintenance schedule and stickers are put showing the date of checking and the next scheduled date for verification. Approx. 10% of Fire Extinguishers are used every year for checking the same. Fire extinguishers are regularly checked and replenished before the expiry period. A contract with the competent agency is made for same.



- i. A multidisciplinary safety committee is formed, with a senior person as the chairman of the safety committee. The safety committee meetings are held at least once in 3 months.
- j. The organization has appointed Fire Safety Officer-in-charge of all concerns related to Fire Prevention & Safety.
- k. It also has a written plan for Fire Prevention and Safety and has a Fire Safety Manual approved by the safety committee.
- l. It also has an Emergency Command Centre that becomes functional immediately whenever there is an emergency. There are a written protocol and written constitution for the committee. The Fire Command Centre is also updated with the name of the members. A designated person has the responsibility of informing all the Emergency Command members.
- m. The HVAC system has appropriate fire dampers to prevent the spread of the fire that functions correctly in case of fire. The dampers are tested and have a regular preventive maintenance schedule.
- n. Gas cylinders and medical oxygen cylinders are secured and stored properly. Medical oxygen monitoring system is in place.

Patient and Staff Safety

The hospital has well laid SOP for patient and staff safety. (Ref. Doc No. : PGM/MGM/CQI 2, dated 19th Dec 2016). The document covers following important aspects;

- a. Defining Policy
- b. Formation of Safety Committee
- c. Defining role of committee.
- d. Monitoring of sentinel / adverse events and near misses.
- e. Staff safety related to prevention of HAI
- f. Environmental safety aspects covering smoking limitation policy, patient safety, facility building and installations.
- g. Various safety related SOP's like Smoking Limitation Policy, Radiation Safety Program, safety in pathology and Microbiology labs, management of hazardous material , safety related to medical gases, needle handling policy, disinfection and decontamination protocols and incident reporting are in place.
- h. Safety related quality indicators are fixed for various mock drills, incidences of falls in hospital, number of sentinel events and critical equipment down time.



Photographs No. 1.10 Fire Fighting System at MGM





Radiation Safety

Radiation protection is a public health issue for a number of reasons. First, health effects of radiation are not unique. Second, individuals have only a limited ability to structure or control their own environment. Although radiation exposure awareness has increased among the general public, there is still very little monitoring of cumulative radiation exposure over a patient's lifetime. Successful radiation safety programs must balance engineered safety and personnel training considering technical, scientific, economic, human, and ethical aspects of radiation use. The medical safety programs must adequately protect patients, care givers, visitors, and the general public.

Nonionizing radiation is also a significant health hazard in all hospitals. This type includes ultraviolet, microwave and laser radiation. Ultraviolet (UV) radiation is frequently used in sterilization procedures. In fact, UV exposures are best controlled by limiting exposures as function of energy. In application, Microwave radiation is commonly used in hospital diathermy treatment and in microwave ovens. Microwave radiation is controlled by limiting exposure and sources should be periodically surveyed with measurement equipment. On the other side, Lasers have an increasing role in medical treatment. Eyewear is the most common method of protection.

The hospital has well laid protocols and procedures for radiation safety.

In case of handling of equipment's like MRI/CT Scan/X-Ray, following precautions are taken;

MRI Machines

- MRI Machine Rooms are isolated Properly from surrounding with key locking door
- MRI technician is properly trained
- MRI compatible ventilator available for emergency
- Helium gas emergency drain outside of hospital area
- All warning signed are displayed in waiting area

CT scan / X-Ray Machines

- The CT gantry room walls are 9' and are lined by 2mm lead sheet
- Technicians are properly trained
- All warning signs are displayed outside CT scan area
- Lead Apron provided to staff
- Periodical QA performed for machine



- Do's and Don'ts Displaced on Machine

Infection Control

Infection control provides a framework for identification of a hazard and development of an action plan to eliminate the hazard or minimize its effect through control measures. Control has been achieved by recognizing the means of growth, reproduction and transmission of pathogenic microorganisms. The main components of an effective infection control program are listed as following. The hospital management is taking effective steps related to same in following manner.

- Education and training to staff
- Surveillance of infection
- well defined Policies, procedures, and guidelines
- Conducting regular Audit's.
- Regular Monitoring of hospital hygiene
- Following Standard precautions are being taken
 - Hand washing and antisepsis (hand hygiene)
 - Use of personnel protective equipment when handling blood, body substances, and secretions
 - Appropriate handling of patient care equipment and soiled linen
 - Prevention of needle stick / sharp injuries
 - Environmental cleaning and spills-management
 - Appropriate handling of waste
- Additional (transmission-based) precautions while ensuring standard precautions include
 - Airborne precautions
 - Droplet precautions
 - Contact precautions

4.8 Noise / Aesthetics / Social Environment

4.8.1 Noise

Noise is defined as unwanted sound. Several studies have been conducted for hospital noise that linked hospital noise to a variety of negative physiological



outcomes. The WHO has recommended that noise level should not exceed 35 dB in rooms where patients are treated or observed and 30 dB in wards rooms.

Hospitals have various sources of noise such as alarms, paging systems, telephones, computer printers, televisions, delivery carts, staff conversation, equipment, housekeeping activities, air conditioning systems, doors opening and closing, and sounding systems. Of course, one physical effect of the noise is human stress which should be avoided in hospital environment. Topf and Dillon (1988) have described human effects due to noise-induced stress as decrease in sustained attention, rapid detection, multiple single tasks, and incidental memory.

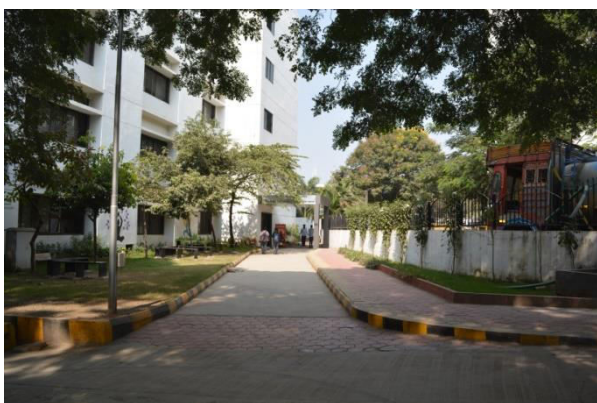
To overcome the problem of noise within hospitals, following preventive procedures are being carried out.

- A regular check and maintenance to all systems that are considered as sources of noise including equipment.
- Regular Monitoring of noise levels
- Acoustic enclosure to high noise machine like DG set.

4.8.2 Aesthetics / Green Belt

The hospital campus has provided 30% of total area for green belt and open spaces. Various types of trees (@ 1500) are planted in the campus and treated sewage is being used for green belt development.

Photographs No. 1.11 Green Belt Development at MGM





4.8.3 Social Environment

The hospital is managed by the charitable trust and service to the humanity is its motto. The hospital provides direct and indirect employment to about 2000 persons. Various CSR activities are carried out by the hospital like

- Medical camps
- Free Medicines to the needy
- Free food to poor patients
- Free treatment to the poor patients
- Awareness programs for Breast Feeding.
- For staff welfare following activities is undertaken by the management Medical Facilities;



- i. All the MGM Employees Get Charity Card, in which the employee and their immediate family members can avail MGM OPD Facility for free of cost.
- ii. Salary Advance: If any Employee is in financial need at any point of time he/she can request for salary advance.
- iii. Sports Complex Facilities: All the Employees get a discount if using any of the sports / stadium facility. Concession in tuition fees. (Excluding Clover Dale School)
- iv. Employee Kids who are with MGM School's get concession in their tuition fees.
- v. Uniform: Every Year all the employees get one set Uniform from MGM.
- vi. Diwali Gift: Diwali Sweets are distributed to every employee.
- vii. MGM Society benefit: MGM Society benefits like loan, LIC, emergency cash can be availed in it.



Conclusion

4.1 Conclusion of Study

The SD engineering services Pvt Ltd. Team had carried out environmental audit covering various aspects. The audit included field visit, verifications of documentation and discussions with concerned. The MGM Hospital and College Campus is meeting to the all regulatory requirements applicable to them.



