भारतीय प्रौद्योगिकी संस्थान भिलाई
जी. ई. सी. कैंपस, सेजबहार, रायपुर – ४९२०१५
छत्तीसगढ़, भारत

Indian Institute of Technology Bhilai
GEC Campus, Sejbahar, Raipur – 492015
Chhattisgarh, India

No: IITBhilai/Estate/149

Date: 23/11/2021

To,
Deputy Director General of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, Aranya Bhawan,
North Block, Sector 19, Naya Raipur,
Atal Nagar, Chhattisgarh- 492002.
Email id: iro.raipur-mefcc@gov.in , iroraipur@gmail.com

Sub: Submission of Six Monthly Environmental Compliance Report - Construction of Permanent Campus of IIT Bhilai project at Kutelabhata village, District Durg (C.G.)- Reg.

Ref: SEIAA letter no SN 231/SEIAA CG/MIN/909, dated 13/05/2020 regarding Environmental Clearance issued to IIT Bhilai.

Sir,

IIT Bhilai has obtained Environmental Clearance (EC) from State Level Environment Impact Assessment Agency (SEIAA) vide reference cited above. With reference to the subject matter we hereby submit the six monthly environmental compliance report with this letter for the period from **April 2021 to September 2021.**

This is for your kind reference please.

Thanks & Regards

23/11/21

Engineer In-charge
IIT Bhilai

Enclosure: Six monthly compliance report.

Copy to:

1. Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar Distt- Raipur (C.G.)
2. Regional Office, Chhattisgarh Environment Conservation Board,5/32 Bungalow, Bhilai (C.G.)
3. Director, IIT Bhilai

Six Monthly Environmental Clearance Compliance Report

(For the period of April 2021 to September 2021)

Project :- Construction of Permanent Campus of IIT Bhilai at Kutelabhata Village, Distt. Durg , C.G.

Six Monthly Environmental Compliance Report for Period of April 2021 to October 2021

Project: Construction of Permanent Campus of IIT Bhilai at Kutelabhata Village, Distt. Durg , C.G.

Environmental Clearance Letter No: SN 231/SEIAACG/MIN/909 Dated 13/05/2020

I. Statutory Compliance

SN	Conditions	Compliance
i.	The project proponent shall obtain all necessary clearance / permission from all relevant agencies including Town and Country planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.	IIT has obtained following clearance / permission: - a) NOC for drawing surface water from Chhattisgarh Irrigation Department vide letter no 2414 dated 04/06/2019. b) NOC for tree cutting from Chhattisgarh Forest Department vide letter no 2705 dated 04/10/2019. c) NOC for high rise building from Town and Country Planning authority vide letter no 3652 dated 16/03/2020. d) Provisional NOC obtained for Fire clearance of master plan and buildings. e) NOC for Buildings and Master Plan from Town and Country Planning authority vide letter no 7234 dated 22/2/2020 and letter no 4818 dated 11/5/2020 respectively.
ii.	The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc as per National Building Code including protection measures from lightening etc.	All the buildings of IIT Bhilai have been designed for resisting earthquake as per provisions of relevant Indian standard code and National Building Code (NBC) and those designs have been vetted by IIT Roorkee. To ensure the safety against fire, firefighting provisions have been made as per NBC norms and IIT Bhilai has obtained provisional NOC from Chhattisgarh Home Guards.
iii.	The project proponent shall obtain Consent to Establish / Operate under the provision of Air(Prevention &control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concentrated state Pollution control Board /committee.	Consent to Establish/ Operate under the provision of Air & water (Prevention & control of Pollution) Act 1891 has been obtained from Chhattisgarh Environment conservation Board (CECB) vide letter no NI 37/Durg/2021 dated 08/01/2021.
iv.	The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.	Approval for drawl of surface water has been obtained from Chhattisgarh Irrigation Department. For drawl of ground water, IIT

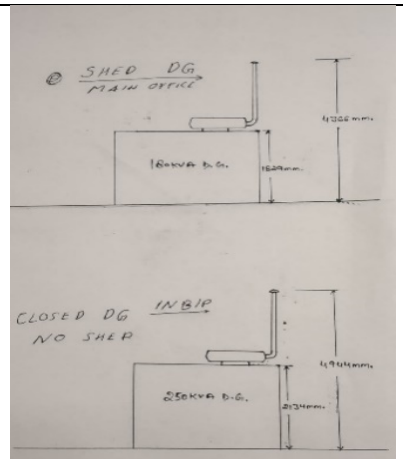
		Bhilai has applied for " No Objection Certificate" from Central Ground Water Authority (CGWA) and it is under the consideration of CGWA.
v.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.	Obtained.
vi.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.	No diesel is being stored inside the project premises rather daily consumable quantity of diesel being distributed to construction equipment's through diesel bowser.
vii.	The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, and the plastics Waste Management Rules, 2016, shall be followed.	Provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016 are being applied at site. Separate bins have been put at site for collection of plastic waste. 

viii.	The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly. Use of Chillers shall be CFC and HCFC free.	Complied. ECBC (2007), NBC 2016 and National Electrical Code 2011 have been adopted as code of practice for design of electrical systems.

II. Air Quality Monitoring and Preservation

SN	Conditions	Compliance
i.	Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.	Frequent spraying of water is in practiced to keep the soil erosion of upper layers under control. 
ii.	A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.	Being done.

iii.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5) covering upwind and downwind directions during the construction period.	Agency is appointed for monitoring ambient air quality periodically. Monitoring report attached in **Annexure-1**. 
iv.	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall confirm to environmental (Protection) prescribed for air and noise emission standards.	DG sets are a source of backup power for equipment and for area lighting. They are enclosed to conform to the rules under EPA. Adequate height of stack has been provided to DG sets for proper dispersion of emission during its operation. 
v.	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.	Adequate height of stack is provided to DG sets for proper dispersion of emissions during its operation. Acoustic enclosure has been provided for DG sets. The location of DG set and exhaust pipe height has been provided as per Central Pollution Control Board (CPCB) norms.

		 
vi.	Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.	Barricades have been provided and shall be maintained around the construction site for entire period of construction. The vehicle which carries soil / construction material has been covered with impervious sheets in order to prevent it from spreading into the environment from the vehicle. 

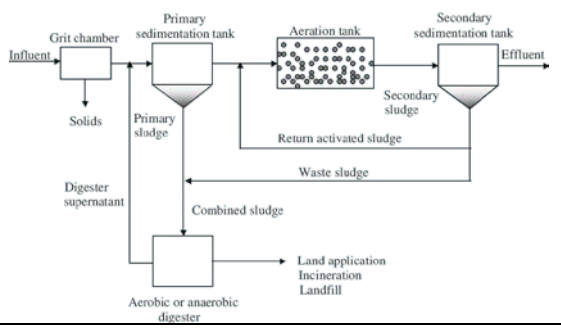
vii.	Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.	Construction material like sand, murram, loose soil, cement, stored at site are properly covered. 
viii.	Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.	To suppress dust , adequate sprinkling of water is in regular practice at site.
ix.	All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Management Rules 2016.	Some of the solid inert waste has been reused and some of the waste has been disposed off to the concerned authority as per followed by the rule of Solid Waste Management Rule 2016 and Construction and Demolition waste Rules 2016.
x.	For indoor air quality the ventilation provisions as per National Building Code of India.	Suitable measures have been applied for ventilation as per norms of National Building Code of India.

III. Water Quality Monitoring and Preservation

SN	Conditions	Compliance
i.	The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems	No such natural drains and its course of flow has been obstructed at site location.

	(SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.	
ii.	Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.	From the conceptual stage, planning of buildings and services has been done in such a manner that natural topography remained undisturbed and ensured minimum cutting and filling of terrain.
iii.	Total Freshwater use shall not exceed the proposed requirement as provided in the project details.	Being ensured.
iv.	The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the regional office, Ministry of environment, forest and Climate change, Nagpur along with six monthly Monitoring reports.	Being done.
v.	A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.	An approval has been obtained from state irrigation department for supply of surface water (River Water). However no water is currently being used.
vi.	At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.	Being ensured.
vii.	Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.	All the buildings have been designed for dual pipe plumbing system to carry fresh water and recycled water separately.
viii.	Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.	Being ensured.
ix.	Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.	Separate Plumbing system adopted for grey and black water.
x.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.	Being ensured.

xi.	The local bye-law provisions on rain water harvesting should be followed If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.	Being ensured.
xii.	The ground water shall not be withdrawn without approval from the Competent Authority. Project proponent shall develop rain water-harvesting structures for 100% harvesting of rainwater in the premises for recharging the ground water table. Rainwater from open spaces shall be collected and reuse for landscaping and other purposes. Rooftop rainwater harvesting shall be adopted for the buildings & residential blocks to be constructed by individual building. Every building shall have rainwater-harvesting facilities. The storm water flowing in roadside drains shall also be recycled and reused to maintain the vegetation and discharged into natural water bodies. Before recharging the surface runoff pre-treatment must be done to remove suspended matter and oil & grease. Rainwater harvesting pits shall be constructed as per proposal.	At present no ground water is being drawn for any purpose. Rain water from rooftop, open spaces and road side shall be collected through storm water line, which shall be used to recharge the natural water bodies.
xiii.	All recharge should be limited to shallow aquifer.	Being done.
xiv.	Water shall be sourced from after prior permission from CGWA and Water Resource Department. No ground water shall be used during construction phase of the project before prior permission from CGWA.	Being ensured.
xv.	Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.	Being done.
xvi.	The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, Ministry of environment, and Climate Change, Nagpur along with six monthly Monitoring reports.	Will be done.

xvii.	Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing. AC make up water and gardening Zero discharge condition shall be maintained. Project proponent shall install separate electric metering arrangement with time totalizer for the running of pollution control systems. The record (logbook) of power & chemical consumption for running the pollution control systems shall be maintained.	Being ensured. A centralized STP of 900 KLD capacity is proposed for Main campus and the treated water will be reused for flushing/horticulture. During construction period local STP system has been installed at site for recycle of waste water. Image and schematic diagram of installed STP are shown below.  
xviii.	No sewage or untreated effluent water would be discharged through storm water drains.	Being ensured.
xix.	Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses.	Being done.
xx.	Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.	Periodical monitoring of water quality of treated sewage is being conducted. Monitoring report attached in **Annexure-2.**
xxi.	Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013. The sludge generated from Sewerage Treatment Plant (after dying) shall be used as manure for gardening purpose.	Being done.

IV. Noise Monitoring and Prevention

SN	Conditions	Compliance
i.	Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.	Complied. Noise level survey has been conducted. Report attached herewith. Monitoring Report attached in **Annexure-3**.
ii.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Being ensured.
iii.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.	DG sets are enclosed to suppress the noise. Also the ear plugs are provided to the operator and other required working crew. 

IV. Energy Conservation measure

SN	Conditions	Compliance
i.	Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.	The development of IIT Bhilai project is categorised as Large development project and project proponent has applied for GRIHA LD rating from GRIHA council. All mandatory clauses of ECBC 2007 are being complied in design of system and equipment. For achieving 5-star rating in GIRIHA LD category. In the 12th GIRIHA summit, IIT Bhilai project was

		declared winner for the demonstration of energy management under GRIHA LD rating in exemplary performance award by GRIHA council.
ii.	LED lights shall be used in project premise.	100% LED lights are considered in all buildings and campus area. Also during construction stage LED lights are being used for area lighting.  
iii.	Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.	Complied.
iv.	Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.	100% LED lights are considered in all buildings and campus area.
v.	Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-law's requirement, whichever is higher.	Provision for solar power generation system has been considered and will be implemented after project starts functioning.
vi.	Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the	Being done.

	requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.	

VI. Waste Management

SN	Conditions	Compliance
i.	A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.	Municipal solid wastes generated from the project are directly handled by the local municipal corporation.
ii.	Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority	At present no muck is deposited during construction phase.
iii.	Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.	The appropriate provisions are considered in the scope of project and would be implemented during campus functioning. Also during construction stage separate wet and dry bins has been provided at workmen habitat at each unit for facilitating segregation at source. 

iv.	Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.	Instructed provision shall be made after commissioning of project. During present construction stage, food waste from canteen and workmen habitat is getting disposed daily through local municipality.
v.	All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.	Non-biodegradable waste are stored in specified area and shall be handed over to authorized recyclers as per site-based Waste Management plan.
vi.	Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.	Being done.
vii.	Use of fly ash based bricks / blocks / tiles / products shall be ensured. Blended Cement with fly ash shall be used. The provisions of notification issued by Ministry of Environment. Forest and Climate Change, Government of India regarding use of fly ash must be complied with. Appropriate usage of other industrial wastes shall also be explored. Soil borrow area should be filled up with ash with proper compaction and covered with topsoil kept separately Fly ash /pond ash shall be used for low-lying areas filling. In embankments / road construction etc. ash shall be utilized as per guidelines of Ministry of Environment. Forest and Climate Change. Government of India / Central Pollution Control Board / Indian Road Congress etc. concerning authorities. The use of perforated brick / hollow blocks / fly ash based lightweight aerated concrete etc. shall also be ensured so as to reduce load on natural resources.	Fly ash based bricks, blocks, tiles and cement are using in construction.
viii.	Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.	Use of fly ash is ensured in project. Ready mixed concrete is in use for buildings and other construction works.
ix.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.	Being done.
x.	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.	Being done.

VII. Green Cover

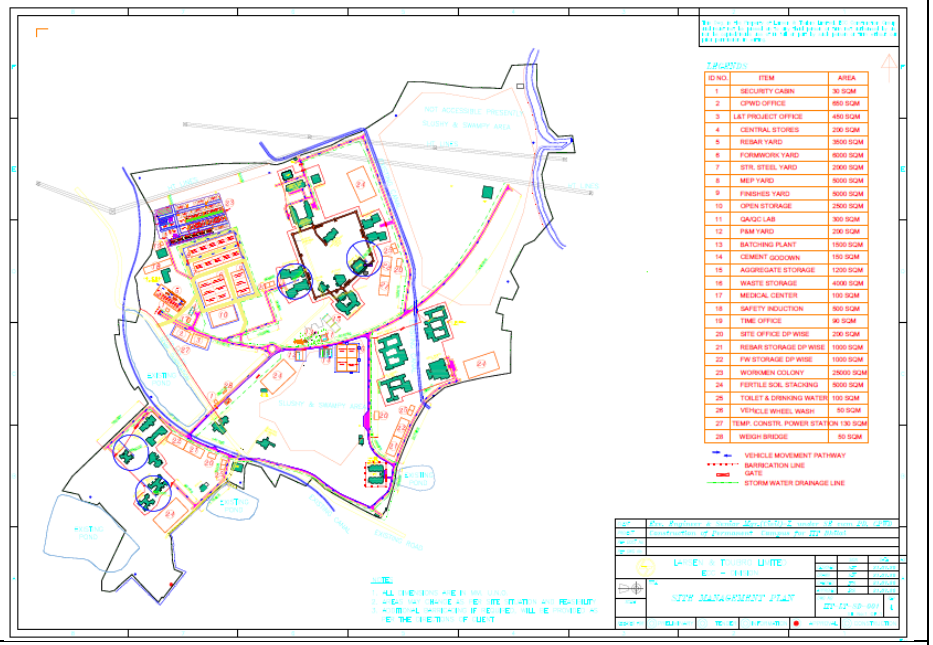
SN	Conditions	Compliance
i.	No tree can be felled/transplant unless exigencies demand. Where necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).	Being done. At the initial stage, trees creating obstruction were identified and formal approval was obtained from forest department and local administration for cutting of only those trees.
ii.	Green belt shall be developed in an area equal to 31% of the net planning area with a native tree species in accordance with CPCB guidelines The green belt shall inter alia cover the entire periphery of the constructed. As far as possible maximum area of open spaces shall be utilized for plantation purposes. A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and /or invasive species should not be used for landscaping.	Being done.
iii.	Where the trees need to be cut with prior permission from the concerned Authority compensatory plantation in the ratio of 110 1e planting of 10 wees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensued species cut) to species planted Area for green bet development shall be provided as per the details provided in the project document.	Will be done.

iv.	Topsoil should be stripped up to a certain depth from the areas proposed to buildings, roads, paved areas and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.	The topsoil stripped off and stocked at site and same shall be reused during landscaping work site. 

