Application for Environmental Clearance
FORM 1

S. No.	Item No.	Details
1.	Name of the Project/s	Tech Mahindra Limited
2.	S. No. I the schedule	Category-B Clause 8(a)- 'Construction Projects'
3.	Proposed capacity / area / length/ tonnage to be handled / command area / lease area / number of wells to drilled	Office Building over a Plot of 10 acres (40478.26 Sq.m) with a Built up area of 25260.62 sq.m as per details below: Block-A (Amenities): 1514.91 Sq.m Block-B (Main Building): 18571.88 Guard House: 13.16 Sq.m Basement: 5160.67 Sq.m Total Built up Area: 25260.62 Sq.m Coverage at G.F: 5743.12 Sq.m (14.19%) The Main Building is Basement + 3 Floors. Block A is Ground+ First Project Cost is 110.9 Crores (**Annexure-VII**) **See Drawing-I: Approved Site Plan**
4.	New/Expansion / Modernization	New
5.	Existing capacity/ Area etc	Not applicable
6.	Category of the project ' A', 'B' , 'C'	'B'
7.	Does it attract the general conditions? If Yes, Please Specify.	No
8.	Does it attract the specific conditions? If Yes, Please Specify	No
9.	Location	@30° 43' 47.30"N 76° 50'13.84" E
	Plot/ Survey? Khasra No.	Plot No. 23
	Village	Chandigarh Technology Park, Phase-II, Kishangarh
	Tehsil	Chandigarh
	District	Chandigarh
	State	Chandigarh
10.	Nearest railway station / Airport along with Distance in kilometers.	Chandigarh railway station @ 10 Km Chandigarh Airport @ 12 Km
11.	Nearest town/District headquarters along with distance in kilometers	Chandigarh @ 10 Km
12.	Village Panchayat, Zilla Parishads, Municipal corporation , local Bodies (Complete Postal address with telephone No. to be given)	Municipal Corporation Chandigarh Mayor: Anu Chatrath Tel-0172-2714916

13.	Name of the applicant	Mr. HarenderPal Singh Manager FMG
14.	Registered address	Tech Mahindra Limited Gateway Building Apollo Bunder Mumbai 400 001 India
15.	Address for correspondence :	
	Name	Mr. Harender Pal Singh
	Designation(owner/ Partner/CEO)	Manager FMG
	address	Tech Mahindra Limited Plot No.23, CTP Phase-II, Kishangarh, Chandigarh
	Pin Code	
	E- Mail	
	Telephone No.	0172-6608400
	Fax No.	
16.	Details of alternative Sites examined, if any. Location of these sites should be shown on the topo Sheets.	No
17.	Interlinked Projects	Not Applicable
18.	Whether separate application of interlinked project has been submitted?	Not Applicable
19.	If Yes, date of submission.	Not Applicable
20.	If No, reason	Not Applicable
21.	Whether the Proposal involves approval / Clarence under : If Yes, details of the same and their to be given . (a) The Forest Conservation , Act,1980 (b) the wild life Protection Act, 1972 (c) The C.R.Z Notification, 1991.	Not Applicable. Undertaking for the same is enclosed as **Annexure 1**
22.	Whether there is any government Order / policy relevant / relating to the site?	The area is declared as SEZ by Chandigarh Administration
23.	Forest Land Involved (hectare)	Not Applicable. Undertaking for the same is enclosed as **Annexure 1**
24.	Whether there is any litigation pending against the project and /or land in which the Projects is proposed to be set up? (a) Name of the court (b) Case no. (c) Orders / Directions of the Courts , if any and its relevance with the Project	Not Applicable. Undertaking for the same is enclosed as **Annexure 1**

Tech Mahindra
ices and Telecom Solutions

Tech Mahindra Limited
Special Economic Zone
Plot No-23, Phase - II,
Rajiv Gandhi Chandigarh Technology Park
Kishangarh, Chandigarh
Tel. : +91 172 6608400
www.techmahindra.com

The unit is provided additional 5 acre of land adjacent (in addition to 10 acres) to the current land where no construction is planned at present. The unit has initial plans to built 17500 sq.m of area only and therefore has not applied for environmental clearance; at present 80% of the construction is complete and unit intends to complete the entire built up area of 25260.62 sq.m over 10 acres only and as such is applying for environmental clearance. The unit will take separate environmental clearance if required as under law if construction is done on the same. The photographs of the site as on date are enclosed at Annexure-IV.