Annexures



Annexure I: NABET Accredited Certificate




Quality Council of India
National Accreditation Board for
Education & Training

CERTIFICATE OF ACCREDITATION

Sd engineering services pvt. ltd.
14, Age Arcade, New Osmanpura, Near Sant Eknath Rang Mandir,
Aurangabad -431005, Maharashtra

Accredited as **Category - A** organization under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations: Version 3 for preparing EIA-EMP reports in the following Sectors:

Sl. No.	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals - opencast mining only	1	1(a) (i)	B
2	Offshore and onshore oil and gas exploration, development & production	2	1 (b)	A
3	Thermal power plants	4	1 (d)	B
4	Mineral beneficiation	7	2 (b)	B
5	Metallurgical industries - (ferrous)	8	3 (a)	A
6	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	21	5 (f)	A
7	Distilleries	22	5 (g)	A
8	Sugar Industry	25	5 (j)	B
9	Isolated storage & handling of hazardous chemicals (As per threshold planning quality indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 2000)	28	6 (b)	B
10	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	32	7 (d)	A
11	Bio-medical waste treatment facilities	32A	7 (da)	B
12	Common effluent treatment plants (CETPs)	36	7 (h)	B
13	Building and Construction projects	38	8(a)	B
14	Township and area development projects	39	8(b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RA AC minutes dated June 07, 2019 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/19/1023 dated August 05, 2019. The accreditation needs to be renewed before the expiry date by sd engineering services pvt. ltd., Aurangabad, following due process of assessment.

Sr. Director, NABET
Dated: August 05, 2019

Certificate No.
NABET/ EIA/1922/ RA 0136

Valid till
10.02.2022

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.



Annexure II: Layout of Campus





Environmental Audit Report For MGM's Medical College & Hospital

d

Annexure III: Water Consumption figures for the previous months

MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A' B' AD																								
LOG SHEET FOR WATER CONSUMPTION M.G.M.																								
Feb-19																								
DATE	L2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B. NO 4	M3	OPD BUL	M3	SPO BUL	M3	GEST HOU	M3	OPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP				
OLD	14923		14476		66647		54409		119824		49493		44669		18135		10416	9338	79930	19991	59553	29849	29849	29849
1	35138	205	14485	9	66720	73	54483	74	119944	120	49536	43	44699	30	18150	15	10425	9370	79930	20096	59596	29849	29849	29849
2	35343	215	14492	7	66796	76	54553	70	120079	135	49574	38	44738	39	18162	12	10436	9407	79930	20199	59727	29871	29871	29871
3	35548	205	14499	7	66861	65	54626	73	120200	121	49621	47	44790	52	18176	14	10445	9439	79930	20307	59853	29877	29877	29877
4	35749	201	14507	8	66926	65	54710	84	120316	116	49664	43	44840	50	18190	14	10456	9478	79930	20400	59977	29881	29881	29881
5	35956	207	14517	10	67006	80	54780	70	120464	148	49701	37	44893	53	18210	20	10465	9527	79930	20501	60018	29943	29943	29943
6	36176	220	14526	9	67091	85	54850	70	120594	130	49751	50	44946	53	18236	26	10476	9570	79930	20606	60158	30002	30002	30002
7	36401	225	14530	4	67166	75	54925	75	120719	125	49796	45	45001	55	18266	30	10485	9613	79930	20712	60293	30053	30053	30053
8	36616	215	14535	5	67241	75	54993	68	120851	132	49852	56	45050	49	18287	21	10495	9656	79930	20821	60389	30063	30063	30063
9	36839	223	14542	7	67317	76	55068	75	120991	140	49901	49	45093	43	18313	26	10504	9694	79930	20931	60530	30150	30150	30150
10	37057	218	14547	5	67379	62	55141	73	121111	120	49953	52	45149	56	18329	16	10512	9737	79930	21038	60636	30195	30195	30195
11	37283	226	14551	4	67445	66	55204	63	121246	135	50002	49	45198	49	18355	26	10523	9782	79930	21141	60658	30195	30195	30195
12	37489	206	14559	8	67522	77	55262	58	121336	90	50045	43	45249	51	18380	25	10532	9822	79930	21231	60836	30278	30278	30278
13	37689	200	14574	15	67597	75	55319	57	121461	125	50103	58	45292	43	18395	15	10541	9852	79930	21329	60936	30335	30335	30335
14	37879	190	14589	15	67677	80	55379	60	121591	130	50151	48	45336	44	18415	20	10550	9887	79930	21429	61043	30385	30385	30385
15	38068	189	14602	13	67750	73	55436	57	121711	120	50194	43	45381	45	18432	17	10562	9925	79930	21526	61081	30405	30405	30405
16	38269	201	14621	19	67830	80	55489	53	121817	126	50240	46	45421	40	18442	10	10570	9959	79930	21626	61180	30423	30423	30423
17	38479	210	14634	13	67906	76	55549	60	121945	128	50287	47	45469	38	18455	13	10580	9991	79930	21724	61347	30423	30423	30423
18	38666	187	14648	14	67972	66	55601	52	122092	127	50323	36	45502	43	18472	17	10589	9999	79930	21822	61366	30445	30445	30445
19	38880	214	14650	2	68049	77	55666	65	122242	150	50378	55	45541	39	18483	11	10599	10044	79942	21932	61512	30518	30518	30518
20	39100	220	14660	10	68120	71	55736	70	122372	130	50423	45	45583	42	18496	13	10609	10086	79971	22044	61621	30518	30518	30518
21	39325	225	14672	12	68189	69	55803	67	122492	120	50470	47	45631	48	18510	14	10621	10126	79971	22148	61762	30562	30562	30562
22	39535	210	14680	8	68266	77	55876	73	122629	137	50522	52	45673	42	18520	10	10630	10165	79971	22255	61778	30595	30595	30595
23	39761	225	14683	3	68345	79	55946	70	122759	130	50569	47	45710	37	18529	8	10649	10211	79971	22362	61929	30595	30595	30595
24	39971	210	14694	11	68419	74	56010	64	122874	115	50619	50	45759	49	18541	13	10658	10250	79971	22461	62010	30666	30666	30666
25	40180	209	14712	18	68498	79	56077	67	122993	119	50677	58	45802	43	18552	11	10668	10296	79971	22576	62040	30666	30666	30666
26	40378	198	14727	15	68589	91	56134	57	123099	97	50741	64	45849	47	18564	12	10678	10339	79971	22672	62225	30736	30736	30736
27	40573	195	14745	18	68659	70	56202	68	123204	114	50787	46	45879	30	18572	8	10689	10389	79971	22767	62341	30811	30811	30811
28	40765	192	14765	20	68744	85	56266	64	123317	113	50847	60	45907	28	18581	9	10699	10444	79971	22871	62443	30867	30867	30867
29																								
30																								
31																								
TOTAL		5842		289		2097		1857		3493		1354		1238		446	262	1106	291	2926	2890	1018		
PER DAY	208 M3		10 M3		74 M3		66 M3		125 M3		48 M3		44 M3		16 M3		9 M3		39 M3+104 M3+128 M3= 271 M3					

MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A'B'AD																								
LOG SHEET FOR WATER CONSUMPTION M.G.M.																								
Mar-19																								
DATE	L2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B. NO 4	M3	OPD BUL	M3	SPO BUL	M3	GEST HOU	M3	OPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP				
OLD	40765		14745		68744		56266		123317		50847		45907		18581		10699	10444	74221	22917	62463	30867	30867	30867
1	40963	198	14784	39	68809	65	56327	61	123429	112	50893	46	45935	28	18591	10	10709	10491	74263	23022	62541	30927	30927	30927
2	41156	193	14807	23	68876	67	56394	67	123547	118	50943	50	45962	27	18598	8	10720	10540	74308	23129	62621	30960	30960	30960
3	41352	196	14824	17	68940	64	56462	68	123663	116	50991	48	45999	37	18607	8	10731	10582	74353	23231	62803	30997	30997	30997
4	41559	207	14835	11	68997	57	56527	65	123774	111	51015	24	46045	46	18617	10	10741	10634	74397	23317	62832	30997	30997	30997
5	41754	195	14845	10	69059	62	56597	70	123889	115	51060	45	46085	40	18632	15	10750	10669	74433	23414	62994	31049	31049	31049
6	41959	205	14859	14	69118	59	56654	57	124001	112	51105	45	46128	43	18648	16	10759	10719	74469	23516	63029	31101	31101	31101
7	42175	216	14865	6	69185	67	56713	59	124121	120	51149	44	46169	41	18662	14	10767	10768	74518	23620	63184	31112	31112	31112
8	42388	213	14875	10	69255	70	56779	66	124235	134	51199	50	46212	43	18680	18	10776	10813	74552	23716	63299	31161	31161	31161
9	42603	215	14882	7	69319	64	56840	61	124386	131	51253	54	46255	43	18696	16	10785	10865	74599	23818	63399	31212	31212	31212
10	42821	218	14896	14	69377	58	56897	57	124526	140	51308	55	46303	48	18714	18	10796	10918	74649	23915	63551	31270	31270	31270
11	43031	210	14909	13	69432	55	56960	63	124661	135	51359	51	46339	36	18728	14	10804	10963	74700	24017	63580	31320	31320	31320
12	43224	193	14921	12	69496	64	57036	76	124778	117	51415	56	46382	43	18743	15	10813	11014	74715	24146	63727	31328	31328	31328
13	43429	205	14941	20	69597	101	57110	74	124903	125	51460	45	46424	42	18755	12	10824	11062	74715	24261	63863	31348	31348	31348
14	43640	211	14966	25	69702	105	57180	70	125029	126	51502	42	46469	45	18765	10	10835	11112	74715	24371	64036	31387	31387	31387
15	43845	205	14991	25	69812	110	57249	69	125169	140	51534	32	46515	46	18778	18	10845	11152	74787	24487	64202	31439	31439	31439
16	44046	199	15015	24	69927	115	57330	81	125296	129	51586	52	46555	40	18790	12	10857	11185	74824	24601	64313	31496	31496	31496
17	44269	224	15033	18	70022	95	57398	68	125415	117	51643	42	46597	32	18806	16	10869	11217	74864	24726	64477	31555	31555	31555
18	44453	185	15040	16	70106	84	57467	69	125545	130	51689	46	46592	15	18815	9	10880	11250	74903	24708	64477	31555	31555	31555
19	44637	184	15055	6	70181	75	57511	44	125640	95	51788	49	46628	36	18827	12	10887	11280	74949	24833	64628	31555	31555	31555
20	44841	204	15070	15	70261	80	57586	75	125770	130	51743	45	46663	35	18835	8	10896	11320	74977	24783	64827	31609	31609	31609
21	45046	205	15082	12	70349	79	57656	70	125890	120	51824	41	46698	35	18843	8	10905	11365	75021	24961	64926	31668	31668	31668
22	45243	197	15096	14	70418	78	57739	83	126022	132	51873	49	46735	37	18849	6	10913	11404	75064	25053	64997	31668	31668	31668
23	45448	205	15107	11	70494	76	57814	75	126138	116	51909	36	46727	22	18857	8	10921	11432	75104	25137	65091	31746	31746	31746
24	45643	215	15120	13	70569	75	57879	65	126266	128	51957	48	46802	45	18866	9	10930	11463	75140	25252	65270	31827	31827	31827
25	45848	225	15132	12	70657	68	57949	70	126392	126	52009	52	46853	51	18872	6	10939	11492	75141	25371	65299	31827	31827	31827
26	46087	199	15142	10	70707	70	58008	59	126519	127	52063	43	46887	46	18881	15	10950	11518	75178	25473	65438	31827	31827	31827
27	46262	175	15152	10	70787	80	58076	68	126629	110	52096	44	46923	26	18890	9	10960	11573	75216	25539	65605	31827	31827	31827
28	46472	120	15161	9	70872	85	58147	71	126736	107	52142	46	46951	28	18902	12	10969	11615	75260	25712	65635	31827	31827	31827
29	46697	225	15162	1	70957	85	58212	65	126840	104	52183	41	46983	32	18913	15	10973	11661	75304	25817	65818	31827	31827	31827
30	46905	208	15172	10	71039	82	58289	77	126949	109	52230	47	47018	35	18922	7	10980	11699	75342	25934	65955	31827	31827	31827
31	47124	219	15182	10	71121	82	58358	69	127040	91	52270	40	47050	32	18938	8	10991	11738	75384	26037	65955	31827	31827	31827
TOTAL		6359		437		2377		2092		3723		1423		1143		349	252	1294	1294	3120	3492	1160	1160	1160
PERDAY	205 M3		14 M3		76 M3		67 M3		120 M3		45 M3		36 M3		11 M3		9.6 M3		41 M3+100 M3+150 M3	291 M3				



Environmental Audit Report For MGM's Medical College & Hospital

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MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A/BAD																			
LOG SHEET FOR WATER CONSUMPTION M.G.M.																			
Apr-19																			
DATE	1,2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B. NO 4	M3	OPD BUIL	EST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP		
OLD	47124		15182		71121		58358		127040		52720		18930		10991	11738	75384	26037	65955
1	47342	218	15208	26	71210	89	58421	63	127129	89	52312	4	18962	15	11002	11784	75422	26154	65955
2	47610	268	15232	24	71300	90	58486	65	127239	110	52355	43	17121	38	18962	17	11013	11829	75472
3	47850	240	15256	24	71384	84	58561	75	127334	95	52400	45	17166	45	18980	18	11026	11855	75475
4	48082	232	15289	33	71474	90	58637	76	127425	91	52450	50	17224	58	18992	12	11035	11855	75491
5	48340	258	15321	32	71569	95	58707	70	127529	104	52492	42	17267	43	19009	17	11048	11855	75491
6	48579	239	15350	29	71662	93	58783	76	127639	110	52535	43	17313	46	19021	12	11059	11855	75491
7	48822	243	15376	26	71759	97	58853	70	127752	113	52586	51	17354	41	19040	19	11072	11855	75491
8	49056	234	15398	22	71842	83	58926	73	127858	106	52618	32	17392	38	19054	14	11083	11855	75491
9	49287	231	15425	27	71927	85	59003	77	127949	91	52665	47	17436	44	19072	18	11094	11855	75491
10	49519	235	15447	15	72012	85	59069	66	128037	88	52704	39	17486	50	19094	22	11104	11855	75491
11	49754	235	15457	15	72093	81	59139	70	128147	110	52746	42	17534	48	19114	20	11115	11855	75491
12	49984	230	15479	22	72183	90	59209	70	128265	118	52789	43	17579	45	19134	20	11125	11855	75491
13	50226	242	15505	26	72261	78	59271	62	128373	108	52827	38	17630	51	19158	24	11137	11855	75491
14	50461	235	15529	24	72348	87	59334	63	128423	50	52872	45	17679	49	19176	18	11145	11855	75500
15	50701	240	15535	6	72428	80	59402	68	128423	0	52901	29	17725	46	19200	24	11157	11855	75500
16	50911	210	15545	10	72526	98	59465	63	128423	0	52938	37	17778	53	19225	25	11167	11858	75500
17	51160	249	15562	17	72616	90	59535	70	128520	97	52978	40	17840	62	19250	25	11178	11858	75500
18	51400	240	15580	18	72690	74	59602	67	128614	94	53021	43	17910	70	19278	28	11188	11858	75500
19	51645	245	15594	14	72790	100	59667	65	128614	0	53055	34	17975	65	19299	21	11199	11858	75532
20	51901	256	15613	19	72880	90	59740	73	128680	66	53107	52	18042	67	19323	24	11209	11858	75532
21	52158	257	15631	18	72949	69	59804	64	128785	105	53153	46	18095	53	19345	22	11219	11858	75532
22	52405	247	15652	21	73035	86	59873	69	128879	94	53187	34	18161	66	19368	23	11220	11858	75532
23	52632	227	15669	17	73119	84	59940	67	128990	11	53238	51	18217	56	19372	4	11231	11872	75532
24	52864	232	15684	15	73204	85	60008	68	128902	12	53290	52	18271	54	19378	6	11246	11885	75532
25	53100	236	15698	14	73295	91	60072	64	128987	85	53335	45	18316	45	19403	25	11258	11898	75500
26	53315	215	15720	22	73379	84	60140	68	129079	92	53376	41	18370	54	19426	23	11270	11912	75500
27	53636	321	15732	12	73489	110	60295	155	129112	33	53456	80	18410	40	19437	11	11274	11948	75532
28	53819	183	15753	21	73562	73	60314	19	129113	1	53478	22	18420	10	19445	8	11287	11927	75535
29	54002	183	15775	22	73636	74	60333	19	129114	1	53501	23	18430	10	19454	9	11299	11969	75536
30	54245	243	15797	22	73721	85	60404	71	129126	12	53553	52	18471	41	19489	35	11310	12014	75536
31																			
TOTAL			7121		615		2600		2046		2086		1283		1421		559	319	276
PERDAY	237.36 M3		20.05 M3		86.66 M3		68.2 M3		69.53 M3		42.76 M3		47.36 M3		18.63 M3		14 M3+80 M3+ 28 M3= 122 M3		