VIII. Transport

SN	Conditions	Compliance
i.	A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria. a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic. b. Traffic calming measures. c. Proper design of entry and exit points. d. Parking norms as per local regulation.	Road system for IIT Bhilai project is designed considering IRC guidelines. Design measures included dedicated passage for movement of vehicles, bicycle and pedestrians with proper design of entry and exit points. Design also considered the parking spaces and road signage for safe movement. Also during construction stage, site based logistic plan is prepared and displayed at various location.

		  
ii.	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during nonpeak hours.	Complied. System of vehicle fitness checking is implemented. 

iii.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 km radius of the project is maintained and improved upon after the implementation of the project. This plan should be based of cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D/ competent authority for road augmentation and shall also have the consent to the implementation of components of the plan which involve the participation of these departments.	Being ensured. During construction stage a site wise traffic management plan was prepared and implemented. Formal approval for traffic management plan shall be obtained from competent authority for road augmentation. 
iv.	The Project proponent shall use covered leak proof trucks/dumpers vehicles for transportation of construction material and C&D wastes.	Complied.

IX. Human Health Issues

SN	Conditions	Compliance
i.	All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask	Complied. All workmen were issued dust mask to use at site.  
ii.	For indoor air quality the ventilation provisions as per National Building Code of India. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Complied. Regarding emergency preparedness and disaster management purpose Emergency Response Plan is implemented at site. Emergency Response Plan is attached as Annexure 5.
iii.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project. Occupational health surveillance of the workers shall be done on a regular basis.	Complied. Workmen habitat is provided within at site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, etc. The housing of construction workers is in the form of temporary structures and shall be removed after the completion of the project. Occupational health surveillance of the workers is being done on a regular basis.

iv.	A First Aid Room shall be provided in the project both during construction and operations of the project	Being done during the operations. For construction period this provision has been complied. First Aid Room is provided near Time Office at site.  

X. Corporate Environment Responsibility

SN	Conditions	Compliance
i.	The project proponent shall comply with the provisions of the Ministry of Environment Forest and Climate Change New Delhi OM vide F No 22-65/2017-1A. II dated 15 May 2018 as applicable. regarding Corporate Environment Responsibility.	IIT Bhilai is an institution of national importance established under the Institutes of Technology Act, 1961 and The Institutes of Technology (Amendment) Act, 2016 . IIT Bhilai is operated through the grant-in-aid from the Government of India through the Ministry of Human Resource and Development. Further IIT Bhilai is not a profit making organization and is exempted from the Income Tax. IIT Bhilai as such does not fall under the purview of The Companies Act, 2013 or any other Act. Therefore, mention clause is not applicable to IIT Bhilai.
ii.	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violator of the environmental / forest wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / shareholder's / stake holders. The copy of the board resolution in this regard shall be submitted to the Ministry of Environment Forest and Climate Change, New Delhi / SEI AA, Chhattisgarh as a part of six-monthly report.	

iii.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	
iv.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	
v.	Self-environmental audit shall be conducted annually. Every three years' third party environmental audit shall be carried out.	
vi.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the plants (if any) shall be implemented.	

XI. Miscellaneous:

SN	Conditions	Compliance
i.	Local persons shall be given employment during development and operation of the site.	Local persons employed during construction period and more than 20% local labour working at site.
ii.	The project proponent shall make public the environmental clearance granted for the project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or Stale, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website Permanently.	Complied.
iii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and	Complied

	Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	
iv.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Will be done.
v.	The project proponent shall monitor the criteria pollutants level namely: PM_{10}, SO_2, NO_2. (ambient levels as well as stack emissions) or critical sectoral parameters (if any) of any indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	The criteria pollutants level namely: PM_{10}, SO_2, NO_2. (ambient levels as well as stack emissions) are monitoring on a quarterly basis. The environmental parameters are displayed near site for public view. 
vi.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Will be done.
vii.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	Will be done.
viii.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	IIT Bhilai ensured to adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and commitment made during their presentation to the Expert Appraisal Committee.	Being abided.
x.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC) New Delhi /SEIAA, Chhattisgarh.	Being followed.
xi.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Being noted.
xii.	SEIAA, Chhattisgarh may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Being noted.
xiii.	SFIAA Chhattisgarh reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Being followed.
xiv.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	Being followed.
xv.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	Being followed.
xvi.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Being noted.
xvii.	Environmental clearance will be valid as per the provision of EIA notification,2006 (as Amended).	Being noted.

Annexure-1

Air Quality-Monitoring Report

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	REPORT NO.	UES/TR/21-22/0788	
	LAB REF NO.	UES/21-22/AAQM/0900	
	DATE OF SAMPLING	26/05/2021-27/05/2021	
	DATE OF RECEIPT	27/05/2021	
	DATE OF REPORT	03/06/2021	
	DATE OF ANALYSIS	START: 28/05/2021	END:02/06/2021

SAMPLE DETAILS

Monitoring For	Ambient Air Quality Monitoring
Sampling Location	1. Near DP-01 Area 2. Near DP-02 Area 3. Near DP-03 Area 4. Near main office
Customer Ref. No. & Date	EL136WOD0000138
Duration Of Sampling	As per CPCB norms
Sample Collected By	Laboratory Chemist
Sampling Procedure	As Per Method Reference
Sample Quantity/Packing	Filter Paper (PM10): 1X1 No., Filter Paper (PM2.5): 1X1 No. SO2: 30mlX1 No. PVC Bottle, NO2: 30mlX1 No. PVC BOTTLE, Rubber Bladder: 1X1 No., C6H6: CARCOAL Tube. OZONE: 10MLX1 No. Brown PVC Bottle, NH4:10MLX1 No. Brown PVC Bottle
Project Name	Raipur_R&M_2019_2020

TEST REPORT

Parameter	Unit	NAAQM Standard	METHOD REFERENCE	Results			
				Near DP-01 Area	Near DP-02 Area	Near DP-03 Area	Near main office
Particulate Matter size less than 10 microns (PM_{10})	µg/m³	100	IS 5182(Part 23):2006 & CPCB Guidelines Vol.-I	90.8	84.6	88.2	80.4
Particulate Matter size less than 2.5 microns ($PM_{2.5}$)	µg/m³	60	CPCB Guidelines Vol.-I	42.8	36.4	44.2	32.6
Sulphur Dioxide (SO_2)	µg/m³	80	IS 5182(Part 2):2001, RA 2006 &CPCB Guidelines Vol.-I	10.6	8.9	12.4	9.8
Nitrogen Dioxide (NO_2)	µg/m³	80	IS 5182(Part 6): 2006 & CPCB Guidelines Vol.-I	20	24	22	18
Carbon Monoxide(CO)	mg/m³	4.0	IS 5182(Part 10):1999, RA 2003	0.4	0.8	1.0	0.6
Ozone (O_3)	µg/m³	180	CPCB Guidelines Vol-I	36	30	38	34
Ammonia (NH_3)	µg/m³	400	CPCB Guidelines Vol-I	26.8	24.0	20.6	22.8
Arsenic (As)	ng/m³	6.0	CPCB Guidelines Vol-I and AAS Method	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	ng/m³	20	CPCB Guidelines Vol-I and AAS Method	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	µg/m³	1.0	CPCB Guidelines Vol-I and AAS Method	N.D.	N.D.	N.D.	N.D.
Benzene (C_6H_6)	µg/m³	5.0	IS 5182 (Part 11):2006	N.D.	N.D.	N.D.	N.D.
Benzo(a) Pyrene	ng/m³	1.0	IS 5182 (Part 12):2014	N.D.	N.D.	N.D.	N.D.

Note: N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- The use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test.

Thakur 03/06/2021
PREPARED BY

ULTIMATE ENVIROLYTICAL SOLUTIONS PHASE-I, KABIR NAGAR RING ROAD NO.2, RAIPUR (C.G.)

For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

AUTHORIZED SIGNATORY

----------*End of the test report*----------

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	**REPORT NO.**	**UES/TR/21-22/3193**	
	LAB REF NO.	**UES/21-22/AAQM/5706-5708**	
	DATE OF SAMPLING	**12/10/2021 to 13/10/2021**	
	DATE OF RECEIPT	**14/10/2021**	
	DATE OF REPORT	**20/10/2021**	
	DATE OF ANALYSIS	**START: 14/10/2021**	**END:20/10/2021**

SAMPLE DETAILS

Monitoring For	*Ambient Air Quality Monitoring*
Sampling Location	**1. Near DP-01 Area** **2. Near DP-02 Area** **3. Near DP-03 Area** **4. Near main office**
Customer Ref. No. & Date	*EL136WOD0000138*
Duration Of Sampling	*As per CPCB norms*
Sample Collected By	*Laboratory Chemist*
Sampling Procedure	*As Per Method Reference*
Sample Quantity/Packing	*Filter Paper (PM10): 1X1 No., Filter Paper (PM2.5): 1X1 No. SO2: 30mlX1 No. PVC Bottle, NO2: 30mlX1 No. PVC BOTTLE, Rubber Bladder: 1X1 No., C6H6: CARCOAL Tube. OZONE: 10MLX1 No. Brown PVC Bottle, NH4:10MLX1 No. Brown PVC Bottle*
Project Name	*Raipur_R&M_2019_2020*

TEST REPORT

Parameter	Unit	NAAQM Standard	METHOD REFERENCE	Results			
				Near DP-01 Area	Near DP-02 Area	Near DP-03 Area	Near main office
Particulate Matter size less than 10 microns (PM_{10})	µg/m³	100	IS 5182(Part 23):2006 & CPCB Guidelines Vol.-I	88.6	82.2	80.4	78.6
Particulate Matter size less than 2.5 microns ($PM_{2.5}$)	µg/m³	60	CPCB Guidelines Vol.-I	40.8	32.4	46.8	38.6
Sulphur Dioxide (SO_2)	µg/m³	80	IS 5182(Part 2):2001, RA 2006 &CPCB Guidelines Vol.-I	8.6	10.4	14.8	10.8
Nitrogen Dioxide (NO_2)	µg/m³	80	IS 5182(Part 6): 2006 & CPCB Guidelines Vol.-I	26.0	22.5	20.4	24.2
Carbon Monoxide(CO)	mg/m³	4.0	IS 5182(Part 10):1999, RA 2003	0.6	0.8	0.7	0.5
Ozone (O_3)	µg/m³	180	CPCB Guidelines Vol-I	32	28	26	20
Ammonia (NH_3)	µg/m³	400	CPCB Guidelines Vol-I	22.6	20.4	18.4	20.8
Arsenic (As)	ng/m³	6.0	CPCB Guidelines Vol-I and AAS Method	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	ng/m³	20	CPCB Guidelines Vol-I and AAS Method	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	µg/m³	1.0	CPCB Guidelines Vol-I and AAS Method	N.D.	N.D.	N.D.	N.D.
Benzene (C_6H_6)	µg/m³	5.0	IS 5182 (Part 11):2006	N.D.	N.D.	N.D.	N.D.
Benzo(a)Pyrene	ng/m³	1.0	IS 5182 (Part 12):2014	N.D.	N.D.	N.D.	N.D.

Note: N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- *The use of the report for publication, arbitration or as legal dispute is forbidden.*
- *Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.*
- *This is for information as the party has asked for above test(s) only.*

20/10/21
REVIEWED BY

ULTIMATE ENVIROLYTICAL SOLUTIONS * HDD-272, PHASE-3, KABIR NAGAR RING ROAD NO.2, RAIPUR (C.G.)

For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

20/10/21
AUTHORIZED SIGNATORY

End of the test report

Annexure-2

STP Water Quality - Monitoring Report

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	REPORT NO	UES/TR/20-21/0791	
	LAB REF NO	UES/20-21/W/0903	
	DATE OF SAMPLING	26/05/2021-27/05/2021	
	DATE OF RECEIPT	27/05/2021	
	DATE OF REPORT	03/06/2021	
	DATE OF ANALYSIS	START: 28/05/2021	END: 02/06/2021

SAMPLE DETAILS

CUSTOMER SAMPLE ID	STP OUTLET WATER	CUSTOMER REF. NO. & DATE	EL136WOD0000138
SAMPLE TYPE	EFFLUENT WATER	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	PLASTIC BOTTLE (2 LTR.) GLASS BOTTLE (1 LTR.)	SAMPLE COLLECTED BY	CUSTOMER
OTHERS DETAILS	SEALED	QUANTITY RECEIVED	APPROX 3 LTR.

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	STANDARD LIMIT	RESULT
1	pH Value at 25.2°C	-	IS:3025:(Part-11)	5.5 To 9.0	7.22
2	Total Suspended Solid	mg/L	IS 3025(part-17)	100	28.0
3	Chemical Oxygen Demand	mg/L	IS 3025:(Part-58)	250	64.0
4	Bio-Chemical Oxygen Demand at 27°C for 3 days	mg/L	IS 3025:(Part-44)	30	14.8
5	Oil & Grease	mg/L	IS 3025(part-39)	10	N.D.

Note: mg/lit.: milligram per liter.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- *The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.*
- *Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.*
- *This is for information as the party has asked for above test(s) only*

Thakur 03/06/2021
PREPARED BY

ULTIMATE ENVIROLYTICAL SOLUTIONS HDD-272, PHASE-3, KABIR NAGAR RING ROAD NO.2, RAIPUR (C.G.)

For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

AUTHORIZED SIGNATORY

----------*End of the test report*----------

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	REPORT NO	UES/TR/21-22/3198	
	LAB REF NO	UES/21-22/W/5714	
	DATE OF SAMPLING	13/10/2021	
	DATE OF RECEIPT	14/10/2021	
	DATE OF REPORT	20/10/2021	
	DATE OF ANALYSIS	START: 14/10/2021	END: 20/10/2021

SAMPLE DETAILS

CUSTOMER SAMPLE ID	STP OUTLET WATER	CUSTOMER REF. NO. & DATE	EL136WOD0000138
SAMPLE TYPE	EFFLUENT WATER	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	PLASTIC BOTTLE (2 LTR.) GLASS BOTTLE (1 LTR.)	SAMPLE COLLECTED BY	CUSTOMER
OTHERS DETAILS	SEALED	QUANTITY RECEIVED	APPROX 3 LTR.

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	STANDARD LIMIT	RESULT
1	pH Value at 25.2°C	-	IS:3025:(Part-11)	5.5 To 9.0	7.68
2	Total Suspended Solid	mg/L	IS 3025(part-17)	100	32.0
3	Chemical Oxygen Demand	mg/L	IS 3025:(Part-58)	250	84.0
4	Bio-Chemical Oxygen Demand at 27°C for 3 days	mg/L	IS 3025:(Part-44)	30	16.4
5	Oil & Grease	mg/L	IS 3025(part-39)	10	N.D.

Note: mg/lit.: milligram per liter.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- *The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.*
- *Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.*
- *This is for information as the party has asked for above test(s) only*

20/10/21

REVIEWED BY

ULTIMATE ENVIROLYTICAL SOLUTIONS HDD-272 PHASE-3 KABIR NAGAR RING ROAD NO.2 RAIPUR (C.G.)