(b) I here by given the Under taking that the data and information Given in the application and enclosure are true to the best of my knowledge and in brief and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance give, if any to the project will be revoked at our risk and cost.

Date: _____
Place: _____

H.P. Singh
[Harinder Pal Singh]
Signature of the applicant
With Name and Full Address
(Project Proponent/Authorised Signatory)
Tech Mahindra Ltd.
Plot No. 23 Phase-II, Rajiv Gandhi
Technology Park, Kishangarh, Chandigarh

NOTE:

1. The project involving clearance under Coastal Regulation zone Notification, 1991 shall submit with the application a C.R.Z map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z (at the stage of TOR) and the recommendation of the state coastal zone Management Authority (at the stage of EC). Simultaneous action shall also be taken to obtain the requisite clearance under the provisions of the C.R.Z Notification, 1991 for the activities to be located in the CRZ.
2. The project to be located within 10 km of the National parks, Sanctuaries, Biophere Reserves, Migratory Corridors of wild Animals, the project proponent shall submit the map duly authenticated by chief wildlife warden showing these features vis-à-vis the project location and the recommendation or comments of the Chief wildlife warden thereon (at the stage of EC).
3. All correspondence with the Ministry of Environment & Forests including submission of application for TOR/Environmental Clearance, subsequent clarification, as may be required from time to time, participation in the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project."

(II)	Activity

1.	**Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)**		
S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	Yes	The land in original is agricultural land which is taken by Chandigarh Administration to develop Chandigarh Technology Park (CTP). The Chandigarh Administration has changed the land use permanently to industrial park. A Plot of 10 acres (Plot No.23 in Phase-II of CTP) is given on lease to Tech Mahindra Limited on Free Hold basis by Chandigarh Administration. Lease deed and approval of Building Plans is attached at **Annexure-II and Annexure-III** respectively.
1.2	Clearance of existing land, vegetation and buildings?	No	No land clearance is required
1.3	Creation of new land uses?	Yes	As explained in 1.1, the Tech Mahindra Limited is setting up a software development facility for end to end IT solution at Ploit No.23, Phase-II CTP. The land use will be industrial as approved by Chandigarh Administration
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	As submitted, the unit has initial plans for a built up area of 17500 sq.m and as such started construction; Howeyer later on it was decided to built the entire area of 25260.62 sq.m. The 80% of the construction work is now complete.
1.5	Construction works?	Yes	As per proposed land use plan at **Drawing- 1: Site Plan** to provide Built up area of 25260.62 sq.m as per details below: Block-A (Amenities): 1514.91 Sq.m Block-B (Main Building): 18571.88 Guard House: 13.16 Sq.m Basement: 5160.67 Sq.m Coverage at G.F: 5743.12 Sq.m (14.19%) The Main Building is Basement + 3 Floors. Block A is Ground+ First

1.6	Demolition works?	No	--
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	The majority of the construction is over. The construction is done by M/s B.L Kashyap & Sons Limited. During the construction the temporary housing of @ 100 workers was within the project area itself.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	The Main Building (Block-B) is Basement + 3 Floors. Block A(Amenities) is Ground+ First. The total height of the main building is 19.2 m upto top of parapet wall.
1.9	Underground works including mining or tunneling?	Yes	Only Basement for the purpose of parking and utilities. The total area for parking is 5160.67 sq.m
1.10	Reclamation works?	No	Not Applicable
1.11	Dredging?	No	Not Applicable
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing processes?	No	Software development facility for end to end IT solution only as per Project Report at Annexure-V
1.14	Facilities for storage of goods or materials?	Yes	Temporary for storage of cement and other construction materials was made during construction.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	The facilities for treatment or disposal of solid waste or liquid effluents shall include (1). A STP (2) An area ear marked for segregation of solid waste. The total design population of the project is 2000 persons. The water requirements as per Manual on Water Supply & Treatment, Government of India @ 45 lpcd is 90 KL/day. The design Sewage flow (80% of water consumption) is 72 KL/day (Say 80KLD). A STP based on activated sludge process is provided of Total capacity 160 KLD. The treated sewage shall be used for irrigation and flushing and excess quantity will be disposed to MC sewer. The feasibility report for STP is enclosed at **Annexure-VI**