MGM MEDICAL COLLEGE & HOSPITAL, CONSTRUCTION DEPT, A/BAD																						
LOG SHEET FOR WATER CONSUMPTION M.G.M.																						
May-19																						
DATE	1,2,3,OPD & C	M3	B. NO 1	M3	B. NO 2	M3	B. NO 3	M3	B.NO 4	M3	OPD BUIL	EST HOU	M3	SPCAN	STP HOS FLUSH	JNEC FLUSH	GARDEN STP					
OLD	54245		15797		73721		60404		129126		53553		19489		11310	12014	75536	28453	65955	32689		
1	54489	237	15817	20	73794.5	73.5	60470	66	129126	0	53595	43	18602	65.5	19502	13	11320	12058	75536	28453	65955	32689
2	54719	237	15837	20	73868	73.5	60536	66	129126	0	53638	43	18656	54	19525	23	11330	12058	75538	28453	66101	32689
3	55008	289	15859	22	73969	101	60637	101	99	96	53683	45	18656	54	19550	25	11340	12106	75540	28453	66101	32689
4	55208	200	15884	25	74058	89	60697	60	249	150	53722	39	18697	41	19554	4	11350	12140	75543	28453	66101	32689
5	55442	234	15904	20	74133	75	60768	71	388	139	53771	24	18731	34	19559	5	11361	12168	75565	28654	66170	32689
6	55676	234	15936	32	74238	105	60840	72	528	140	53771	25	18765	34	19563	4	11372	12167	75588	28655	66240	32689
7	55953	277	15965	29	74349	111	60935	95	677	149	53815	44	18814	49	19580	17	11382	12228	75617	29133	32690	
8	56181	228	15990	25	74451	102	60989	94	808	131	53865	50	18862	48	19590	10	11393	12271	75651	29346	66347	32690
9	56505	324	16016	26	74554	103	61085	96	960	152	53924	24	18902	40	19590	0	11405	12336	75702	29605	66380	32690
10	56649	144	16039	23	74642	88	61134	49	1051	91	53948	24	18931	29	19590	0	11411	12360	75718	29730	66380	32692
11	56973	324	16059	20	74737	95	61225	91	1221	170	54008	24	18965	34	19606	16	11426	12440	75775	30056	66380	32695
12	57153	180	16074	15	74803	66	61286	61	1324	103	54054	23	19006	41	19617	11	11433	12476	75700	30212	66380	32695
13	57333	180	16090	16	74870	67	61347	61	1428	104	54054	23	19048	42	19624	7	11440	12513	75826	30368	66380	32695
14	57590	257	16120	30	74990	120	61426	79	1545	117	54102	48	19093	45	19657	33	11449	12565	75857	30548	66380	New meter
15	57777	187	16136	16	75088	98	61503	77	1689	144	54164	62	19150	57	19673	16	11459	12611	75884	30742	66380	0
16	58165	388	16152	16	75186	98	61580	77	1834	145	54226	62	19207	57	19690	17	11470	12657	75912	30937	66391	26
17	58495	330	16181	29	75300	114	61679	99	2011	177	54271	45	19259	90	19714	24	11481	12726	75936	31228	66391	100
18	58730	235	16199	18	75375	75	61749	70	2131	120	54316	45	19337	40	19726	12	11492	12746	75956	31398	66506	122
19	58970	240	16218	19	75454	79	61819	70	2256	125	54361	45	19379	42	19735	9	11499	12767	75979	31573	66622	140
20	59195	225	16240	22	75526	72	61892	73	2386	130	54408	47	19416	37	19746	11	11508	12791	75998	31753	66745	160
21	59429	234	16262	22	75599	73	61967	75	2504	118	54447	39	19455	39	19757	11	11519	12811	76016	31928	66869	182
22	59653	224	16280	18	75678	79	62040	73	2620	116	54489	42	19497	42	19769	12	11528	12835	76039	32088	66986	199
23	59881	238	16299	19	75753	75	62091	51	2746	126	54520	31	19528	31	19783	14	11539	12842	76052	32243	67071	218
24	60164	273	16324	25	75824	71	62180	89	2875	129	54575	35	19593	65	19796	13	11550	12855	76082	32470	67247	286
25	60426	262	16350	26	75939	115	62248	68	2996	121	54655	80	19657	64	19828	32	11561	12894	76113	32651	67438	375
26	60680	254	16373	23	76051	112	62333	85	3126	130	54700	45	19699	42	19828	0	11572	12932	76136	32851	67509	395
27	60917	237	16399	26	76162	111	62409	76	3246	120	54742	42	19736	37	19828	0	11584	12961	76155	33021	67650	405
28	61167	250	16416	17	76268	106	62485	76	3387	141	54795	53	19770	34	19834	6	11596	12981	76191	33248	67867	430
29	61430	263	16441	25	76348	80	62575	90	3549	162	54855	60	19821	51	19846	12	11606	13019	76230	33398	68002	480
30	61693	263	16460	19	76439	91	62660	85	3698	149	54905	50	19862	41	19857	11	11615	13053	76258	33541	68126	520
31	61961	268	16480	20	76524	85	62730	70	3856	158	54961	56	19921	59	19868	11	11622	13089	76270	33660	68276	570
TOTAL		7716		683		2803		2326		3853	1408	1450		379	312	1075	734	5207	2321	570		
PER DAY		248 M3		22 M3		82 M3		75 M3		124 M3		45 M3		46 m3		12 M3		10 M3		34 M3+167 M3+93 M3=294 M3		



Annexure IV: Valid Consent Copy of MGM by MPCB

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010437/24020781/24014701
Fax: 24024068 /24023515
Website: <http://mpcb.gov.in>
E-mail : cac-cell@mpcb.gov.in



Kalpatur Point, 2nd - 4th Floor,
Opp. Cine Planet Cinema,
Near Sion Circle, Sion (E)
Mumbai - 400 022

Red/LSI
Consent No: Format 1.0/BO/UAN No.62150 /CAC - 1906001274 Date 25/6/2019.

To,
M/s MGM's Medical College and Hospital,
N-6, CIDCO Aurangabad-432003.

Sub : Combined Consent to operate and BMW Authorization under RED Category to Health Care Establishment (HCE's).

Ref : 1.Consent granted by the Board vide no.BO/CAC-Cell/CCA-9767 Dated 12.08.2016 valid up to 31.12.2018.
2. Your application for combine consent to operate and BMW Authorization dated 07.12.2018.
3. The minutes of Consent Appraisal Committee meeting dated 02.05.2019.

Combined Consent to Establish and BMW Authorization.
under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, Authorization under Rule 5 of the Hazardous Wastes (M, H & T M) Rules 2016 and Biomedical Waste Management Rules 2016 and amendment in Rules 2018 is considered and the consent is hereby granted subject to following terms and conditions and as detailed in the schedule I, II, III, IV & V annexed to this order:

- The conditional combined consent to operate and BMW authorization is granted for period up to 31.12.2023.
- The capital investment of the HCE is Rs.154.96 Crs.(As per C. A. Certificate submitted)
- The Consent is valid for the Activity of -

Sr. No.	Activity	
1	Hospital	
a)	Beds	700 Nos.
b)	Total Plot Area	20,000 Sq. Mtrs
c)	Total Built up Area	16,787 Sq. Mtrs
- Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge (CMD)	Standards to be achieved	Disposal
1	Trade effluent	22.0	As per Schedule -I	The treated trade effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body.
2	Domestic effluent	540.0	As per Schedule -I	

M/s MGM's Medical College and Hospital, UAN No.62150

Page 1 of 9



5. Conditions under Air (P & CP) Act, 1981 for air emissions:

Sr. no.	Description of stack / source	Number of Stack	Standards to be achieved
1	D.G.Set [600 KVA]	1	As per Schedule-II
2	D.G.Set [600 KVA]	1	
3	D.G.Set [750 KVA]	1	

6. Conditions under Hazardous Wastes (Management, Handling Transboundary and Other Waste) Rule 2016 for treatment and disposal of Hazardous Waste:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	35.3 Chemical sludge from ETP	As actual	Nil	--	At CHWTSDF

7. Non-Hazardous Solid Wastes:

Sr. No.	Type of Waste	Quantity	UOM	Treatment	Disposal
1	Wet Garbage	As actual	Kg/Day	OWC	Manure
2	Dry Garbage	As actual	Kg/Day	---	Recycle or hand over to local body
3	STP Sludge	As actual	Kg/Day	---	Manure

8. The authorization is granted for generation and disposal of Bio-Medical Waste (BMW) to CBMWTSDF in waste categories and quantities listed here in below:

Sr. No.	Category	Type of Waste	Quantity not to exceed (Kg/M)	Segregation Color coding	Treatment & Disposal	
1	Yellow	a) Human Anatomical waste	90.0	Yellow colored non-chlorinated plastic bags	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.	
		b) Animal Anatomical Waste	---			
		c) Soiled Waste	250.0			
		d) Expired or Discarded Medicines	2.0			
		e) Chemical Waste	---	Separate collection system leading to effluent treatment system		
		f) Chemical Liquid Waste	---			
		g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.	9.0			
		h) Microbiology Biotechnology and other clinical laboratory waste	5.0	Autoclave safe plastic bags or containers		



2	Red	Contaminated waste (Recyclable)	300	Red colored non chlorinated plastic bags or containers	No onsite treatment of BMW is permitted. The above-mentioned Bio medical Waste shall be sent to Common BMW Treatment & Disposal facility authorized by MPCB.
3	White (Translucent)	Waste sharps including Metals	135	Puncture proof, Leak proof, tamper proof container	
4	Blue	a) Glassware b) Metallic body implants	31 ---	Puncture proof & leak proof boxes or containers with blue colored marking.	

9. If Built up area exceeds more than 20,000 sq. meters and if hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 2006 as Amended.