For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

----------*End of the test report*----------

Annexure-3

Noise Level - Monitoring Report

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer		
To, **L & T Construction** **Bhilai (C.G.)**	REPORT NO.	UES/TR/21-22/0792
	LAB REF NO.	UES/21-22/N/0904
	DATE OF REPORT	03/06/2021
	DATE OF SAMPLING	26/05/2021 to 27/05/2021

SAMPLE DETAILS

Monitoring For	Noise Level Monitoring
Customer Ref. No. & Date	EL136WOD0000138
Sampling Location	1. Near DP-01 Area 2. Near DP-02 Area 3. Near DP-03 Area 4. Near Workman Camp
Sample Collected By	Laboratory Chemist
Sampling Procedure	Manufacturer's Instruction

REPORT NO. 0792

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
1. Near DP-01 Area	06:00 to 07:00	72.5	36.8	82.8	22:00 to 23:00	52.0	36.8	82.3
	07:00 to 08:00	76.6	33.0	80.1	23:00 to 00:00	58.6	34.3	86.9
	08:00 to 09:00	78.0	38.3	94.2	00:00 to 01:00	57.2	38.8	84.6
	09:00 to10:00	74.2	44.4	89.4	01:00 to 02:00	55.9	32.3	88.7
	10:00 to11:00	72.4	52.3	92.2	02:00 to 03:00	58.7	34.8	82.4
	11:00 to12:00	76.5	58.9	90.1	03:00 to 04:00	56.0	52.5	88.8
	12:00 to13:00	88.9	63.4	88.4	04:00 to 05:00	60.6	45.6	86.3
	13:00 to14:00	72.6	68.8	96.8	05:00 to 06:00	62.2	32.0	90.0
	14:00 to15:00	74.2	64.9	98.6	--	--	--	--
	15:00 to16:00	76.0	56.3	92.0	--	--	--	--
	16:00 to17:00	78.3	48.4	98.0	--	--	--	--
	17:00 to18:00	62.8	52.6	96.8	--	--	--	--
	18:00 to19:00	78.3	48.4	92.6	--	--	--	--
	19:00 to20:00	62.4	52.0	84.2	--	--	--	--
	20:00 to 21:00	76.9	56.8	88.0	--	--	--	--
	21:00 to 22:00	54.3	48.5	86.3	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	68.45			75			
	NightLeq	56.25			70			

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 0792

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
2. Near DP-02 Area	06:00 to 07:00	70.4	38.2	92.7	22:00 to 23:00	64.0	32.2	88.2
	07:00 to 08:00	76.5	46.6	86.6	23:00 to 00:00	52.5	36.8	84.6
	08:00 to 09:00	74.2	44.8	92.2	00:00 to 01:00	56.2	30.4	86.8
	09:00 to10:00	80.1	48.2	88.3	01:00 to 02:00	52.5	48.2	82.2
	10:00 to11:00	74.3	60.4	92.3	02:00 to 03:00	58.6	32.6	80.8
	11:00 to12:00	82.4	55.6	96.0	03:00 to 04:00	50.0	44.8	78.4
	12:00 to13:00	78.7	46.0	92.2	04:00 to 05:00	56.5	38.2	82.2
	13:00 to14:00	80.5	42.6	90.6	05:00 to 06:00	52.2	36.5	84.6
	14:00 to15:00	86.3	44.5	94.6	--	--	--	--
	15:00 to16:00	82.0	50.3	92.3	--	--	--	--
	16:00 to17:00	78.3	52.5	96.0	--	--	--	--
	17:00 to18:00	84.6	62.5	92.3	--	--	--	--
	18:00 to19:00	82.2	54.8	90.3	--	--	--	--
	19:00 to20:00	76.3	40.2	88.0	--	--	--	--
	20:00 to 21:00	74.4	46.2	82.0	--	--	--	--
	21:00 to 22:00	62.3	42.4	86.2	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	**72.64**			**75**			
	NightLeq	**49.52**			**70**			

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 0792

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
3. Near DP-03 Area	06:00 to 07:00	66.5	42.8	92.8	22:00 to 23:00	55.0	32.2	82.3
	07:00 to 08:00	62.7	44.0	86.1	23:00 to 00:00	52.6	38.0	68.6
	08:00 to 09:00	68.0	48.3	88.2	00:00 to 01:00	50.0	34.3	64.6
	09:00 to10:00	70.2	52.4	96.6	01:00 to 02:00	48.2	46.3	68.6
	10:00 to11:00	66.5	64.3	92.2	02:00 to 03:00	52.1	38.8	62.4
	11:00 to12:00	72.4	60.4	88.0	03:00 to 04:00	52.2	32.5	70.8
	12:00 to13:00	64.8	46.4	96.4	04:00 to 05:00	56.6	38.6	78.3
	13:00 to14:00	70.5	42.6	96.8	05:00 to 06:00	58.0	36.0	72.0
	14:00 to15:00	76.1	44.9	90.5	--	--	--	--
	15:00 to16:00	72.0	58.1	95.1	--	--	--	--
	16:00 to17:00	68.5	52.4	90.0	--	--	--	--
	17:00 to18:00	72.6	64.4	98.3	--	--	--	--
	18:00 to19:00	74.2	56.4	96.6	--	--	--	--
	19:00 to20:00	61.5	48.3	78.0	--	--	--	--
	20:00 to 21:00	66.7	52.8	82.5	--	--	--	--
	21:00 to 22:00	63.5	46.5	88.3	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	**56.46**			**75**			
	NightLeq	**44.28**			**70**			

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 0792

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
4. Near Main Office	06:00 to 07:00	48.2	38.3	78.8	22:00 to 23:00	50.0	42.8	80.2
	07:00 to 08:00	46.4	34.2	72.1	23:00 to 00:00	48.3	44.1	70.7
	08:00 to 09:00	40.0	42.4	76.2	00:00 to 01:00	56.0	42.6	76.6
	09:00 to10:00	52.4	48.1	96.4	01:00 to 02:00	52.5	38.2	80.7
	10:00 to11:00	52.2	52.2	92.2	02:00 to 03:00	48.4	32.6	84.2
	11:00 to12:00	60.5	64.9	90.1	03:00 to 04:00	44.0	46.5	70.6
	12:00 to13:00	46.9	42.4	98.4	04:00 to 05:00	56.4	32.6	82.3
	13:00 to14:00	58.6	48.6	90.8	05:00 to 06:00	56.0	34.0	80.0
	14:00 to15:00	62.2	46.6	96.6	--	--	--	--
	15:00 to16:00	68.3	52.3	92.0	--	--	--	--
	16:00 to17:00	62.6	54.1	90.0	--	--	--	--
	17:00 to18:00	54.6	52.4	94.8	--	--	--	--
	18:00 to19:00	52.2	55.2	96.6	--	--	--	--
	19:00 to20:00	50.3	48.1	82.2	--	--	--	--
	20:00 to 21:00	56.4	42.6	80.0	--	--	--	--
	21:00 to 22:00	54.2	40.2	80.3	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	**54.58**			**75**			
	NightLeq	**40.32**			**70**			

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- *The use of the report for publication, arbitration or as legal dispute is forbidden.*
- *Test sample will be retained for 15days after issue of test report unless otherwise agreed with customer.*
- *This is for information as the party has asked for test(s) only.*

PREPARED BY 03/06/2021

For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

AUTHORIZED SIGNATORY

----------*End of the test report*----------

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer		
To, **L & T Construction** **Bhilai (C.G.)**	REPORT NO.	UES/TR/21-22/3199
	LAB REF NO.	UES/21-22/N/5715-5718
	DATE OF REPORT	20/10/2021
	DATE OF SAMPLING	12/10/2021 to 13/10/2021

SAMPLE DETAILS	
Monitoring For	Noise Level Monitoring
Customer Ref. No. & Date	EL136WOD0000138
Sampling Location	1. Near DP-01 Area 2. Near DP-02 Area 3. Near DP-03 Area 4. Near Workman Camp
Sample Collected By	Laboratory Chemist
Sampling Procedure	Manufacturer's Instruction

REPORT NO. 3199

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
1. Near DP-01 Area	06:00 to 07:00	76.5	36.5	90.6	22:00 to 23:00	50.4	32.4	84.5
	07:00 to 08:00	70.6	34.8	88.4	23:00 to 00:00	52.6	36.5	88.6
	08:00 to 09:00	72.6	32.6	92.6	00:00 to 01:00	58.6	39.4	80.2
	09:00 to10:00	72.8	38.2	88.4	01:00 to 02:00	54.6	30.4	86.4
	10:00 to11:00	76.4	56.4	94.6	02:00 to 03:00	52.4	36.2	80.4
	11:00 to12:00	74.6	52.6	92.4	03:00 to 04:00	52.0	38.4	82.6
	12:00 to13:00	79.5	64.6	89.6	04:00 to 05:00	62.6	42.2	86.8
	13:00 to14:00	70.6	62.8	82.6	05:00 to 06:00	64.8	36.6	89.4
	14:00 to15:00	80.6	62.8	88.6	--	--	--	--
	15:00 to16:00	74.5	58.4	94.5	--	--	--	--
	16:00 to17:00	72.6	56.4	98.6	--	--	--	--
	17:00 to18:00	62.0	58.2	99.4	--	--	--	--
	18:00 to19:00	72.4	64.2	98.5	--	--	--	--
	19:00 to20:00	58.6	58.2	92.6	--	--	--	--
	20:00 to 21:00	38.6	48.6	89.4	--	--	--	--
	21:00 to 22:00	52.6	46.2	98.6	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	71.17			75			
	NightLeq	59.12			70			

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REPORT NO. 3199

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
2. Near DP-02 Area	06:00 to 07:00	72.4	32.6	86.4	22:00 to 23:00	68.4	33.5	84.5
	07:00 to 08:00	74.6	42.6	82.4	23:00 to 00:00	52.8	34.2	82.4
	08:00 to 09:00	72.6	42.5	90.4	00:00 to 01:00	54.2	30.2	84.6
	09:00 to10:00	82.4	49.5	82.6	01:00 to 02:00	56.4	44.8	80.5
	10:00 to11:00	70.6	62.4	80.4	02:00 to 03:00	52.8	34.6	86.4
	11:00 to12:00	88.6	58.4	94.5	03:00 to 04:00	48.6	42.5	76.4
	12:00 to13:00	74.2	44.6	88.4	04:00 to 05:00	54.2	36.4	84.6
	13:00 to14:00	76.5	42.8	92.4	05:00 to 06:00	55.6	32.4	88.4
	14:00 to15:00	72.5	46.8	96.4	--	--	--	--
	15:00 to16:00	80.4	52.6	90.4	--	--	--	--
	16:00 to17:00	79.5	40.5	84.5	--	--	--	--
	17:00 to18:00	70.9	64.5	98.4	--	--	--	--
	18:00 to19:00	82.2	52.4	96.4	--	--	--	--
	19:00 to20:00	76.3	42.4	84.6	--	--	--	--
	20:00 to 21:00	76.8	46.5	82.4	--	--	--	--
	21:00 to 22:00	76.2	40.2	86.4	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	**69.9**			**75**			
	NightLeq	**43.7**			**70**			
3. Near DP-03 Area	06:00 to 07:00	68.4	44.6	98.6	22:00 to 23:00	54.2	36.2	80

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REPORT NO. 3199

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
	07:00 to 08:00	62.7	48	101.2	23:00 to 00:00	50.4	38.4	64.5
	08:00 to 09:00	68	46.2	94.5	00:00 to 01:00	56.4	30.5	62.8
	09:00 to10:00	72.6	50.4	64.2	01:00 to 02:00	42.6	44.2	62.4
	10:00 to11:00	76.5	62.4	64.5	02:00 to 03:00	54.6	36.2	68.4
	11:00 to12:00	70.4	58.6	86.5	03:00 to 04:00	56.4	33.5	72.4
	12:00 to13:00	62.3	46.4	92.6	04:00 to 05:00	52.8	39.4	76.5
	13:00 to14:00	72.5	40.5	90.4	05:00 to 06:00	54.2	36.3	74.4
	14:00 to15:00	74.8	40.8	98.5	--	--	--	--
	15:00 to16:00	70.5	52.6	94.2	--	--	--	--
	16:00 to17:00	68.6	50.4	86	--	--	--	--
	17:00 to18:00	70.5	62.4	94.2	--	--	--	--
	18:00 to19:00	72.4	54.2	94.5	--	--	--	--
	19:00 to20:00	60.4	48.6	92.6	--	--	--	--
	20:00 to 21:00	66.8	50.2	80.4	--	--	--	--
	21:00 to 22:00	62.4	44.5	86.4	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	**63.8**			**75**			
	NightLeq	**45.6**			**70**			
4. Near Main Office	06:00 to 07:00	50.4	32.6	79.5	22:00 to 23:00	52.4	40.6	82.4
	07:00 to 08:00	44.8	36.5	74.6	23:00 to 00:00	48.9	48.6	74.2
	08:00 to 09:00	40.8	31.8	72.8	00:00 to 01:00	54.2	46.8	76.2

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REPORT NO. 3199

TEST REPORT

LOCATION	NOISE LEVEL READING IN dB(A)							
	TIME (Hrs)	DAY dB(A)			TIME (Hrs)	NIGHT dB(A)		
		L_{eq}	L_{min}	L_{max}		L_{eq}	L_{min}	L_{max}
	09:00 to10:00	56.4	34.6	95.5	01:00 to 02:00	56.8	38.2	82.4
	10:00 to11:00	50.6	42.6	94.5	02:00 to 03:00	48.2	36.4	86.4
	11:00 to12:00	62.4	52.6	96.4	03:00 to 04:00	46.2	46.5	82.2
	12:00 to13:00	40.8	42.8	98.6	04:00 to 05:00	52.5	34.6	78.6
	13:00 to14:00	52.6	46.2	90.2	05:00 to 06:00	56.4	36.8	74.5
	14:00 to15:00	60.4	46.6	94.6	--	--	--	--
	15:00 to16:00	68.6	52.3	92.8	--	--	--	--
	16:00 to17:00	60.4	54.1	94.6	--	--	--	--
	17:00 to18:00	52.8	52.6	92.6	--	--	--	--
	18:00 to19:00	50.4	58	96.4	--	--	--	--
	19:00 to20:00	48.6	46.8	80.6	--	--	--	--
	20:00 to 21:00	52.7	46.8	86.4	--	--	--	--
	21:00 to 22:00	55.4	40.8	82.4	--	--	--	--
	--				Limits in dB(A) Leq as per **The Noise Pollution (Regulation & Control) Rules, 2000 (see rule 3(1) and 4(1) Ambient Air Quality in respect of Noise**			
	DayLeq	58.24			75			
	NightLeq	43.56			70			

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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- *This is for information as the party has asked for above test(s) only.*

20/10/21.

REVIEWED BY

ULTIMATE ENVIROLYTICAL SOLUTIONS HDD-272, PHASE-3, KABIR NAGAR RING ROAD NO.2, RAIPUR (C.G.)