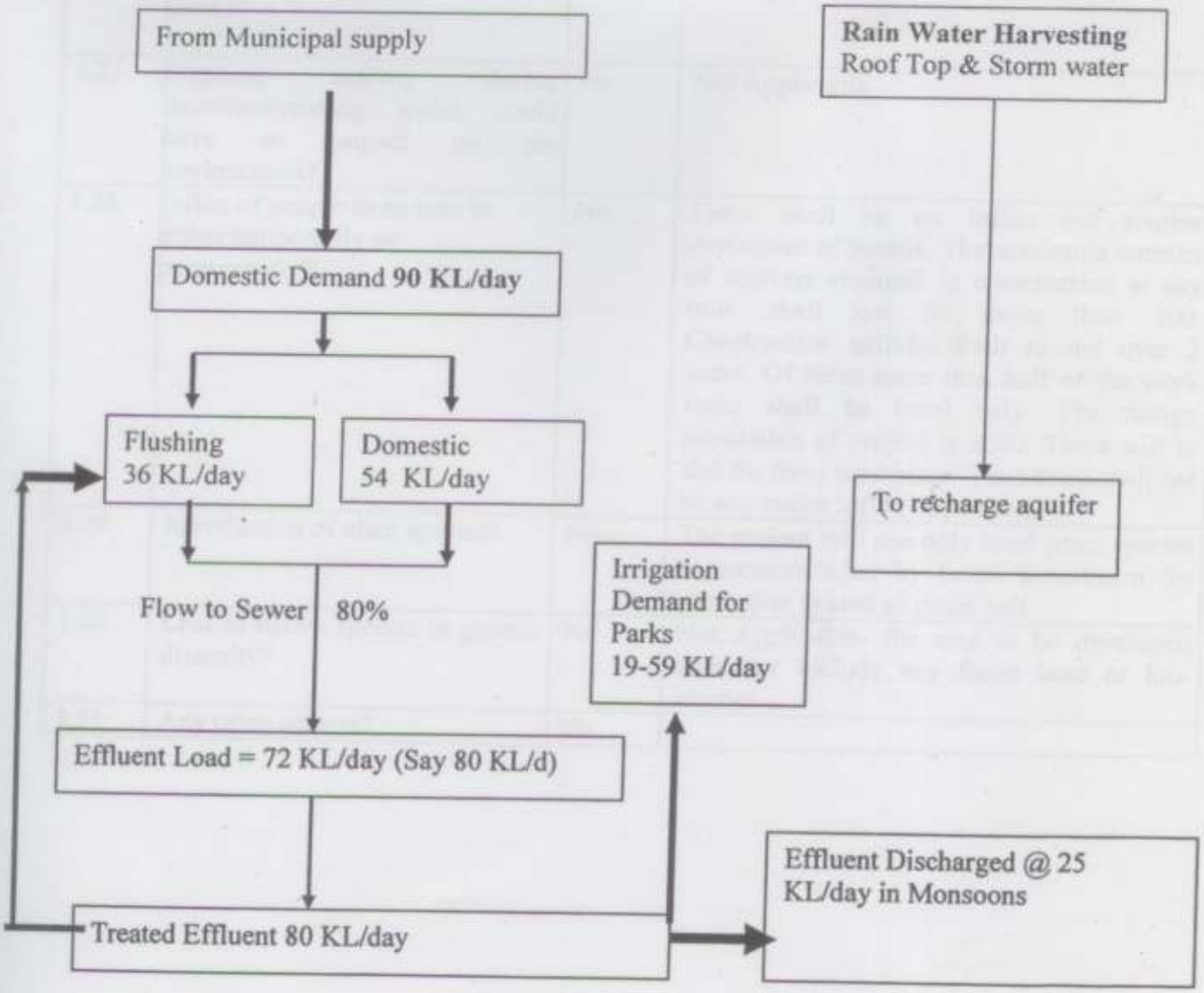
			The layout of STP is given in **Drawing-5**; The hydraulic flow diagram is given in **Drawing-6.** An area of @ 3 m x 4 m shall be earmarked for segregation of solid wastes. The solid waste @ 800 Kg/day shall be generated @ of 0.4 Kg/person/day. The inorganic material shall be sent to recyclers. The organic biodegradable material shall be sent to dumping site of Municipal Corporation, Chandigarh.
1.16	Facilities for long term housing of operational workers?	No	Not Applicable
1.17	New road, rail or sea traffic during construction or operation?	Yes	The project is in a approved area by Chandigarh Administration; The Zoning Plan drawing is enclosed at **Drawing-2.** The project is on main road and no new road is being provided. During construction traffic will include 10-15 vehicles of those supervising construction. During operation vehicles of staff will be there for which adequate circulation for movement within plot and parking area is provided. Further staff will be encouraged to travel by Company provided buses so that individual vehicle movement is less. The CTP itself is provided with a large parking area by Chandigarh Administration.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc	No	No new infrastructure for this purpose shall be required. The site has well connected roads. Only internal circulation roads to be made.
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	Not Applicable
1.20	New or diverted transmission lines or pipelines?	No	Not Applicable
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Not Applicable
1.22	Stream crossings?	No	Not Applicable