10. This consent is issued subject to conditions mentioned below,

- The "authorized Person" shall comply with provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
- Any unauthorized change in equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
- If the built-up area exceeds more than 20,000 sq. Mtrs. and if the hospital is commissioned after 14.09.2006, the project proponent shall comply EIA Notification 14.09.2006 by obtaining Environment Clearance.
- You shall submit details of Management and Handling of outdated, discarded, unused Cytotoxic drugs generated in the Cancer centers, research and health care in the format prescribed by CPCB which is available on www.cpcb.nic.in along with Annual Report to MPCB with a copy to CPCB before 31st January every year.
- You shall manage the Mercury Waste in the HCE in environmentally sound manner (including storage, spilled collection, transportation and disposal) as per CPCB guidelines published on CPCB website www.cpcb.nic.in dated: 07.09.2010 as detailed in document entitled "Environmentally Sound Management of Mercury Waste in Health Care Facilities".
- You shall ensure phase out of chlorinated plastic bags, gloves and blood bags by HCEs within two years;
- You shall establish Bar code system within one year



- h. You shall ensure that the liquid waste is treated and disposed by all the occupier or operator of a CBWTF in accordance with the Water Act, 1974;
 - i. You shall maintain day to day basis and display the monthly record Including Annual report on its website within two years from the date of Notification.
 - j. You shall submit separate Bank Guarantees towards compliance of condition mentioned at Annexure – IV to Regional Office, within 30 days.
 - k. You shall submit compliance of Bank Guarantee conditions every six months to Regional Officer, for verification purpose.
 - l. You shall submit application for renewal of Combined Consent and Biomedical Waste authorization before 120 days along with appropriate fees.
11. This Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
 12. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government agencies.
 13. Project Proponent shall not take effective steps towards establishment prior to obtaining Environmental Clearance As per EIA Notification 2006 and amendment thereto. As per para 2 of EIA Notification dated 14.09.2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MOEF & CC vide office memorandum no.J-1103/41/2006-IA,II (I), Dated 19.08.2010, fencing of the site to protect it from getting encroached and construction of temporary shed (S) for the guard(S) & acquisition of land may not be treated as an effective steps.

For and on behalf of the
Maharashtra Pollution Control Board

(E. Ravendiran, IAS)
Member Secretary

Received Consent fee of –

Sr. No.	Amount (Rs.)	D.R. No.	Date	Bank
1	15,49,623	TXN 1812001366	12.12.2018	E- Payment
2	75,000/-	TXN 1812002590	24.12.2018	E- Payment
3	1,00,000/-	TXN 1901000998	09.01.2019	E- Payment
4	1,24,817/-	TXN 19060000847	11.06.2019	E- Payment

Copy to:

1. Regional Officer – MPCB, Aurangabad and Sub –Regional Officer – Aurangabad -1, MPCB – They are directed to ensure the compliance of the CCA conditions.
2. Chief Accounts Officer, MPCB, Mumbai- for information.
3. CAC/CC desk - for record & website updation purposes.



Schedule-I

I) Terms & Conditions for compliance of Water Pollution Control

- 1) A] As per your application you have provided Effluent treatment plant (ETP) of capacity 30 CMD for the treatment of trade effluent generated from the hospital activity.
- B] The applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	100
03	Oil & Grease	10
04	BOD (3 days 27°C)	30
05	COD	250
06	Detergent	2.0
07	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent

- C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be used for gardening /connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.
- 2) A] As per your application you have provided sewage treatment plant (STP) of design capacity of 600 CMD for treatment of domestic sewage generated from the hospital and thereafter the treated effluent shall be discharged followed by Chlorination and the treated effluent shall be disposal to Municipal Sewer / Land application after achieving standard prescribed below:
- B] The applicant shall operate the sewage treatment plant (STP) to treat the domestic effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Discharge Standards applicable
		Limiting Concentration in mg/l, except for pH
01	pH	6.5-9.0
02	Total Suspended Solids	50
03	Oil & Grease	10
04	BOD (3 days 27°C)	30
05	COD	100
06	Bio-Assay test	90 % survival of fish after 96 hours in 100 % effluent

- C] The treated effluent shall be recycled for secondary purpose such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be connected to the sewerage system provided by local body. In no case, effluent shall find its way to any water body directly / indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the records with data logging system.



- 3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waste water & the system for the disposal of effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps for expansion / modify or establish any modification to treatment and disposal system or an extension or addition thereto.
- 4) You shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
- 5) You shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time.

Water Consumption details:

Sr. No.	Purpose for water consumed	Water Consumption quantity CMD
1.	Industrial Cooling and boiler feed etc.,	---
2.	Domestic purpose	670.0
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	27.0
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	--
5	Other such as agriculture, gardening, etc.	--

Schedule-II

Terms & conditions for compliance of Air Pollution Control

1. As per your application, you have proposed / provided the Air pollution control (APC) system and also proposed to erect/erected following stack (s) to observe the following fuel pattern-

Sr. No.	Stack Attached to	Height in meter	Type of Fuel	Fuel Qty	SO ₂ In Kg/Day
1	D.G.Set [600 KVA]	4.5	HSD	130 Kg/hrs	62.4
2	D.G.Set [600 KVA]	4.5	HSD	130 Kg/hrs	62.4
3	D.G.Set [750 KVA]	4.5	HSD	132 Kg/hrs	63.36

2. The applicant shall provide stack height of mtrs operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	150 mg/Nm ³
--------------------	---------------	------------------------
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).



5. Conditions for D.G. Set

- Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
- Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
- Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
- D.G. Set shall be operated only in case of power failure.
- The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
- The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel.

Schedule-IV: Bank Guarantees

Statement of conditions to be complied and Bank Guarantee imposed to ensure timely compliance to be observed by

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
I (A)	Operation and Maintenance		
1	To Segregate and Handle BMW as per Rule	Continuous	Rs. 1,00,000/-
2	To provide STP adequate capacity within 3 months and Towards Operation and Maintenance of STP/ETP to achieve prescribed discharge standards	Continuous	Rs. 1,00,000/-
I (B)	Records		
1	To Maintain records of BMW and submission of Annual Report in Form -II before 31 st January	Continuous	Rs. 25,000/-
2	To maintain records of BMW material delivered to CBMWTSDF	Continuous	Rs. 25,000/-
II	Performance		
1	To provide BMW separate storage facility as per guidelines of CPCB	Continuous	Rs. 75,000/-

Note: You shall submit the B.G. valid for additional 4 month period after the validity of your granted CCA.



Schedule-V
General Conditions

The following general conditions shall apply as per the type of the industry

- 1) You shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) You should monitor effluent quality, stack emissions, noise and ambient air quality quarterly.
- 3) You shall provide ports in the chimney(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) You shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) You shall submit, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992 to Regional Office, , the 30th day of September every year.
- 7) You shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW (MH&TM) Rules 2008, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) You shall comply with the Hazardous Waste (M, H & TM) Rules, 2008 and submit the Annual Returns to RO- as per Rule 5(6) & 22(2) of Hazardous Waste (M, H & TM) Rules, 2008 for the preceding year April to March in Form-IV by 30th June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the HCE.
- 10) You shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
- 11) You shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent & authorization condition towards Environment Protection.
- 12) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.



- 13) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the HCE.
- 14) You shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 15) You should not cause any nuisance in surrounding area.
- 16) You shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- 17) You shall maintain good housekeeping.
- 18) You shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement to Regional Office by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
- 19) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 20) You shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. You will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 21) You shall submit Six Monthly statement in respect of obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
- 22) You shall submit official e-mail address and any change will be duly informed to the MPCB, forthwith.
- 23) You shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 16.11.2009 as amended
- 24) You shall observe provisions of E-waste (Management and Handling) Rules 2011 and Battery Waste (Management and Handling) Rules 2001, as amended.