For ULTIMATE ENVIROLYTICAL SOLUTIONS

20/10/21

AUTHORIZED SIGNATORY

----------End of the test report----------

Annexure-4

Water Quality- Monitoring Report

Ultimate
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HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 I Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	Report No	UES/TR/20-21/0789	
	Lab Ref No	UES/20-21/W/0901	
	Date of Sampling	26/05/2021-27/05/2021	
	Date of Receipt	27/05/2021	
	Date of Report	03/06/2021	
	Date of analysis	START: 28/05/2021	END: 02/06/2021

SAMPLE DETAILS	
Customer Sample Id /Sampling Location	Labour Camp
Customer Ref. No. & Date	EL136WOD0000138
Sample Type	Water tank
Packing of Sample	Plastic Bottle (5ltr.) Glass Bottle (350 ml)
Sample Collected By	Laboratory Chemist
Sample Condition At Receipt	Ok

REPORT NO. 0789

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
A.	**Physical Parameters**					
1	Colour	Hazen	IS:3025(Part-04)	5	15	<1
2	Odour	-	IS:3025(part-05)	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	IS:3025(Part-10)	1	5	0.76
B.	**Chemical Parameters**					
1	pH Value at 25.2°C	-	IS:3025(Part-11)	6.5-8.5	No Relaxation	7.28
2	Conductivity	µS/Cm	IS:3025(Part-14)	-	-	388
3	Total Dissolved Solids	mg/L	IS:3025(Part-16)	500	2000	235.1
4	Total Alkalinity (as $CaCO_3$)	mg/L	IS:3025(Part-23)	200	600	142.0
5	Total Hardness (as $CaCO_3$)	mg/L	IS:3025(Part-21)	200	600	168.0
6	Sulphate (as SO_4)	mg/L	IS:3025(Part-24)	200	400	9.6
7	Chloride (as Cl)	mg/L	IS:3025(Part-32)	250	1000	6.9
8	Ammonical Nitrogen as NH_3-N	mg/L	IS:3025(Part 34)	-	-	N.D.
9	Nitrate (as NO_3)	mg/L	IS:3025(part-34)	45	No Relaxation	0.88
10	Boron (as B)	mg/L	IS:3025(Part-57)	0.5	1.0	N.D.
11	Calcium (as Ca)	mg/L	IS:3025(Part-40)	75	200	42.6
12	Copper (as Cu)	mg/L	IS:3025(part-42)	0.05	1.5	N.D.
13	Magnesium (as Mg)	mg/L	IS:3025(Part-46)	30	100	12.8
14	Manganese (as Mn)	mg/L	IS:3025(part-59)	0.1	0.3	N.D.
15	Zinc (as Zn)	mg/L	IS:3025(part-49)	5	15	N.D.
16	Fluoride (as F)	mg/L	IS:3025(part-60)	1.0	1.5	0.08

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REPORT NO. 0789

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
F.	Microbial Parameters					
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml Sample		Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019			Absent
3	Faecal Coliform	MPN/100ml	IS:1622:1981:RA:2019			Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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- *This is for information as the party has asked for above test(s).*

ULTIMATE ENVIROLYTICAL SOLUTIONS PHASE-3, HDD-272, KABIR NAGAR RING ROAD NO-2, RAIPUR (C.G.)

Thakur 03/06/2021
PREPARED BY

For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

AUTHORIZED SIGNATORY

----------*End of the test report*----------

Ultimate
ENVIROLYTICAL SOLUTIONS

HDD-272, Phase III - Near JP Chowk
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Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	Report No	UES/TR/20-21/0790	
	Lab Ref No	UES/20-21/W/0902	
	Date of Sampling	26/05/2021-27/05/2021	
	Date of Receipt	27/05/2021	
	Date of Report	03/06/2021	
	Date of analysis	START: 28/05/2021	END: 02/06/2021

SAMPLE DETAILS	
Customer Sample Id /Sampling Location	DP – 1 Area
Customer Ref. No. & Date	EL136WOD0000138
Sample Type	Water tank
Packing of Sample	Plastic Bottle (5ltr.) Glass Bottle (350 ml)
Sample Collected By	Laboratory Chemist
Sample Condition At Receipt	Ok

REPORT NO. 0902

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
A.	**Physical Parameters**					
1	Colour	Hazen	IS:3025(Part-04)	5	15	<1
2	Odour	-	IS:3025(part-05)	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	IS:3025(Part-10)	1	5	0.72
B.	**Chemical Parameters**					
1	pH Value at 25.2°C	-	IS:3025(Part-11)	6.5-8.5	No Relaxation	7.44
2	Conductivity	µS/Cm	IS:3025(Part-14)	-	-	582.0
3	Total Dissolved Solids	mg/L	IS:3025(Part-16)	500	2000	352.0
4	Total Alkalinity (as $CaCO_3$)	mg/L	IS:3025(Part-23)	200	600	164.0
5	Total Hardness (as $CaCO_3$)	mg/L	IS:3025(Part-21)	200	600	182.0
6	Sulphate (as SO_4)	mg/L	IS:3025(Part-24)	200	400	22.4
7	Chloride (as Cl)	mg/L	IS:3025(Part-32)	250	1000	32.9
8	Ammonical Nitrogen as NH_3-N	mg/L	IS:3025(Part 34)	-	-	N.D.
9	Nitrate (as NO_3)	mg/L	IS:3025(part-34)	45	No Relaxation	2.0
10	Boron (as B)	mg/L	IS:3025(Part-57)	0.5	1.0	N.D.
11	Calcium (as Ca)	mg/L	IS:3025(Part-40)	75	200	44.2
12	Copper (as Cu)	mg/L	IS:3025(part-42)	0.05	1.5	N.D.
13	Magnesium (as Mg)	mg/L	IS:3025(Part-46)	30	100	16.8
14	Manganese (as Mn)	mg/L	IS:3025(part-59)	0.1	0.3	N.D.
15	Zinc (as Zn)	mg/L	IS:3025(part-49)	5	15	N.D.
16	Fluoride (as F)	mg/L	IS:3025(part-60)	1.0	1.5	0.11

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REPORT NO. 0902

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
F.	Microbial Parameters					
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml Sample		Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019			Absent
3	Faecal Coliform	MPN/100ml	IS:1622:1981:RA:2019			Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

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- *This is for information as the party has asked for above test.*

Thakur 03/06/2021
PREPARED BY

ULTIMATE ENVIROLYTICAL SOLUTIONS PHASE-3, KABIR NAGAR RING ROAD NO.2, RAIPUR (C.G.)

For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

AUTHORIZED SIGNATORY

----------End of the test report----------

Ultimate
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Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	**Report No**	**UES/TR/21-22/3194**	
	Lab Ref No	**UES/21-22/W/5710**	
	Date of Sampling	**13/10/2021**	
	Date of Receipt	**14/10/2021**	
	Date of Report	**20/10/2021**	
	Date of analysis	**START: 14/10/2021**	**END: 20/10/2021**

SAMPLE DETAILS	
Customer Sample Id /Sampling Location	Labour Camp
Customer Ref. No. & Date	EL136WOD0000138
Sample Type	Water tank
Packing of Sample	Plastic Bottle (5ltr.) Glass Bottle (350 ml)
Sample Collected By	Laboratory Chemist
Sample Condition At Receipt	Ok

REPORT NO. 3194

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
A.	**Physical Parameters**					
1	Colour	Hazen	IS:3025(Part-04)	5	15	<1
2	Odour	-	IS:3025(part-05)	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	IS:3025(Part-10)	1	5	0.48
B.	**Chemical Parameters**					
1	pH Value at 25.2°C	-	IS:3025(Part-11)	6.5-8.5	No Relaxation	7.48
2	Conductivity	µS/Cm	IS:3025(Part-14)	-	-	348
3	Total Dissolved Solids	mg/L	IS:3025(Part-16)	500	2000	208
4	Total Alkalinity (as $CaCO_3$)	mg/L	IS:3025(Part-23)	200	600	124.0
5	Total Hardness (as $CaCO_3$)	mg/L	IS:3025(Part-21)	200	600	146.0
6	Sulphate (as SO_4)	mg/L	IS:3025(Part-24)	200	400	8.4
7	Chloride (as Cl)	mg/L	IS:3025(Part-32)	250	1000	10.9
8	Ammonical Nitrogen as NH_3-N	mg/L	IS:3025(Part 34)	-	-	N.D.
9	Nitrate (as NO_3)	mg/L	IS:3025(part-34)	45	No Relaxation	0.62
10	Boron (as B)	mg/L	IS:3025(Part-57)	0.5	1.0	N.D.
11	Calcium (as Ca)	mg/L	IS:3025(Part-40)	75	200	32.6
12	Copper (as Cu)	mg/L	IS:3025(part-42)	0.05	1.5	N.D.
13	Magnesium (as Mg)	mg/L	IS:3025(Part-46)	30	100	10.2
14	Manganese (as Mn)	mg/L	IS:3025(part-59)	0.1	0.3	N.D.
15	Zinc (as Zn)	mg/L	IS:3025(part-49)	5	15	N.D.
16	Fluoride (as F)	mg/L	IS:3025(part-60)	1.0	1.5	0.16

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REPORT NO. 3194

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
F.	Microbial Parameters					
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml Sample		Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019			Absent
3	Faecal Coliform	MPN/100ml	IS:1622:1981:RA:2019			Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

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20/10/21

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

20/10/21

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Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	**Report No**	**UES/TR/21-22/3195**	
	Lab Ref No	**UES/21-22/W/5711**	
	Date of Sampling	**13/10/2021**	
	Date of Receipt	**14/10/2021**	
	Date of Report	**20/10/2021**	
	Date of analysis	**START: 14/10/2021**	**END: 20/10/2021**

SAMPLE DETAILS	
Customer Sample Id /Sampling Location	**Bendri Area**
Customer Ref. No. & Date	**EL136WOD0000138**
Sample Type	**Water tank**
Packing of Sample	**Plastic Bottle (5ltr.)** **Glass Bottle (350 ml)**
Sample Collected By	**Laboratory Chemist**
Sample Condition At Receipt	**Ok**

REPORT NO.3195

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
A.	**Physical Parameters**					
1	Colour	Hazen	IS:3025(Part-04)	5	15	<1
2	Odour	-	IS:3025(part-05)	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	IS:3025(Part-10)	1	5	0.68
B.	**Chemical Parameters**					
1	pH Value at 25.2°C	-	IS:3025(Part-11)	6.5-8.5	No Relaxation	7.11
2	Conductivity	µS/Cm	IS:3025(Part-14)	-	-	568.0
3	Total Dissolved Solids	mg/L	IS:3025(Part-16)	500	2000	340.0
4	Total Alkalinity (as $CaCO_3$)	mg/L	IS:3025(Part-23)	200	600	154.0
5	Total Hardness (as $CaCO_3$)	mg/L	IS:3025(Part-21)	200	600	192.0
6	Sulphate (as SO_4)	mg/L	IS:3025(Part-24)	200	400	24.8
7	Chloride (as Cl)	mg/L	IS:3025(Part-32)	250	1000	26.9
8	Ammonical Nitrogen as NH_3-N	mg/L	IS:3025(Part 34)	-	-	N.D.
9	Nitrate (as NO_3)	mg/L	IS:3025(part-34)	45	No Relaxation	1.8
10	Boron (as B)	mg/L	IS:3025(Part-57)	0.5	1.0	N.D.
11	Calcium (as Ca)	mg/L	IS:3025(Part-40)	75	200	38.4
12	Copper (as Cu)	mg/L	IS:3025(part-42)	0.05	1.5	N.D.
13	Magnesium (as Mg)	mg/L	IS:3025(Part-46)	30	100	12.4
14	Manganese (as Mn)	mg/L	IS:3025(part-59)	0.1	0.3	N.D.
15	Zinc (as Zn)	mg/L	IS:3025(part-49)	5	15	N.D.

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REPORT NO. 3195

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
16	Fluoride (as F)	mg/L	IS:3025(part-60)	1.0	1.5	0.08
F.	**Microbial Parameters**					
1	Total Coliform	MPN/100ml	IS: 1622:1981:RA:2019	Shall not be detectable in any 100 ml Sample		Absent
2	E. Coli	MPN/100ml	IS: 1622:1981:RA: 2019			Absent
3	Faecal Coliform	MPN/100ml	IS: 1622:1981:RA: 2019			Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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20/10/21	ULTIMATE ENVIROLYTICAL SOLUTIONS PHASE-3, KABIR NAGAR RING ROAD NO.2, RAIPUR (C.G.)	*For* ULTIMATE ENVIROLYTICAL SOLUTIONS 20/10/21
REVIEWED BY		**AUTHORIZED SIGNATORY**

----------*End of the test report*----------

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Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	**Report No**	**UES/TR/21-22/3196**	
	Lab Ref No	**UES/21-22/W/5712**	
	Date of Sampling	**13/10/2021**	
	Date of Receipt	**14/10/2021**	
	Date of Report	**20/10/2021**	
	Date of analysis	**START: 14/10/2021**	**END: 20/10/2021**

SAMPLE DETAILS	
Customer Sample Id /Sampling Location	**DP – 1 Area**
Customer Ref. No. & Date	**EL136WOD0000138**
Sample Type	**Water tank**
Packing of Sample	**Plastic Bottle (5ltr.)** **Glass Bottle (350 ml)**
Sample Collected By	**Laboratory Chemist**
Sample Condition At Receipt	**Ok**

REPORT NO.3196

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
A.	**Physical Parameters**					
1	Colour	Hazen	IS:3025(Part-04)	5	15	<1
2	Odour	-	IS:3025(part-05)	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	IS:3025(Part-10)	1	5	0.42
B.	**Chemical Parameters**					
1	pH Value at 25.2°C	-	IS:3025(Part-11)	6.5-8.5	No Relaxation	7.64
2	Conductivity	µS/Cm	IS:3025(Part-14)	-	-	428
3	Total Dissolved Solids	mg/L	IS:3025(Part-16)	500	2000	259
4	Total Alkalinity (as $CaCO_3$)	mg/L	IS:3025(Part-23)	200	600	98.0
5	Total Hardness (as $CaCO_3$)	mg/L	IS:3025(Part-21)	200	600	114.0
6	Sulphate (as SO_4)	mg/L	IS:3025(Part-24)	200	400	26.4
7	Chloride (as Cl)	mg/L	IS:3025(Part-32)	250	1000	24.9
8	Ammonical Nitrogen as NH_3-N	mg/L	IS:3025(Part 34)	-	-	N.D.
9	Nitrate (as NO_3)	mg/L	IS:3025(part-34)	45	No Relaxation	1.2
10	Boron (as B)	mg/L	IS:3025(Part-57)	0.5	1.0	N.D.
11	Calcium (as Ca)	mg/L	IS:3025(Part-40)	75	200	28.9
12	Copper (as Cu)	mg/L	IS:3025(part-42)	0.05	1.5	N.D.
13	Magnesium (as Mg)	mg/L	IS:3025(Part-46)	30	100	12.8
14	Manganese (as Mn)	mg/L	IS:3025(part-59)	0.1	0.3	N.D.
15	Zinc (as Zn)	mg/L	IS:3025(part-49)	5	15	N.D.
16	Fluoride (as F)	mg/L	IS:3025(part-60)	1.0	1.5	0.08

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REPORT NO. 3196

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
F.	Microbial Parameters					
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019	Shall not be detectable in any 100 ml Sample		Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019			Absent
3	Faecal Coliform	MPN/100ml	IS:1622:1981:RA:2019			Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

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20/10/21

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

20/10/21

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----------*End of the test report*----------

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Name & Address Of The Customer			
To, **L & T Construction** **Bhilai (C.G.)**	**Report No**	**UES/TR/21-22/3197**	
	Lab Ref No	**UES/21-22/W/5713**	
	Date of Sampling	**13/10/2021**	
	Date of Receipt	**14/10/2021**	
	Date of Report	**20/10/2021**	
	Date of analysis	**START: 14/10/2021**	**END: 20/10/2021**

SAMPLE DETAILS	
Customer Sample Id /Sampling Location	**Water Tank**
Customer Ref. No. & Date	**EL136WOD0000138**
Sample Type	**Water tank**
Packing of Sample	**Plastic Bottle (5ltr.)** **Glass Bottle (350 ml)**
Sample Collected By	**Laboratory Chemist**
Sample Condition At Receipt	**Ok**

REPORT NO.3197

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
A.	**Physical Parameters**					
1	Colour	Hazen	IS:3025(Part-04)	5	15	<1
2	Odour	-	IS:3025(part-05)	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	IS:3025(Part-10)	1	5	0.86
B.	**Chemical Parameters**					
1	pH Value at 25.2°C	-	IS:3025(Part-11)	6.5-8.5	No Relaxation	7.38
2	Conductivity	µS/Cm	IS:3025(Part-14)	-	-	368
3	Total Dissolved Solids	mg/L	IS:3025(Part-16)	500	2000	223
4	Total Alkalinity (as $CaCO_3$)	mg/L	IS:3025(Part-23)	200	600	94.0
5	Total Hardness (as $CaCO_3$)	mg/L	IS:3025(Part-21)	200	600	132.0
6	Sulphate (as SO_4)	mg/L	IS:3025(Part-24)	200	400	14.5
7	Chloride (as Cl)	mg/L	IS:3025(Part-32)	250	1000	36.9
8	Ammonical Nitrogen as NH_3-N	mg/L	IS:3025(Part 34)	-	-	N.D.
9	Nitrate (as NO_3)	mg/L	IS:3025(part-34)	45	No Relaxation	0.28
10	Boron (as B)	mg/L	IS:3025(Part-57)	0.5	1.0	N.D.
11	Calcium (as Ca)	mg/L	IS:3025(Part-40)	75	200	36.2
12	Copper (as Cu)	mg/L	IS:3025(part-42)	0.05	1.5	N.D.
13	Magnesium (as Mg)	mg/L	IS:3025(Part-46)	30	100	10.2
14	Manganese (as Mn)	mg/L	IS:3025(part-59)	0.1	0.3	N.D.
15	Zinc (as Zn)	mg/L	IS:3025(part-49)	5	15	N.D.
16	Fluoride (as F)	mg/L	IS:3025(part-60)	1.0	1.5	0.06

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REPORT NO. 3197

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT
				Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source	
F.	Microbial Parameters					
1	Total Coliform	MPN/100ml	IS: 1622:1981:RA:2019	Shall not be detectable in any 100 ml Sample		Absent
2	E. Coli	MPN/100ml	IS: 1622:1981:RA:2019			Absent
3	Faecal Coliform	MPN/100ml	IS: 1622:1981:RA:2019			Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

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For ULTIMATE ENVIROLYTICAL SOLUTIONS

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----------*End of the test report*----------

Annexure-5

Emergency Response Plan

L&T Construction
Buildings & Factories

IIT BHILAI PROJECT, CHHATTISGARH

EMERGENCY RESPONSE PLAN

	Name	Signature	Date
Prepared by	Mr. Mohammad Arif		31.07.2021
Reviewed by	Mr. Venkataramaraju P.		31.07.2021
Approved by	Mr. Rajesh Shukla		31.07.2021

Revision Number	Revision Status/Details	Issued Date	Remark
00	Base Plan	01.07.2020	Initial Issue
01	1st Revision	30.10.2020	1.EHS in charge, IR in charge modified and Stores In charge added, in ERC (page 4) 2.Contact Phone numbers of the Key Personnel (page 12)
02	2nd Revision	31.01.2021	Contact Phone numbers of the Key Personnel (page 12)
03	3rd Revision	31.05.2021	1.Contact Phone numbers of the Key Personnel (page 12)
04	4th Revision	31.07.2021	1.Contact Phone numbers of the Key Personnel (page 12) 2.List of Emergency Equipment Updated

Table of Contents

1. CPWD REQUIREMENTS VS ARRANGEMENT / PROVISION AT SITE:

CPWD Requirement	Arrangement / Provision at Sirte
Contractors shall require to tie-up with the hospitals and fire stations located in the neighborhood for attending to the casualties promptly and emergency vehicle kept on standby duty during the working hours for the purpose.	Hospital tie-up and fire station has been done. Contact information's has been mentioned.
Contractor shall conduct an onsite emergency mock drill once in every month for all his workers and his subcontractor's workers.	Emergency Mock drill will be conducted in a phase manner to cover all workplaces.
It shall be the responsibility of the contractor to keep the Local Law & Order Authorities informed and seek urgent help, as the case may be, to mitigate the consequences of an emergency. Prompt communication to IKEA, telephonically initially and followed by a written report, shall be made by the Contractor.	Communication will be given to CPWD and Authority regarding the same.

2. Definition

- An event at the site which may affect several other work areas within and may cause serious injuries, loss of life, serious affliction to health or serious damage to property.
- This may demand the rescue and relief measures on a war footing and at short notice.
- External resources may also be required to handle the situation.

3. Objective

- Preserving the life, property and environment from the consequences of emergencies arising within the site.
- Systematic coordination of emergency control action to arrest escalation of emergency,
- To evacuate personnel within or outside the site where necessary and to rehabilitate them.
- Restoring normalcy in site operation with minimum loss of time.

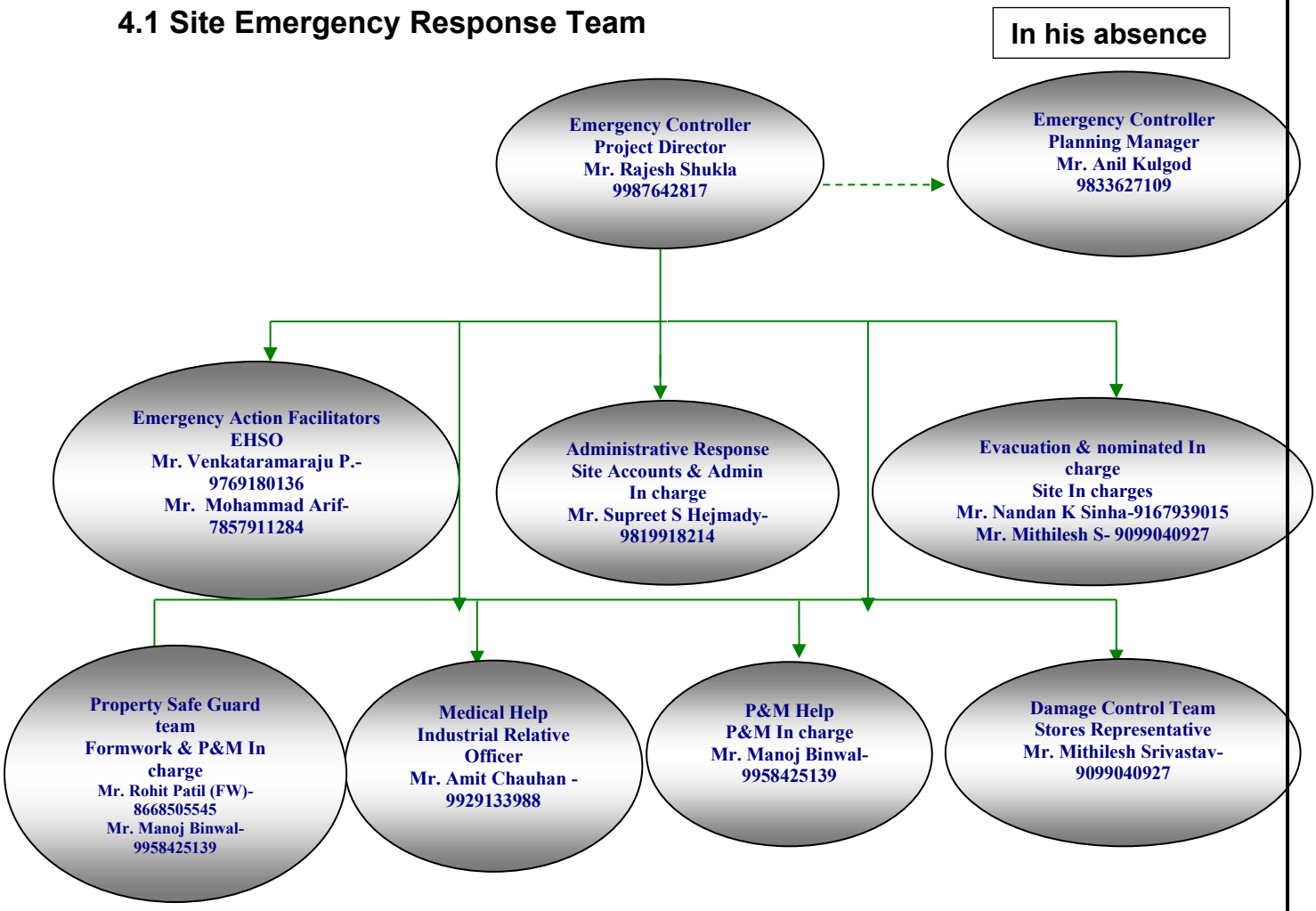
4. Emergency Response committee (ERC)

We shall establish a team for handling any case of emergencies, Declared Mr. Rajesh Shukla as Incident Controller.
ERP team members are,

- Mr. Rajesh Shukla - Project Director (Emergency controller)
- Mr. Anil Kulgod – Planning Manager - Nominated in-charge (one who acts in absence of the PM)
- Mr. Supreet Sesu Hejmady - Accounts & Administration In charge
- Mr. Venkataramaraju P. - EHS In-charge
- Mr. Manoj Kumar Binwal - Plant & Machinery In charge
- Mr. Nanda Kumar Sinha – MEP In-Charge - Section In charge
- Mr. Amit Chauhan -Time office In-Charge
- Mr. Mithilesh Srivastava - Store In-Charge

Assembly points shall be identified and communicated to all employees including visitors in induction itself and they shall be handed over with a visitor booklet.

4.1 Site Emergency Response Team



5. Emergency control Room (ECR)

EHS office is identified as a Emergency control room (ECR)

List of Emergency Safety Equipment and their storage locations shall be readily available at the emergency control room, Time Office & displayed in other conspicuous locations. The list of emergency equipment may include,

- Self-contained Breathing Apparatus (SCBA)
- Oxygen Resuscitator
- Hard Stretcher
- Portable Gas Detector
- High Power search light
- Hand tools (Axe, shovel)
- First Aid Equipment
- Full Body Harness
- Mega Phone
- Manual siren
- Ring buoys
- Explosive meter
- Oxygen indicator
- Rescue Kit for TC Operator

6. Responsibility

Project Manager- Mr Rajesh Shukla

- As a project manager and head of emergency response committee he is responsible for activating the emergency plan and assuming overall command during the emergency.
- Immediately arrange for an informal on-spot meeting of the members preferably at the emergency control room to take stock of the situation and initiate necessary measures.
- Take on-spot decision on the procedure to be adopted based on the type and extent of the emergency.

- Authorize committee members and other personnel to carry out the specified tasks as decided in the on-spot meeting.
- Arrange all the required facilities through accounts & administration for the necessary medical aid, manpower, money, conveyance etc.
- Communicate the occurrence of emergency and steps being taken, to client, and other concerned officials at Headquarters / Regional office.
- Nominated In-charge
- In absence of project manager, the nominated in-charge shall be the Head of Emergency Response Committee.
- Ensures the resource availability required during emergency.

Accounts & Administration In charge- Mr. Supreet Hegmady

- Attend the on-spot emergency meeting. Ensure necessary first aid facilities are available to meet the emergency.
- Ensure necessary arrangements for medical evacuation of injured and shifting to hospitals as recommended by the medical practitioner / first aid attendant.
- Coordinate with external agencies such as local police, fire station, district administration etc.

Plant & Machinery In charge- Mr. Manoj Binwal

- Make necessary arrangement for Plant & Machinery, Operators and drivers required for rescue operations as decided in the on-spot meeting.
- Arrange Illumination as required for the rescue and other emergency operations.

EHS In charge- Mr. Venkataramaraju P

- Inform Clients.
- Act as a coordinator for the emergency response committee.
- Organize rescue team with rescue apparatus like Self Contained Breathing Apparatus (SCBA), gas detectors, stretchers etc (if required).

Responsibility of Time Office in charge – Mr. Amit Chauhan

- Collect details of manpower working in the area during emergency.
- Ensure the availability of first aid facilities and emergency vehicle or ambulance so as to shift the victim to the hospital is necessary as advised by accounts and administration in charge.
- To carry out head count to find out the missing personnel (if any) at assembly point.

Responsibility of Storekeeper- Mr. Mithilesh Srivastava

- If required, arrange necessary materials like tools & tackles for rescue operation as advised by the accounts and administration In charge.
- Assist accounts and administration In charge in his operations.

Responsibility of Surveyor

- Assist the emergency response committee to identify the exact location of emergency from available drawings and site experience.

Responsibility of Security Personnel

- They are responsible to control the traffic on the road and keep them clear of any obstruction for free movement of ambulance and other vehicles.
- Temporarily suspend the entry of visitors and other workmen who are not required for the rescue operations and all vehicle movements to stop and clear the road for emergency vehicles if required.

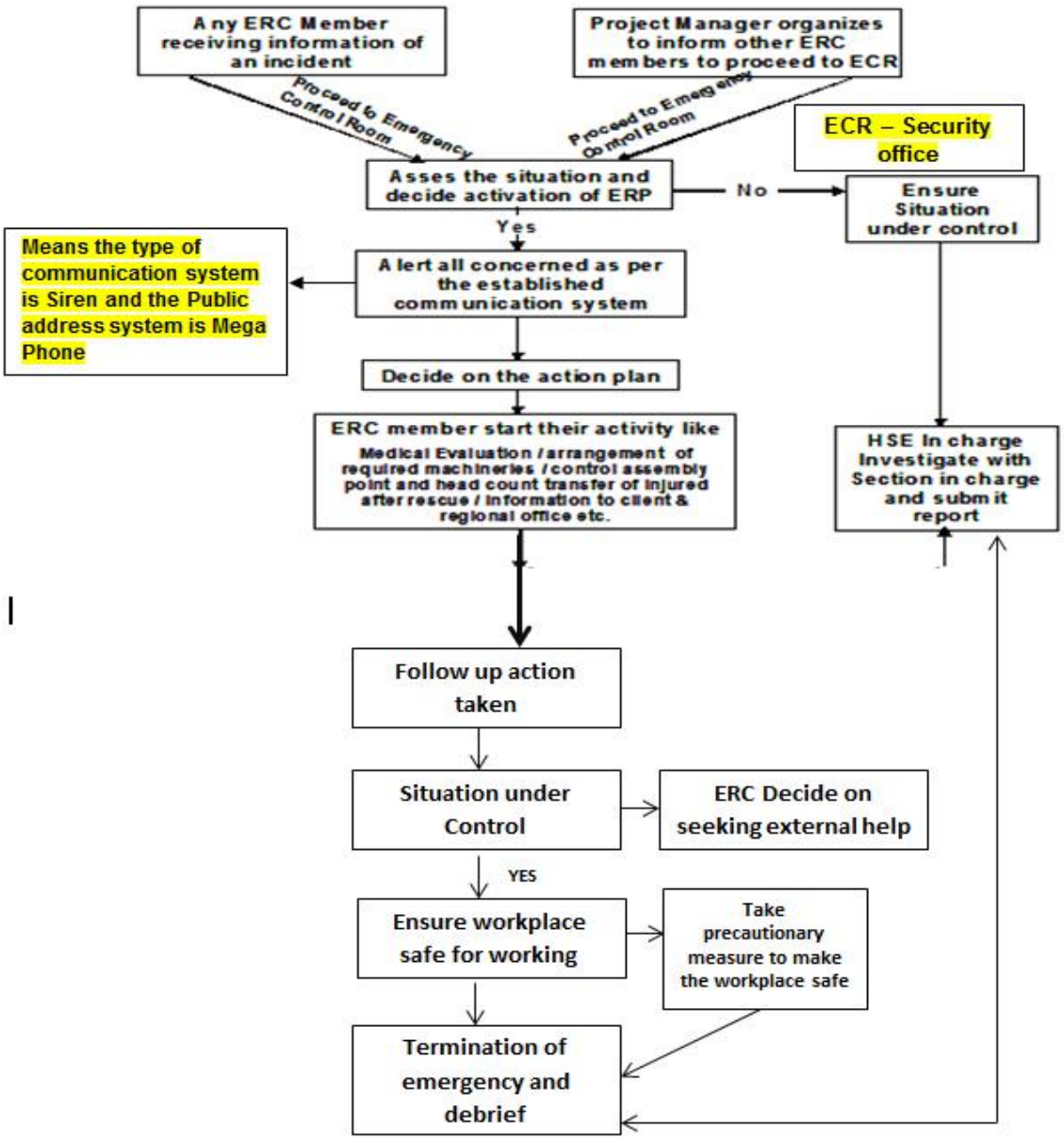
Members of the Emergency Response Committee (ERC)

- On receiving information about the emergency situation all members shall try to communicate the same to emergency controller and other members and proceed to the emergency control room.
- Shall carry out the works assigned to each individual during the emergency response committee meeting

7. Emergency Response Management

Management Flow chart

A flow chart outlining the typical flow of operations that should be followed in an emergency Response management is given below.