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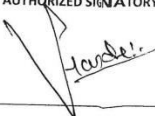



Annexure V: 3rd Party Reports for Trade & Domestic Effluents

GREEN ENVIROSAFE
Engineers & Consultant Pvt Ltd. CIN No. : U74900PN2013PTC149666

Survey No-1465/06 Mayuri Residency, Shop No-16, 2nd Floor, Sanaswad, Tal-Shirur, Pune-41250.
Mob : 9545084620 | E-mail:gesec12@gmail.com | www.greenenvirosafe.co.in

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE				
Report No: GESEC/PRO/2019-20/06/392		Date of Report		13/06/2019
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling		04/06/2019
		Start Date of Analysis		05/06/2019
		End Date of Analysis		12/06/2019
		Sample Details		ETP Inlet
		Nature of sample		Liquid
Sample Collected By		Envirotech Research Pvt. Ltd.		
Water Analysis Report				
Sr. No.	Parameter	Result	Unit(s)	Standard Method
Physical Parameter				
1.	TDS	603	ppm	APHA 2540-C
2.	Total Suspended Solid	134	mg/lit	APHA 2540-D
Chemical Parameter				
3.	pH	7.75	--	APHA 4500-H'
4.	BOD at 27°C for 3 days	149	mg/lit	APHA 5210 B
5.	Oil and grease	2	mg/lit	APHA 5520 B
6.	COD	220	mg/lit	APHA 5220 B
7.	Detergent	0.03	mg/lit	Methylene blue extraction method
ANALYZED BY:		AUTHORIZED SIGNATORY		
				
				

Terms and conditions

- The report is refer only to the sample tested and not applies to the bulk.
- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
- The test report cannot be reproduced wholly or in part and cannot be used for promotional or publicity purpose without the written consent of laboratory, GESEC.
- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory legal requirement.
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



Survey No- 1406/06, Mayun Residency, Shop No-16, 2nd Floor, Saraswadi, Kal Shirur, Pune-412
Mob- + 9545084620 | E-mail: gesec12@gmail.com | www.greenwinosafe.co.in
CIN No- U74900PN2013PTC149666

Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE					
Report No: GESEC/PRO/2019-20/06/393		Date of Report		13/06/2019	
Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling		04/06/2019	
		Start Date of Analysis		05/06/2019	
		End Date of Analysis		12/06/2019	
		Sample Details		ETP OUTLET	
Sample Collected By		Nature of sample		Liquid	
		Envirotech Research Pvt. Ltd.			
Water Analysis Report					
Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
Physical Parameter					
1.	TDS	598	2100	ppm	APHA 2540-C
2.	Total Suspended Solid	30	100	mg/lit	APHA 2540-D
Chemical Parameter					
3.	pH	8.2	5.5-9.0	--	APHA 4500-H ⁺
4.	BOD at 27°C for 3 days	17	30	mg/lit	APHA 5210 B
5.	Oil and grease	BDL	<10	mg/lit	APHA 5520 B
6.	COD	48	<250	mg/lit	APHA 5220 B
7.	Detergent	BDL	2	mg/lit	Methylene blue extraction method
Remark(s): ➤ All parameters are within the MPCB limit.					
ANALYZED BY-		AUTHORIZED SIGNATORY			

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 5. We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
 6. MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



GREEN ENVIROSAFE
Engineers & Consultant Pvt Ltd. CIN No. U74900PN2013PTC149066

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TEST CERTIFICATE				
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Client Name and Address: M/s. MGM's Medical Collage & Hospital, N-6, CIDCO, Aurangabad, 432003.		Date of Sampling		04/06/2019
		Start Date of Analysis		05/06/2019
		End Date of Analysis		12/06/2019
		Sample Details		STP Inlet
		Nature of sample		Liquid
Sample Collected By		Envirotech Research Pvt. Ltd.		
Water Analysis Report				
Sr. No.	Parameter	Result	Unit(s)	Standard Method
Physical Parameter				
1.	Total Suspended Solid	137	mg/lit	APHA 2540-D
Chemical Parameter				
2.	BOD at 27°C for 3 days	165	mg/lit	APHA 5210 B
3.	COD	316	mg/lit	APHA 5220 B
4.	Residual chlorine	NA	ppm	Chlortext Method
ANALYZED BY-		AUTHORIZED SIGNATORY		

Terms and conditions

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- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.



Survey No-1405/06, Mayur Residency, Shop No-16, 2nd Floor, Sanshodh, Tal-Shirur, Pune-412208
Mob- + 9545084620 | E-mail- gseec12@gmail.com | www.greenenvirosafe.co.in
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Recognised by Ministry of Environment, Forest & Climate Change (MoEF) Govt. of India and ISO/IEC 17025:2005 (NABL), ISO 9001:2015 and OHSAS 18001:2007 Certified Company

TEST CERTIFICATE

Report No: GESEC/PRO/2019-20/06/394	Date of Report	13/06/2019
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	Start Date of Analysis	05/06/2019
	End Date of Analysis	12/06/2019
	Sample Details	STP OUTLET
	Nature of sample	Liquid
Sample Collected By	Envirotech Research Pvt. Ltd.	

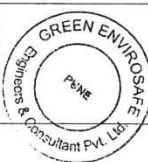
Water Analysis Report

Sr. No.	Parameter	Result	MPCB Limits	Unit(s)	Standard Method
Physical Parameter					
1.	Total Suspended Solid	07	10	mg/lit	APHA 2540-D
Chemical Parameter					
2.	BOD at 27°C for 3 days	05	<10	mg/lit	APHA 5210 B
3.	COD	23	<50	mg/lit	APHA 5220 B
4.	Residual Chlorine	0.5	1	ppm	Chlortext Method

Remark(s): All parameters are within the MPCB limit.

ANALYZED BY-

[Signature]



AUTHORIZED SIGNATORY

[Signature]

Terms and conditions

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- The results shown in this test report may differ based on various factors including temperature, humidity, pressure, retention time etc.
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- Samples will be retained for a period of seven (7) days after completion of analysis. Longer retention periods can be arranged, on request of the customer.
- We strictly maintain the confidentiality of all test result of sample(s) collected by us/ supplied by customer and not reveal to third party unless required by the statutory or legal requirement.
- MoEF approved Lab by Govt. of India. From date 09/02/2017 to 08/02/2022.





Annexure VII: Certificate for Work done for Rain Water Harvesting & Storm Water Management

space forum architects pvt. ltd.

aurangabad office : 173, mandanvan colony, cantonment, aurangabad-431 002 tel.:(0240) 2370119
email : space4rum@yahoo.co.in

CERTIFICATE

**CERTIFICATE OF RAIN WATER / SURFACE WATER HARVESTING
(RE-CHARGING) AT MGM'S MEDICAL COLLEGE HOSPITALA AND OPD
BUILDING AT CIDCO TOWN CENTER, CIDCO, AURANGABAD.**

This is to certify that the rain water / surface water harvesting design and execution. Supervision work carried out by our organization and same is completed to our satisfaction, which yielding great positive result and save natural resources as shown in drawing no.

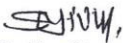
The adopted methodology : The Mgm's Medical College Hospital campus have 2 ha. Site area having topographic slope towards North and North West side. The same sloping situation / direction utilized for collecting the entire terrace rain water and surface water at lowest ground level. The terrace rain water is collected in built up channels and surface water is also collected through catchment chambers and it is connected to the main channels of 2.0 m. width. The open channels lead towards existing slope and water is recharged in the deep percolation well having 3.0 m. dia and 6.5 m. depth. The campus have two such open wells, both the wells are connected with horizontal bores to equalize the water level during the pumping. The percolated water is stored in another open well of 4000 KL storing capacity.

The store water is reutilized for landscaping, play fields and tropical forest through drip irrigation system.

The open channel excess water is collected in two number of open lakes on two different locations on adjoining property of MGM trust. The lakes are covered with water synthesis / bio-synthesis plant for prevention of atmosphere evaporation. These lakes allow water to recharge in surrounding area to prevent soil erosion and provide organically rich fertile soil for landscape.

This water harvesting system utilized for all 17.5 ha. MGM campus providing perfect ecological balance and oxygen pool to surrounding neighborhood.

The actual resultant of the system is honored appreciation to the trust from His Highness President of India.


Ar. Shekhar Jivrag
Space Forum Architects Pvt. Ltd.

S. N. JIVRAG
CA/83/7566

regd. office : 114, arniya plaza, block-b, 27/2, manoramaganj, indore - 452001 tel.:(0731)2494930



Annexure VIII: Documents related to Protocol, Check points, recruitment of staff for Housekeeping

BVG INDIA LTD.								
PARTICULAR	MOR		GER		EVE		NIG	
HOUSEKEEPING	79		0		35		25	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	35	44	0	0	17	18	15	10
C BUILDING HK	4		2		1		0	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	3	1	1	1	1	0	0	0
PATIENT CARE	65		87		67		60	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	35	30	45	42	32	35	23	37
SUPERVISOR'S	6		3		4		3	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
	6	0	1	2	3	1	3	0



Environmental Audit Report
For MGM's Medical College & Hospital

V

bvg Humanity Ahead			
BVG INDIA LTD			
HOUSEKEEPING 1ST SHIFT SUPERVISOR JOB CARD			
Sr NO.	TIME	ACTIVITY	REMARK
1	05.45AM TO 06.00AM	TOTAL EMPLOYEES BRIEFING	
2	06.00AM TO 06.15AM	DEPLOYMENT & MATERIAL DISTRIBUTION	
3	06.15AM TO 06.30AM	ALL EMPLOYEES CHECKING IN WARD ARE PRESENT.	
4	06.30AM TO 08.15AM	1) ALL WARD & WARD WASHROOM & GENERAL WASHROOM CLEANING CHECKING	
5	08.15AM TO 08.30AM	BREAKFAST	
6	08.30AM TO 09.15AM	PERSONAL ROUND TO ALL FLOOR CLEANING CHECKING	
7	09.15AM TO 11.00AM	ROUND WITH CLIENT	
8	11.00AM TO 12.00PM	ALL CLIENT ROUND ISSUE POINT ARE CLEAR	
9	12.00PM TO 12.45PM	LUNCH TIME	
10	12.45PM TO 01.45PM	EMPLOYEE CHECKING IN WARD. & CHECK LIST SING.	
11	01.45PM TO 02.00PM	TOTAL DAY ARE COMPLIMENT AND ISSUE ARE BRIEFING	
12	02.00PM TO 02.30PM	TOTAL CHECKLIST (GROOMING, BRIEFING, MACHINE UTILIZATION, HAND OVER TAKE OVER) AND ATTENDANCE ARE COMPLETED	