8. DECLARATION OF EMERGENCY

- Chairman of ERC declares the emergency.
- Declared by the established communication system such as alarm or siren.
- People must stop the work and move towards assembly point.

8.1 Termination of Emergency and Debrief

- ERC is responsible for the termination of the emergency.
- After termination ERC shall conduct an inspection & submit

investigation report.

- Reassessment of the work site must be completed prior to recommencement.
- Resumption of the work only after head count.
- All work permit shall be revalidated before deploying workmen's on back to job at site

8.2 Emergency Assembly AREA

Assembly Area at DP1, DP2, DP3 close to site gates shall be made. Assembly Area for Main Project at Parking area shall be made. Sign boards shall be displayed to indicate the direction to the assembly point from different work areas.

8.3 Head Count

A system for accounting for personnel, suppliers and customers following an evacuation shall be taken by the time office personnel in assembly point

8.4 Emergency Communication System

Siren will be fixed in suitable locations for the Emergency communication system and it is communicated to all concerned.
ERC members shall give clear guidelines on how:-

- To alert workers in case of emergency
- To evacuate or take other action
- To report emergencies
- The alarms shall be distinctive and recognized by all.

8.5 On site Emergency Amenities:

Fire extinguishers
Male nurse with all first Aid Facilities
Ambulance room
Ambulance Van
Rescue Cage – (will be placed in the Tower crane reachable area)

8.6 Action plan during emergency

- Inform Emergency controller & EHS ENGINEER parallel. They will notify in turn each other and all other ERT members through phone / intercom or through messenger according to the situation.
- EC will declare the Emergency through the available media may be a siren.
- Damage control Team will act swiftly to take out the victims and control

further damage

- For Minor Injuries First-Aid is given at the FAC, in the site itself. First-aid Box is available in the Ambulance room.
- If it is major the Male Nurse Rushes to the location by the Ambulance with medical aid or on foot. If the male nurse finds that the injured can be attended in the First-aid Centre itself, he will bring the injured to the ambulance room and treat there. If treatment in male nurse is not advisable, he will rush the injured to nearby hospital
- Remaining work force will be directed to Emergency Assembly Point by Evacuation team
- Emergency escape instruction will be given at EAP by EHS team
- Shifting of Construction Equipment/Material to an identified location will be done by Property Safe Guard team
- Administrative team provides all administrative aide to ERT
- Fire Brigade of the State Govt will be informed by ERT, if the fire is getting out of control.
- In case of short notice, all the identified persons to contact themselves and act as mentioned above.
- EHS team will investigate.
- Entire site team will take remedial measures.
- It will be ensured that the damage / fire are stopped and the environment will be assessed, whether safe to work.
- After the emergency is over, the normal situation is to be declared by the EC. Staff, Workmen to be rehabilitated
- All work permits shall be revalidated before deploying workmen's on back to job at site

9. EMERGENCY CONTACT INFORMATION

9 EMERGENCY PREPAREDENESS AND RESPONSE

Emergency Planning is required to ensure a structured response to any emergency on the site. Site Emergency Plan includes identification of emergencies, description of the responsibilities and functions of the key members of the Site emergency response team, with and without support from local authorities, local fire brigade and hospitals.
The purpose is to establish systems and procedures for dealing with emergency situations including contingency arrangements for business recovery.

9.1 Emergency Conditions

Every Contractor should prepare an Emergency Preparedness Plan for each of his project sites. These plans identify the foreseeable emergencies that may arise during the project activities. Examples of activities that will be considered as an emergency situation on project site includes but not necessarily be limited to –

- Accident
- Fire
- Electrical Cable rupture
- Structure collapse/soil collapse during excavation
- Natural calamities
- Security alerts
- Vehicle topples
- Leakage of dangerous materials and chemicals
- Major Injury / Fatality at the site etc.

9.1.2 The Emergency response plan at least contains the following information:

- The name, location and phone number of the Emergency Co-coordinator
- Designated Personnel with locations and phone numbers
- Details of the Emergency Response Team with locations and phone numbers
- Functions of the individual member in the Emergency response Team
- The location of the emergency exits and the means of Escape
- Proper site layout with routs, available facilities and present location demarcation (Attached)
- Communication flow with the Emergency Services like Police, Fire Services, Ambulance etc.
- First-Aid Facilities
- Evacuation routes
- Location of Assembly points etc.

9.2 FIRST AID

Qualified First aiders and First aid facilities shall be at each workplace. Every injury shall be reported and treated. First aiders shall be in possession of a valid first aid certificate issued by a competent authority.
The first aid facility shall be in accordance with applicable Laws. Alternatively the agreements shall be made with nearby hospital for treatment of injured or persons suffering from sickness. A first aid log will be maintained for injuries and sickness. Agreement should have provision to provide ambulance service on call basis or for deputing at site in case of critical activity on standby during work hours.

Provisions at site: Qualified Male nurse available at site. First aid facilities available at site as per the BOCWA. First aid register is maintaining. Full time ambulance van is available at site

9.3 MEDICAL CARE

Ambulance room available at site as per BOCWA

9.4 AMBULANCE VAN

The Contractor shall ensure at construction site that an ambulance van for

transportation of serious cases of accident or sickness of building workers to the hospital promptly and such ambulance van is maintained in good condition and is equipped with standard facilities specified in schedule V, BOCWA.

Provision at site: Ambulance van facilities available at full time.

9.5 TIE UP WITH NEARBY HOSPITAL

During construction, the Contractor shall Tie-Up with nearby hospital to arrange medical treatment in serious cases of accident or sickness of the building worker promptly.

Provision at site: Hospital tie up has been done with B M Shah Hospital, Bhilai.

9.6 FIRST AID BOX

At every Work place First aid facilities shall be provided and maintained. The first aid box shall be distinctly marked with a Red Cross on white background. The first aid box shall be kept by work supervisor and by a responsible person who shall always be readily available during the working hours of the work place.

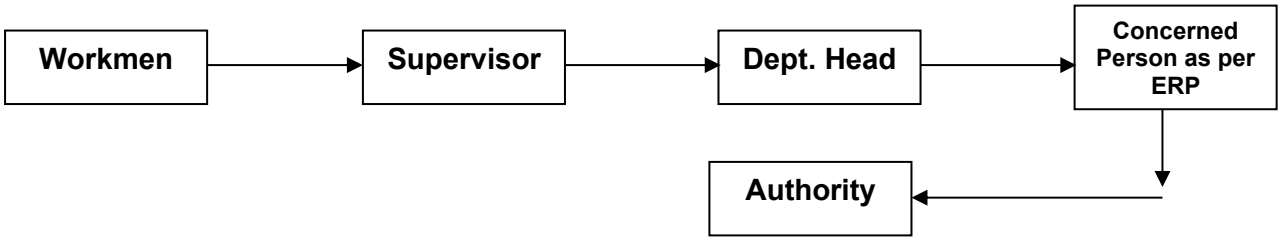
Provision at site: The first aid box facilities available as per BOCWA at site

EMERGENCY CONTACT NUMBER

SL NO	NAME	DESIGNATION	CONTACT NO
01	Mr. Rajesh Shukla	Project Director	9987642817
02	Mr. Anil Kulgod	Planning In charge	9833627109
03	Mr. Venkataramaraju P.	EHS Head	9769180136
04	Mr. Mohammad Arif	Asst. EHS Manager	7857911284
05	Mr. Javed Anowar	EHS Engineer	8918038631
06	Mr. Supreet Hejmady	Accounts & Admin	9819918214
07	Mr. Mithilesh Srivastava	Store In charge	9099040927
08	Mr. Manoj Binwal	P&M In charge	9958425139
09	Mr. Shree Prakash Sharma	Construction Manager	9727755846
10	Mr. Shri Bhagwan Yadav	Construction Manager	9545877134
11	Mr. Senthil Kumar MN	Construction Manager	9909974914

12	Mr. Sumanta Chatterjee	Construction Manager	9830445811
12	Mr. Amit Chauhan	Time office In charge	9929133988
13	Fire station	Fire Station	0788- 2852222
14	Jewra - Sirsa police station	Police station	0788- 2111194
15	Site Ambulance	Ambulance	9833606438
16	B M Shah Hospital, Bhilai	Hospital	7773077711
17	Aashirwad Blood Bank	Blood Bank	9691733333
18	Chhattisgarh Blood Bank		7713060518
19	Snake Relief Foundation	Snake catcher	9755217711

Communication flow chart/instruction/protocol-



10. Firefighting facilities

List of fire extinguishers provided in the site shall be readily available at the emergency control room, displayed in other conspicuous locations.

1. L&T Office area.
2. Near Ambulance room.
3. Near Office Pantry
4. Workmen rest area
5. P&M Workshop
6. Steel yard
7. DG Near Steel yard
8. Store room
9. Diesel storage area
10. Cylinder storage area.
11. Carpentry workshop
12. Weigh Bridge
13. Security gate
14. CPWD office
15. At site – DP1, DP2, DP3
16. At Electrical DB's
17. DG at Site
18. Main Gate

11. EMERGENCY SAFETY EQUIPMENT

List of Emergency Safety Equipment and their storage locations shall be readily available at the emergency control room, Time Office & displayed in other conspicuous locations. The list of emergency equipment may include,

- Self-contained Breathing Apparatus (SCBA)
- Oxygen Resuscitator
- Hard Stretcher
- Portable Gas Detector
- High Power search light
- Hand tools (Axe, shovel)
- First Aid Equipment
- Full Body Harness
- Mega-Phone
- Manual siren
- Ring buoys
- Explosive meter
- Oxygen indicator
- Rescue Kit

12. Emergency Handling Strategies for different Scenarios

- Anticipated emergency at construction site:
  - Medical emergency and rescue
  - Collapse of construction temporary structure or lifting appliances
  - Explosion of gas cylinder
  - Major fire incident
  - Flood/Cyclone – Natural calamities
  - Earthquake – Natural Calamities

- Emergency in regular time
- Emergency in Weekly off days late night working hours
- Unrest, other situations
- Civil Disturbances / Political Emergency Evacuation
- Bomb threatening, criminal attack
- Leakage of chemical, Dangerous material

12.1 Medical Emergency and Rescue

Potential injuries that may result in a medical emergency include:

- Slips, trips, fall.
- Trauma injuries caused by being struck by heavy equipment, electrocution,
- Lacerations, eye injuries, building components, waste containers, etc.
- Burns from electrical, fire, or explosion
- Electrical contact
- Heat stress/stroke
- Chemical exposures
- Cardiac emergencies
- Respiratory emergencies

The first line supervisors will respond to minor injuries requiring first aid only; major
Injuries or requirements for each and rescue will be handled by Emergency response team.
If a worker is showing signs of distress or obvious injury or illness, the first line supervisor
Will immediately notify the Emergency Coordinator and provide the following information:

- Location of victim
- Nature of emergency

- Whether the victim is conscious
- Specific details regarding the injury or illness

The Emergency Coordinator will suspend work within the vicinity until the Emergency has been corrected. If possible the trained first aid attendant will treat the injured employee as necessary until a decision is made to seek outside medical assistance or remove the victim from the building.

An approved man basket will be used to shift the injured person by crane from the pit to the First aid Centre or to the nearest location. The use of crane and the man basket will be monitored as per safety standards.

12.2 Collapse of constructing temporary structure(Formwork or Reinforcement Cage) or lifting equipment

- Observe from safe distance, is any workmen trapped inside.
- If trapped search for live persons after taking enough precisions.
- Don't allow public to assemble near the incident location.
- Allow only authorized & trained persons nearer to that location.
- There is a possibility other worker may become violent keep an eye on the surroundings.

If situation becomes violent protect yourself from violent crowd by hiding, unless situation changes.

- Inform Site In-charge about situation and get his help for rescue.
- Keep security personal alert.
- Mean time information shall be passed to site in-charge and Admin. In-charge as in the above flow chart for initiation of necessary rescue arrangement.

12.3 Explosion of Gas cylinders

- If fire in a compressed gas cylinder observed it may lead to explosion. Hence from distance water shall be poured on the body of the cylinder such that cylinder body temperature can be kept in control such that cylinder will not explode.
- All other cylinders in that area if possible to be taken away from that area.
- After completion of fire, cylinder which caught fire shall be returned to manufacturer.

- If any leakage found in cylinder it shall be kept in well ventilated shaded area unless it becomes empty and then it shall be returned to manufacturer.

12.4 Major Fire Incident

- Call nearby Fire station.
- Switch off main power supply.
- Use available fire extinguishers.
- Use available construction water for putting off fire.
- Check any persons trapped in fire, if trapped arrange for rescue.
- Reduce fire load if possible.
- Communicate Site In charge / Rescue team for immediate action.
- Call ambulances as required.
- Identify any materials, which may become toxic on vaporization & remove from that area.

12.5 Flood, Cyclone

- As per the guidelines of the local authorities initiate rescue operations.
- Generally, keep people in an elevated location.
- Inform all workers according to information from local authorities
- Evacuate people from low lying locations to high level locations.
- Don’t lock tower crane cantilever boom.

12.6 Earth Quake

If information received or initial trimmers are observed.

- Trace information from local bodies & media.
- According to information if severity may increase or further tremors if expected.
- Take decision and inform all workers in site about the expected danger.
- Inform all to come and assemble in a safe open location identified. (Emergency Assembly Point)
- In load bearing structures people should not stay.
- Framed structures are best area to stay.

12.7 Emergency in Regular working time

Emergency Situation Noticed in regular working time during day time 8.30 am to 8.30 pm can be well communicated to all site section in-charges and to our best extent rescue and rehabilitation measures can be assumed.

12.8 Emergency in Weekly off days late night working hours

- During weekly off and late night working hours Site In charge shall be declared.
- He will also act as Site Emergency Control co-coordinator. Training will be given to the Emergency response team members for the time.
- His name and phone No. shall be kept in site & time office notice board along with contact no.
- Emergency Control co-coordinator will co-ordinates and gets the help from regular site emergency rescue team in the shortest possible time.
- In the meantime he will guide the site team in co-ordination with Emergency Rescue Committee.