Report Prepared & Submitted By: sd engineering services pvt. Ltd., Aurangabad |
NABET Accredited Consultant |





bvg Humanity Ahead			
BVG INDIA LTD			
HOUSEKEEPING 2ND SHIFTSUPERVISOR JOB CARD			
Sr NO.	TIME	ACTIVITY	REMARK
1	12..45PM TO 01.00PM	TOTAL EMPLOYEES BRIEFING	
2	01.00PM TO 01.15PM	DEPLOYMENT & MATERIAL DISTRIBUTION	
3	01.15PM TO 02.00PM	ALL EMPLOYEES CHECKING IN WARD ARE PRASENT.	
4	02.00PM TO 04.00PM	1) ALL WARD & WARD WASHROOM & GANERAL WASHROOM CLEANING CHEKING	
5	05.00PM TO 05.30PM	LUNCH TIME	
6	05.30PM TO 06.15PM	PERSONAL ROUND TO ALL FLOOR CLEANING CHEKING	
7	06.15AM TO 08.45PM	ALL CLIENT ROUND ISSUE POINT ARE CLEAR WITH CHECK LIST SING.	
8	08.45.PM TO 09.00PM	TOTAL DAY ARE COMPLENT AND ISSUE ARE BRIEFING	
9	09.00 TO 09.30	TOTAL CHECKLIST (GROUMING,BRIEFFING,MACHINE UTILIZATION,HAND OVER TAKE OVER)AND ATTENDANCE ARE COPMLEDED	



BVG INDIA LTD					
FAN CLEANING SCHEDULE MONTH OF JUN- 19					
SR NO.		WARD NAME	SUP SIGN/ Name	AUTHORISED SIGN	AUTHORISED SIGN
LOWER BASEMENT					
1	01/06/2019	CASULTY			
2	02/06/2019	EICU			
3	03/06/2019	PSY WARD			
BASEMENT FLOOR					
4	04/06/2019	ENT			
5	04/06/2019	OPHTHAL			
6	05/06/2019	ONCOLOGY			
7	06/06/2019	MCRI NEW			
GROUND FLOOR					
8	07/06/2019	NEW DELUX			
9	08/06/2019	TB CHEST			
10	09/06/2019	TIME OFFICE & PASSAGE			
11	10/06/2019	MICU			
1ST FLOOR					
12	11/06/2019	PAEDIATRIC 1			
13	12/06/2019	NICU			
14	12/06/2019	PICU			
15	13/06/2019	CCU/CVTS			
16	14/06/2019	PAEDIATRIC 2			
17	15/06/2019	MALE MEDI.			
18	15/06/2019	FEMALE MEDI.			
2ND FLOOR					
19	16/06/2019	MALE SURGERY			
20	17/06/2019	FEMALE SURGERY			
21	18/06/2019	OT COMPLEX			
22	18/06/2019	URO/PLASTY			
23	19/06/2019	OBGY ICU			
24	19/06/2019	CSSD			
25	20/06/2019	SICU			
3RD FLOOR					
26	21/06/2019	MJPY WARD			
27	22/06/2019	TL WARD			
28	23/06/2019	OLD DELUXE			
4TH FLOOR					
29	24/06/2019	MALE ORTHO			
30	24/06/2019	FEMALE ORTHO			
31	25/06/2019	SUPER DELUXE			
5TH FLOOR					
32	26/06/2019	NEPHRO WARD			
33	27/06/2019	DIALYSIS & KT ICU			
6TH FLOOR					
34	28/06/2019	MCRI DELUX WARD			
7TH FLOOR					
35	29/06/2019	NEW MCRI ICU			
LOWER BASEMENT					
36	30/06/2019	CASULTY			

[Handwritten signature and stamp]



MGM'S Medical College & Hospital Jan-2019

Colour Coded Container for the segregation and Storage of Bio-Medical Waste Categories

Month:

Date	Yellow				Red Cat-7	Blue Cat-4		Gate Pass No.	Name of Person Hand Over	Name of Company BMW
	Cat-1 H.A. W.	Cat-3, Mic- Bio- W	Cat-5 Discar- Med. Cyto	Cat-6 Soil- W	Solid Waste	White Translucent Container for Sharps & needle	Glass Items			
1	03-K2	—	—	06-K2	10-K2	02-K2	2-K2	910	Zahane	2 m/b
2	02-K2	—	—	06-K2	10-K2	—	5-K2	911	Zahane	2 m/b
3	08-K2	—	—	08-K2	8-K2	—	3-K2	912	Zahane	2 m/b
4	—	—	—	04-K2	7-K2	—	4-K2	913	Zahane	2 m/b
5	06-K2	—	—	08-K2	10-K2	3-K2	10-K2	914	Zahane	2 m/b
6	04-K2	—	—	04-K2	12-K2	—	6-K2	915	Zahane	2 m/b
7	—	—	—	09-K2	10-K2	—	4-K2	916	Zahane	2 m/b
8	03-K2	01-K2	—	04-K2	6-K2	3-K2	6-K2	917	Zahane	2 m/b
9	05-K2	—	1-K2	03-K2	11-K2	—	2-K2	918	Zahane	2 m/b
10	04-K2	—	—	08-K2	20-K2	—	2-K2	919	Zahane	2 m/b
11	02-K2	—	—	06-K2	09-K2	—	3-K2	920	Zahane	2 m/b
12	04-K2	—	—	04-K2	06-K2	02-K2	3-K2	921	Zahane	2 m/b
13	—	—	—	05-K2	11-K2	—	2-K2	922	Zahane	2 m/b
14	—	—	—	08-K2	10-K2	—	3-K2	923	Zahane	2 m/b
15	04-K2	—	—	04-K2	11-K2	—	5-K2	924	Zahane	2 m/b
16	03-K2	01-K2	—	05-K2	10-K2	02-K2	3-K2	925	Zahane	2 m/b
17	—	—	—	09-K2	12-K2	—	2-K2	926	Zahane	2 m/b
18	08-K2	—	—	08-K2	11-K2	—	1-K2	927	Zahane	2 m/b
19	02-K2	—	—	05-K2	12-K2	—	2-K2	928	Zahane	2 m/b
20	06-K2	—	1-K2	03-K2	10-K2	04-K2	3-K2	929	Zahane	2 m/b
21	—	—	—	04-K2	12-K2	—	2-K2	930	Zahane	2 m/b
22	05-K2	—	—	06-K2	10-K2	—	2-K2	931	Zahane	2 m/b
23	01-K2	—	—	08-K2	6-K2	—	3-K2	932	Zahane	2 m/b
24	03-K2	—	—	02-K2	7-K2	21-K2	1-K2	933	Zahane	2 m/b
25	—	—	—	04-K2	02-K2	—	1-K2	934	Zahane	2 m/b
26	02-K2	—	—	09-K2	04-K2	—	3-K2	935	Zahane	2 m/b
27	05-K2	01-K2	—	05-K2	10-K2	—	4-K2	936	Zahane	2 m/b
28	—	—	—	06-K2	10-K2	—	2-K2	937	Zahane	2 m/b
29	—	—	1-K2	08-K2	08-K2	—	2-K2	938	Zahane	2 m/b
30	02-K2	—	—	04-K2	10-K2	2-K2	6-K2	939	Zahane	2 m/b
31	—	—	—	08-K2	09-K2	—	2-K2	940	Zahane	2 m/b
32	02-K2	03-K2	1.5-K2	181-K2	298-K2	22-K2	99-K2	—	—	—

Handwritten notes: 20/01/2019, Zahane, H.K. dep. 5.



Annexure X: The Disposal of E-Waste is documented by the Concerned Department

**Mahatma Gandhi Mission's
Medical College & Hospital**
N-6, Cidco, Aurangabad - 431003 Tel :91-0240-660193 Fax :91-0240-248773

Date: 01.03.2019

The following equipments given to Green E-Bin Electronic Waste Solution, Aurangabad for E-Waste disposal through Gate Pass No. MGMGPO180000334 dated 29.10.2018. The equipment detail is as follows.