12.9 Unrest, other situations

- Adequate precautions to be taken for work sites close to areas prone to political / communal unrest.
- Information can be obtained from television, radio, newspaper / any other Sources.
- Assemble at emergency assembly point
- Declaration of emergency situation by Project Manager, Construction Manager.
- Evacuation of workmen & staff from emergency assembly point to a safe shelter by time office.
- Security arrangement to be ensured in coordination with Local police station.
- In case of military aggression, air raids, additional arrangements e.g. Military protection / bunkers may be required.
- Arrangement for flood, drinking water & medical aid by package I/c
- District emergency authority (district Collector to be informed).
- In case of short notice, all the identified persons to contact themselves act as mentioned above.
- After the emergency is over, the normal situation is to be declared by Project Manager, Construction Manager.
- Staff, workmen, & family to be rehabilitated.

12.10 Security Alert - Bomb threatening, criminal attack

If Information received from security / workmen / other sources for bomb threatening / criminal attack.

- Emergency will be declared by long siren and the public addressing system.
- Information will be given through Telephonic communication to nearest police station.
- All persons will be assembling at nearest emergency assembly point.
- Head count will be done.
- After the clearance given from police dept., will be declared by emergency response team.

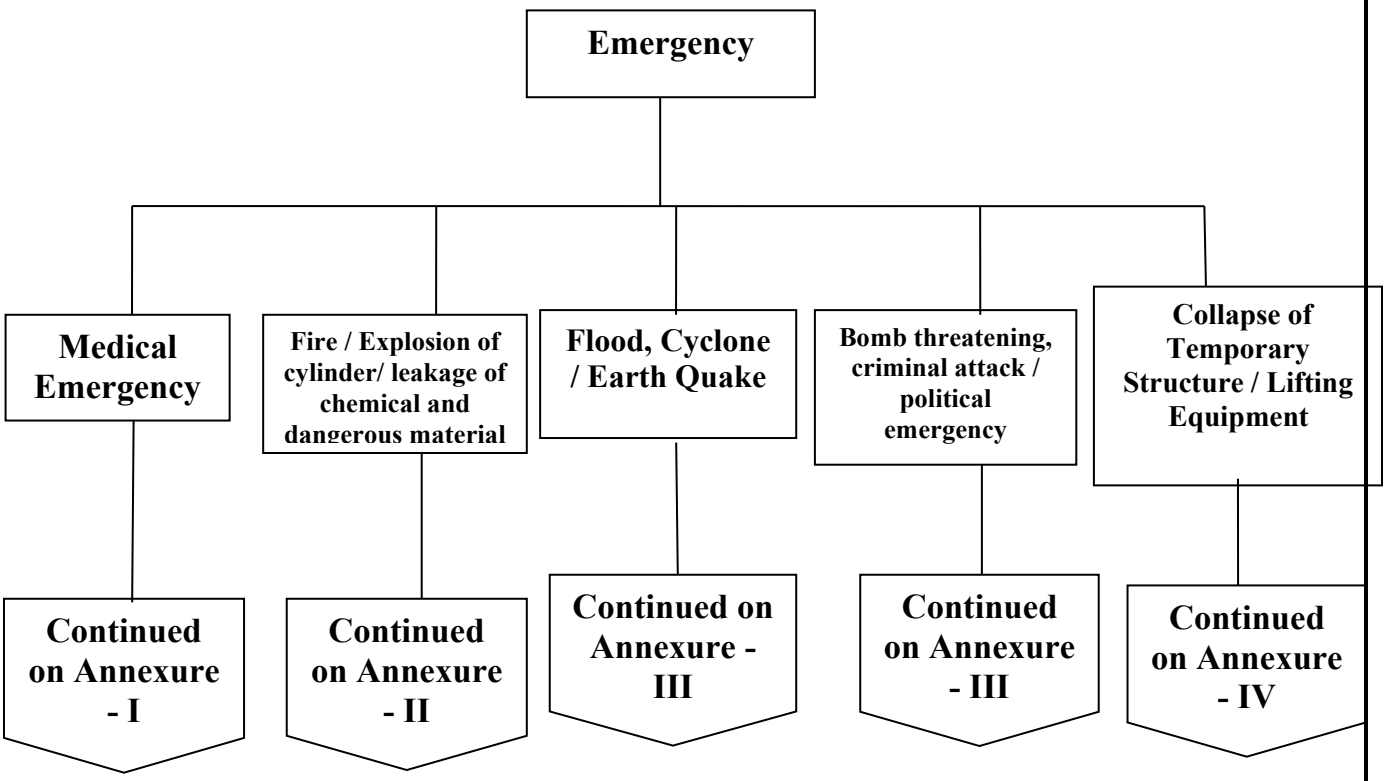
12.11 Leakage of chemical, Dangerous material

If information received from site,

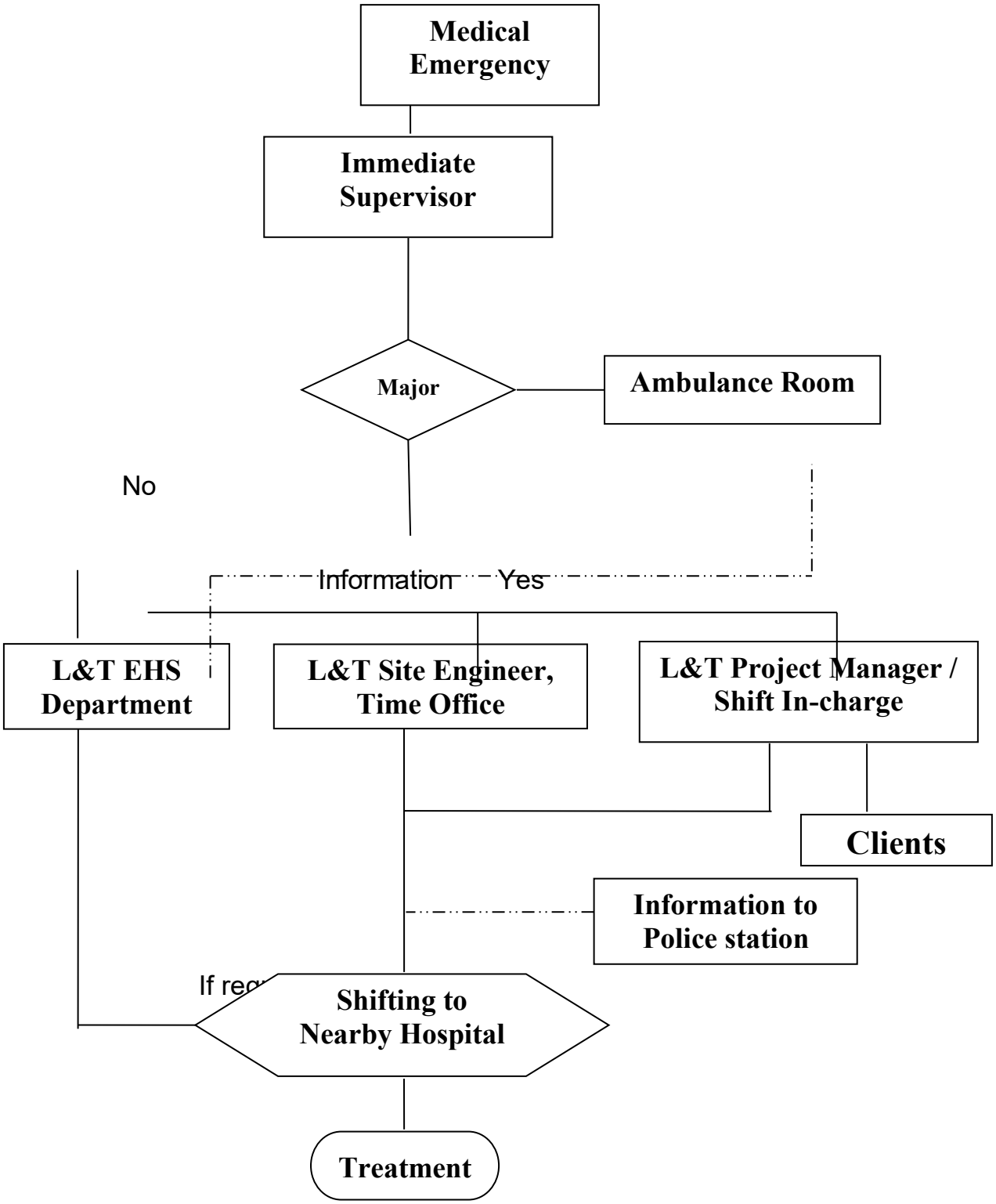
- Emergency will be declared by ERT member.
- Log siren will be put with public address system
- Evacuate workmen and staff to nearest emergency assembly point.
- Head count will be done.
- Emergency response team to take appropriate action to minimize the extend of effect.
- Briefing the emergency to all people.
- Once the emergency is over, normal situation will be declared by ERT members.

13. EMERGENCY RESPONSE FLOW CHART

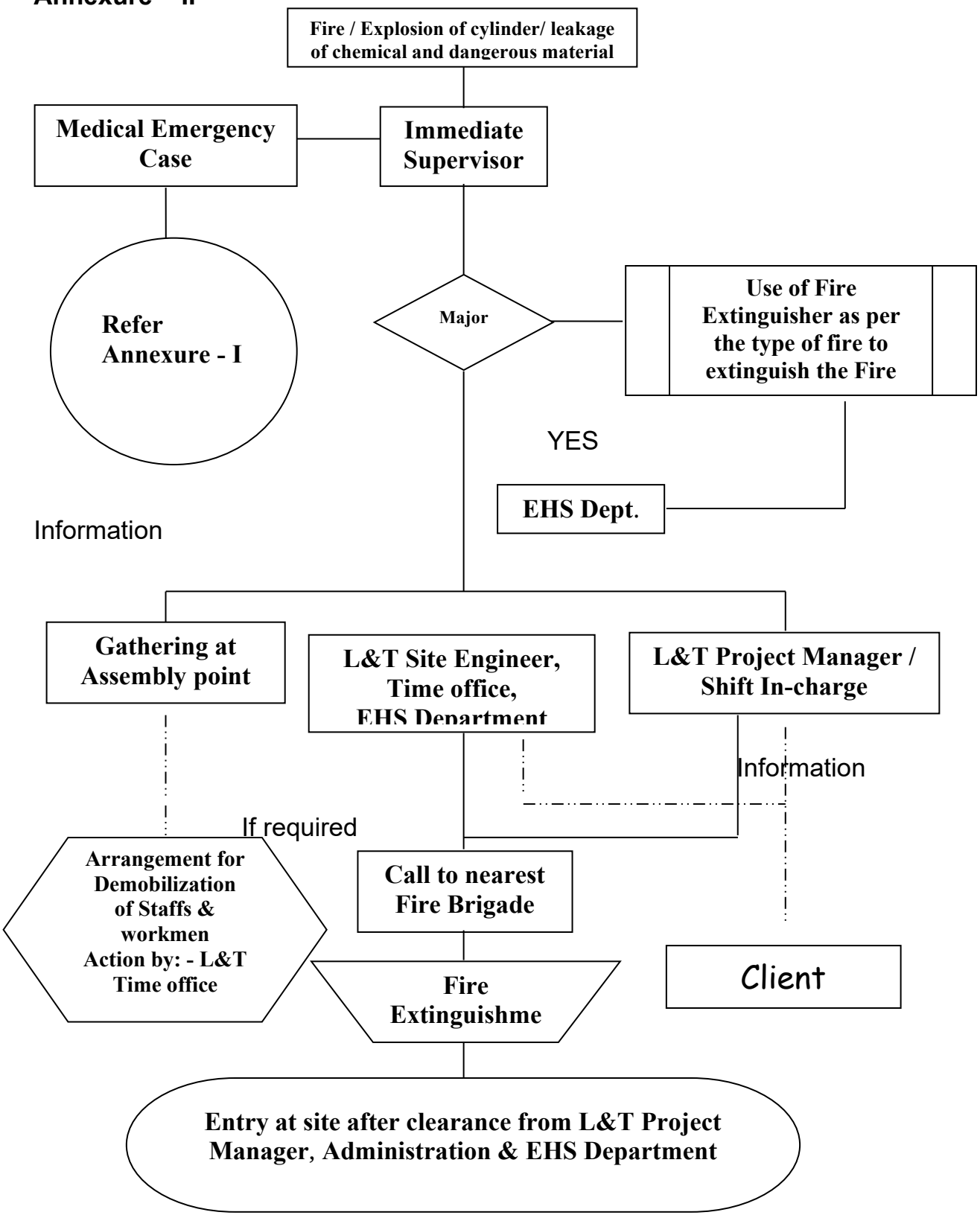
While emergency the site Emergency Response Team should react as per the following flowchart.



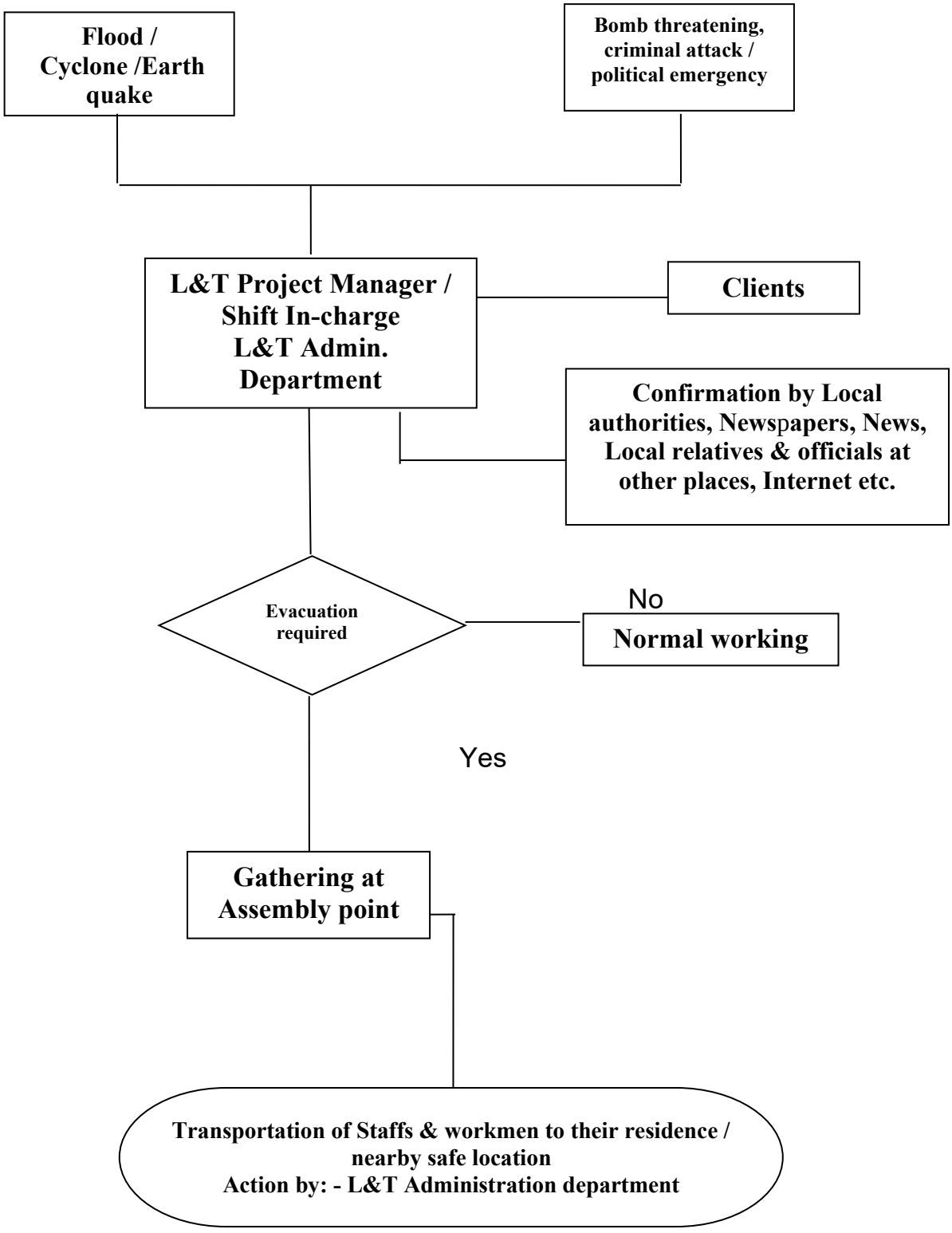
Annexure – I


Medical Emergency
Immediate Supervisor
Major
Ambulance Room
No
Information
Yes
L&T EHS Department
L&T Site Engineer, Time Office
L&T Project Manager / Shift In-charge
Clients
Information to Police station
If req
Shifting to Nearby Hospital
Treatment