Sr. no.	Equipment Name	Machine Sr.no	Model	Make	Qty
1	Ventilator	181517	900C	Siemens	2
2	Ventilator (Siemens 300) Display Monitor	02860.10352 05486.10359		Siemens	4
3	Blood Cell Counter	AB094175	Coulterdiff Act	Backmen	1
4	Multipara Monitor	4006A03147, 4006A86167, 4006A86171, 3950A66915, 3939A65300, 4006A76211, 4006A76216	V24	Hewlett-Packard	7
5	Multipara Monitor & Module / Rack	3805G33200, 3805G69539, 3805G99563, 3805G42344, 3305G99400, 3805G48016	V24	Hewlett-Packard	6
6	Cautery Machine	MH.03.KE54 SPE.01.144 SPE.02.1E24 SP-02-CE61	SSETE E+	Eclipse	4
7	Ophthalmic(Slit Lamp) Chair with Table			Appasamy	1
8	Gynic Table				1
9	ECG Machine	US71001187	TC-30	Philips	1
10	ABG Machine	7415	Cobas b 121	Roche	1

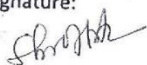
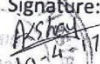
Biomedical Maintenance Dept., MGM Medical College & Hospital, Aurangabad.



Annexure XI: E- Waste Manifest (Form-6)

Form-6
[See rule 19]

E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)		MGM Medical College & Hospital, Aurangabad 0240-6601100	
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.		BO/MPCE-RO(HQ)/Aurangabad/CO/B-1012000759	
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle		(Truck/Tanker/ Special Vehicle)	
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:		GREEN e-bin electronic waste solution B-12, MIDC Chikalthana, Opp. CTR Mfg., Aurangabad	
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)		9 844 219	
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):			
	Name and Stamp:		Signature: 	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	
12.	Transporter acknowledgement of receipt of E-waste			
	Name and Stamp:		Signature:	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste			
	Name and Stamp:		Signature: 	
			M M D D Y Y Y Y 0 4 1 0 2 0 1 7	

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Form-6
[See rule 19]

E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)	MGM Trust N-6 CIDCO A.bad.		
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.	BO/MPCB/HQ(Aurangabad)/CO/B-1012000759		
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle	(Truck/Tanker/ Special Vehicle)		
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:	gsoon e-bin electronic waste solution H-18 MIDC Chikalthana, Opp.CTR Mfg., Aurangabad		
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)	8	735	86
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):	<p>Signature: <i>[Signature]</i> Name and Stamp: Dean Medical Director MGM Medical College Aurangabad.</p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		
12.	Transporter acknowledgement of receipt of E-waste	<p>Name and Stamp: _____ Signature: _____</p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste	<p>Name and Stamp: _____ Signature: <i>[Signature]</i></p> <p>M M D D Y Y Y Y 0 4 0 8 2 0 1 7</p>		

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Form-6
[See rule 19]
E-WASTE MANIFEST

1.	Sender's Name and Mailing Address (Including Phone No.)	MGM Medical College & Hospital, Aurangabad 0240-660110		
2.	Sender's Authorization No., if applicable			
3.	Manifest Document No.	BO/MPCE/RO(HQ)/Aurangabad/CO/B-1612000759		
4.	Transporter's Name and Address (including Phone No.)			
5.	Type of vehicle	(Truck/Tanker/ Special Vehicle)		
6.	Transporter's Registration No.			
7.	Vehicle Registration No.:			
8.	Receiver's Name & Address:	green e-bin electronic waste solution B-18 MIDC Chikalthana, Opp. CTR Mfg., Aurangabad		
9.	Receiver's authorization No., if applicable			
10.	Description of E-waste (Item, Weight/Numbers)	3	905	113
11.	Name and stamp of Sender* (Manufacture or Producer or Bulk Consumer or Collection Centre or Refurbisher or Dismantler):			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		
12.	Transporter acknowledgement of receipt of E-waste			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		
13.	Receiver* (Collection Centre or Refurbisher or Dismantler or Recycler) certification of receipt of E-waste			
	Name and Stamp:	Signature:		
		M M D D Y Y Y Y 0 4 1 0 2 0 1 7		

*As applicable

Note:-

Copy number with colour code	Purpose
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by the transporter.
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver.
Copy 4 (Green)	To be returned by the receiver with his/her signature to the sender.



Annexure XII: Report showing unit Consumption from Electricity sourced from MSEDCL & from Own Solar Power Grid


MAHATMA GANDHI MISSION

Electrical unit consumption details of MSEB and Solar system for MGM HOSPITAL campus.

Sr.No.	Electrical Consumption in Units (MSEB)				Solar unit Generation	Remarks
	Month	Year-2017	Year-2018	Difference		
1	JAN	202410	217050	14640	NA	
2	FEB	199515	211635	12120	NA	
3	MAR	242340	280500	38160	NA	
4	APR	290055	340373	50318	NA	
5	MAY	308100	359685	51585	NA	
6	JUN	280275	296138	15863	NA	
7	JUL	272895	265027	-7868	19785	
8	AUG	266190	256808	-9382	6358	
9	SEP	273975	228420	-45555	54875	
10	OCT	266115	241183	-24932	71188	
11	NOV	225720	178417	-47303	63987	
12	DEC	224925	163289	-61636	69124	
Sr.No.	Electrical Consumption in Units (MSEB)				Solar unit Generation	Remarks
	Month	Year-2018	Year-2019	Difference		
1	JAN	217050	153720	-63330	67127	
2	FEB	211635	153997	-57638	64312	
3	MAR	280500	194527	-85973	93142	
4	APR	340373	255262	-85111	73209	
5	MAY	359685	275063	-84622	91651	
6	JUN	296138	287603	-8535	69010	
7	JUL	265028	265717	689	58064	
8	AUG					
9	SEP					
10	OCT					
11	NOV					
12	DEC					



Annexure XIII: Fire Mock Drills & Training



MAHATMA GANDHI MISSION

MGM MEDICAL COLLEGE & HOSPITAL

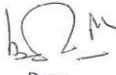
Fire Mock Drill Report

Location	Pediatrics Ward First Floor Block No 2	Date:	20.02.2019
----------	--	-------	------------


Emergency siren blown	Yes	Mock Drill completed	09.55 AM
Mock Drill Started	09.45 AM	Head Count & Green Signal after sharing observation	10. AM
Type of mock drill	Pre planned scenario : Fire		
Emergency Controller /observer	Chief Auditor :Mr Suri (MS) Chif Fire Officer AMC) Emergency controller: Mr S.B Patil Incident controller:Mr Sk Kashif Observer: Dr Aparna kakkad(CMS) Col RK Shrivastava Trainer: Mr Sk Sami (Fire And Safety Officer)		

Check For:	Yes / No	Remark
Did the team follow the emergency action plan sequence?	Yes	-
Did hospital staff check waiting room, canteen and confined areas?	Yes	-
Was the alarm audible?	Yes	-
Was the head count perfect?	Yes	-
Are key people knowledgeable in their assigned duties?	Yes	-
Was the drill conducted in an orderly manner and maintained timeliness?	Yes	-
Was the lift used during fire mock drill?	No	-
Did fire brigade /police station informed during fire mock drill?	yes No	-
Was the fire exit door used?	Yes	-
Did oxygen supply cut off immediately?	Yes	-
Did electrical supply Cut off immediately?	Yes	-


Sr no	Observation /area of improvement	Responsibility	status




Dean
MGMMCH



CMS/MS
MGMMCH




Fire & Safety officer
MGM



Chief Engineer
MGM




Medical College & Hospital
N-6, CIDCO, Aurangabad - 431003 Tel.-91-0240-660555 Fax-91-0240-2487727

Fire Control Mock Drill Preventive Training Attendance Sheet

Date: 20-02-2019 Trainer Name: Shaikh Sami
Time: 09 to 17:00 / Hose Training
Venue: _____ Section No: _____

Sr. No.	Name	Signature	Mobile No.	Remark
1	S.P. Jadhav	<i>[Signature]</i>		
2	S.L. Wadhwa	<i>[Signature]</i>	7798468787	
3	A.D. Rathod	<i>[Signature]</i>		
4	S.B. Athawale	<i>[Signature]</i>		
5	G.A. Athawale	<i>[Signature]</i>		
6	N.S. Rathod	<i>[Signature]</i>		
7	S. RATHOD	<i>[Signature]</i>		
8	N.S. Shirsath	<i>[Signature]</i>		
9	S.S. NARAYAN	<i>[Signature]</i>		
10	S.G. Dhadbhar	<i>[Signature]</i>		
11	M.P. Bajaj	<i>[Signature]</i>		
12	P.S. Jadhav	<i>[Signature]</i>		
13	S.Y. Dahi	<i>[Signature]</i>		
14	E.B. Rathod	<i>[Signature]</i>		
15	S.M. Jadhav	<i>[Signature]</i>		
16	A.M. Rathod	<i>[Signature]</i>		

[Signature]
Department Incharge

[Signature]
Fire & Safety Officer

[Signature]
MS
16/3