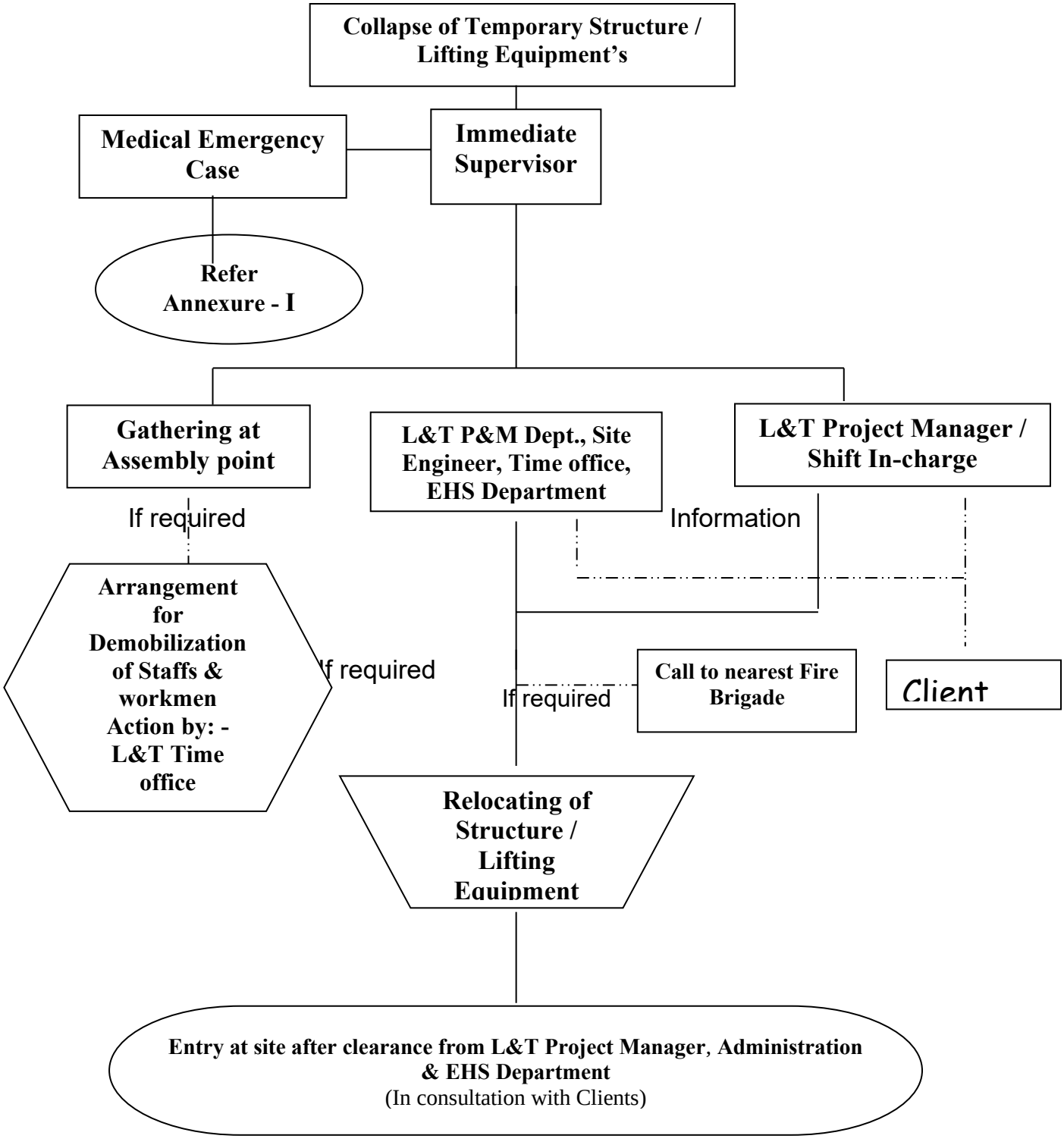
Annexure – II


Fire / Explosion of cylinder/ leakage of chemical and dangerous material
Medical Emergency Case
Immediate Supervisor
Refer Annexure - I
Major
Use of Fire Extinguisher as per the type of fire to extinguish the Fire
YES
EHS Dept.
Information
Gathering at Assembly point
L&T Site Engineer, Time office, EHS Department
L&T Project Manager / Shift In-charge
Information
If required
Arrangement for Demobilization of Staffs & workmen Action by: - L&T Time office
Call to nearest Fire Brigade
Fire Extinguishme
Client
Entry at site after clearance from L&T Project Manager, Administration & EHS Department

Annexure– III



Annexure – IV



Information will be passed to CPWD while emergency.

14. TRAINING FOR EMERGENCY MANAGEMENT

Training of employees related to emergency response shall address the following:

- Function and elements of emergency action plan
- Types of potential emergencies
- Notification, warning, and communications procedures
- Emergency response procedures
- Evacuation, shelter, and accountability procedures
- Location and use of common emergency equipment
- Any other special hazards onsite such as flammable materials, toxic chemicals, radioactive sources.

15. MOCK DRILL:

Evacuation Mock drill shall be conducted phased wise for various emergency situations cited in the emergency plan.

All Emergency rescue team members, engineers, Security shall be trained over emergency rescue plan.

All EHS, Site, P&M, stores mates will be trained on Firefighting & control.

First aid training shall be given to all EHS, Site, P&M, stores & Sub-contractor supervisor

16. INFRASTRUCTURE AND SYSTEM REQUIRED TO MANAGE EMERGENCY:

1. Display emergency escape route
2. Emergency contact number to be displayed at site in conspicuous locations.
3. Give safety induction to workmen before entering the site.
4. Train every staff / workmen / Security on emergency response (during safety induction)
5. Adequate number of fire extinguisher should be made available.
6. Workmen should be trained to operate the fire extinguisher.

7. First aid Centre with trained first aider is required
8. Ambulance
9. Install emergency siren and educate the people. Also keep hand operated siren
10. Emergency rescue kit (stretcher, torch, mega phone, decenter kit, fall arrestor, PP rope, carabineer, goggles, full body harness, axe, shovel, spade, sling, D shackle, etc.) shall be made available
11. Mock drill to be conducted to find adequacy of the emergency task force mechanism.

Emergency rescue kit shall be kept in the Safety induction hall. All emergency related kits are to be inspected once in a month and shall be kept in working condition always.

EMERGENCY RESPONSE PLAN- COVID 19

- COVID 19 is already declared as a Pandemic worldwide, so we are also considering it as an emergency in case of found any positive cases at our site as there is a very high chances of contamination among multiple and which may poses to multiple death also. This may also demand the rescue and relief measures on a war footing and at short notice. External resources and guidance from Local Administration may also be required to handle the situation.
- An Emergency Response Plan is already prepared at the beginning of the project. For COVID 19 we have prepared separate ERT align with the existing ERP.

Objective

The main objectives of the emergency response plan shall be:

- Preventing the contamination in large scale among the site other workers and employees along with in the native villages.
- Intimation to the local administration and comply with all the statutory requirements suggested by the govt in this regard.
- Control the panic of all employees, workers and the villagers of nearby villages.
- Restoring normalcy in site operation with minimum loss of time.

Emergency Response Committee

- An emergency response committee shall be formed comprising key personnel at the workplace which is named COVID Response Team (CRT).
- All the members shall have a deputy (alternative) to replace them, (to act on their behalf) if necessary.
- The purpose of the ERC/CRT is to manage the orderly response to an emergency situation. Typical constitution of an emergency response committee is given below.

Emergency Controller : **Mr. Rajesh Shukla (Project Director)**
In absence of Project Director : **Mr. Anil Kulgod (Planning Manager)**

Sl No.	Name	Name of Alternate	Department
1	**Mr. Supreet SH**	**Mr. Mayank Tiwari**	**Project A/C and admin**
2	**Mr. Venkataramaraju P**	**Mr. Javed Anowar**	**EHS**
3	**Mr. Anil Kulgod**	**Mr. Yash Karodi**	**Planning**
5	**Mr. Manoj Kr. Binwal**	**Mr. Nayan Mukherjee**	**P&M**
6	**Mr. Rohit Patil**	**Mr. Gopi P**	**Form Work**
7	**Mr. Senthil Kr. MN**	**Mr. Sunil Banker**	**Civil**
8	**Mr. Taraknath Pal**	**Mr. Anirban Pal**	**QAQC**
9	**Mr. Nandan Kr. Sinha**	**Mr. Md. Rafi**	**MEP**

10	**Mr. Sumanta Chatterjee**	**Mr. Piyush Singhal**	**External Works**
11	**Mr. Amit Kr. Chauhan**	**Mr. Raju**	**Time Office**
12	**Dr. Apoorva Senegar**	**Mr. Kanhai Yadav**	**Site MBBS doctor /Male Nurse**
13	**S/c Salimuddin**	**S/c HK Mondal**	**Sub-contractor**

Emergency Control Room (ECR)

- The Emergency Response Committee shall operate from the room identified i.e. **Site Conference Room** as Emergency Control Room (ECR). The emergency control room shall be equipped with items that may be required to manage the emergency effectively. The list of equipment's is given bellow.
    1. Site Layout showing assembly points and exit routs.
    2. Road maps leading to the site.
    3. List of Emergency contact numbers.
    4. List of location of firefighting equipment's
    5. Emergency power for the ECR
    6. Emergency Hand lamps
    7. Hand operated alarm
    8. Public announcement system.
    9. Logbook & Stationary items.
    10. List of identified Hospitals for COVID 19 (B M Shah SPH)
    11. Sanitizers
    12. Emergency Vehicles are available

Responsibility

Project Director – Mr Rajesh Shukla

- As a project manager and head of emergency response committee he is responsible for activating the emergency plan and assuming overall command during the emergency situation.
- Immediately arrange for an information spot meeting of the members preferably at the emergency control room to take stock of the situation and initiate necessary measures. Every team member should maintain social distance at least 6 ft. Sanitizer should be available at Conference room. Before and after meeting disinfectant process to be done.
- Take on spot decision on the procedure to be adopted based on the type and extent of the emergency.
- Authorize committee members and other personal to carry out the specified tasks as decided in the on-spot meeting.
- Arrange all the required facilities through accounts & administration for the necessary medial aid, sanitizers, liquid soaps, disinfectant manpower (disinfectant agency), money, conveyance etc.
- Communicate the occurrence of COVID 19 emergency and steps being taken, to client, and other concerned officials at Headquarters/ Cluster office.

- The persons who are close found contact to the COVID 19 suspect person, are identified & send them to Isolation room of our workmen hutment

Nominated In-charge – Mr. Anil Kulgod

- In absence of Project manager, the nominated in-charge shall be the Head of Emergency Response Committee.
- Ensures the availability required resources during this pandemic emergency.

Accounts & Administration In-charge- Mr. Supreet Sesu Hegmady

- Attend the on-spot emergency meeting. Ensure disinfectants are available for disinfection process the site offices, facilities, and specially workmen hutment.
- Ensure necessary arrangements for medical evacuation of the suspected and shifting to above listed (Declared by State Govt.) hospital as recommended by the medical practitioner/ First aid attendant.
- Coordinate with external agencies such as local police, district health officials, district administration etc.
- Ensure availability of separate Isolation rooms at Workmen Hutment
- Site workmen to be made understood to not to do any panic, if required with the help of police

Plant & Machinery In-charge -Mr. Manoj Binwal

- Assist accounts and admit team in their work.

EHS In-charge- Mr. Venkataramaraju P

- Communicate the occurrence of COVID 19 emergency situation and steps being taken, to client, Local administration and other concerned officials at Headquarters/ Cluster office.
- Act as a co-ordinator for the emergency response committee (CRT)
- Inform all to maintain Social distance (min 6 ft.)

Time office In-charge- Mr. Amit Chauhan

- Collect details of manpower working in the area during emergency.
- Ensure the availability of emergency vehicle so as to shift the victim to the hospital is necessary as advised by accounts and administration in-charge.
- Identify the points of contacts and reach of the suspected person and keep a record of it, until govt. bodies reached at site.
- Ensure all available worker should be with nose masks
- Start disinfecting all the areas the suspected workmen visited in last 14 days.
- Site workmen to be made understood to not to do any panic, if required with the help of police.

Storekeeper – Mr. Mithilesh Srivastava

- If required, arrange necessary materials like disinfectants, sanitizers for rescue operation as advised by the accounts & administration in charge.
- Assist accounts and administration in-charge in his operations
- Ensure availability of adequate PPEs Nose Masks and Hand gloves

Security Personnel

- They are responsible to control the traffic on the road and keep the clear of any obstruction for free movement of ambulance and other emergency vehicles.
- Temporarily suspend the entry of visitors and other workmen who are not required for the rescue operations and all vehicle movements to stop and clear the road for emergency vehicles is required and maintain social distance (min. 6ft.) strictly as instructed by Time Office.

Members of the Emergency Response Committee

- On receiving information about the emergency situation, all members shall try to communicate the same to emergency controller and proceed to the emergency control room.
- Avoid gatherings and maintain social distance
- Shall carry out the works assigned to each individual during the emergency response committee meeting.

Declaration of Emergency

- As the chairman of emergency response committee, Project manager shall declare the emergency when one COVID 19 POSITIVE case is observed and during his absence, the next in-charge shall declare the emergency. The emergencies shall be declared by communicating the workmen verbally and stopping their work. All CRT members should cooperate and help Govt health official for all their activities.
- After all the workmen communicated, they may have to stop the work and move towards pre-designated safer areas i. e. Assembly point.

Termination of Emergency and Debrief

- Emergency Response Committee (CRT)is responsible for the formal announcement of “all clear” if the suspected person found with negative report.
- Reassessment of work site must be completed prior to recommencement. Also resumption of the work can be carried out only after the prior head count.
- SOP of COVID 19 for work restarting will be maintained.

Assembly point & Head count (by Maintaining Social distance)

- Assembly points are identified, demarcated and marked with sign boards. Following are the locations

i. Workmen Habitat
ii. Office Area
iii. Centre of Hostel and Quarters
iv. Beside Rest Area

Head Count

- Head count is a system for accounting for personnel following an evacuation.
- All should maintain social distance at least 6 ft. Try to avoid gathering and count individually.
- Head count is done by the Security Team with the help of Time office records after the evacuation and assembly in assembly point.
- Visitor entry register will be used for accounting for non-employees such as suppliers and customers.

Emergency communication system

- A standard emergency communication procedure in case of emergency shall be deployed and communicated to all concerned in the site. The procedure shall give clear guidelines on how to communicate in the following cases.
    1. To alert workers in case of emergency
    2. To evacuate or take other action
    3. To report emergencies

- The emergency communication system shall be through verbal communication or through PA system for this case.

Emergency Contact Information

Name, designation & telephone numbers of important personnel who may require to be contacted in case of emergency shall be made readily available. A typical emergency contact information chart is given below:

Training for Emergency Management

- Training of employees related to emergency response function wise to be arranged periodically.