1.23	Abstraction or transfers of water form ground or surface waters?	Yes	During Construction water demand of 12-24 Kl/day (15-30% of the demand during operation) may be there depending upon phases of construction. This will include domestic demand for @ 100 workers during peak period @ 4.5 KL/d (@ 45 lpcd. A domestic water demand of 90 KL/day shall be there. (See details in clause 1.15 Form-1). Assuming an application rate of 0.8 inch of water per acre per week and a precipitation contribution of 0.25, 0.4 and 0.6 (summer, winter, monsoon) inch per acre per week for 5.66 acres under park (The project has a plot area of 40478.26 sq.m out of which only 14.19% is covered at GF i.e 5743.12 sq.m), daily water demand shall vary from 19 KL-59 KL for the purpose of irrigation from monsoon to summer. This abstraction shall be balanced by using treated sewage for irrigation. In addition flushing water demand in toilets that account for @ 40% of the demand shall also be met through treated sewage. The excess treated sewage shall be sent to Municipal Sewer. The abstraction shall further be balanced by providing for rain water harvesting. The rainwater harvesting shall be undertaken from rooftop. The RWH calculations are given at **Annexure-VIII**. Two recharge pits of 8 m x 6m x 4.5`m with a total holding capacity of 432 m^3 with 3 No. perforated bore pipe each of 200 mm dia are provided. The water balance diagram is given below:

WATER DEMAND FOR IRRIGATION- Seasonal Variation

	Summer	Winter	Monsoon
Area in acres Parks (22900 Sq.m)	5.66	5.66	5.66
Design application rate of sewage per acre per week in inches	0.8	0.8	0.8
Rainfall contribution	0.2	0.4	0.6
Net application rate per acre per week	0.6	0.4	0.2
1 acre= 43560 sq.feet	43560	43560	43560
1 cub feet = 7.48 gallaon	7.48	7.48	7.48
Water required gallons per week per acre	92209.55	61473.03	30736.52
Water required liters per week per acre (1 gallon = 4.54 liters)	418631.36	279087.6	139543.8
water required KL/day	**59.80448**	**39.86965**	**19.93483**

Water Balance



1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	The plot does not interfere with any natural flow of water
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	During construction phase movement @ 15 vehicles (max.) of those supervising the work or that ferrying construction material may be there. During operation, the gestation period for occupation is @ 3 years, the vehicles as owned by workers shall move around for which adequate roads are in place as per approved Master Plan of the area
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not Applicable
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not Applicable
1.28	Influx of people to an area in either temporarily or permanently?	No	There shall be no influx but routine movement of people. The maximum number of workers engaged in construction at any time shall not be more than 100. Construction activity shall extend over 2 years. Of these more than half of the work force shall be local only. The. design population of project is 2000. These will to and fro from workplace Thus there shall not be any major influx of population.
1.29	Introduction of alien species?	No	The project will use only local plant species as recommended by forest department for plantation in area as green belt
1.30	Loss of native species or genetic diversity?	No	Not Applicable- the area to be developed does not include any forest land or bio-reserve
1.31	Any other actions?	No	-

2.	**Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):**		
S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
2.1	Land especially undeveloped or agricultural land (ha)	No	See-Clause 1.1 Section-II (Activity) of Form-I
2.2	Water (expected source & competing users) unit: KLD	Yes	See Water Balance Diagram and other Details. See section 1.23 of Section-II (Activity) of Form-I This is a planned construction in an approved area and there are no competing users. The water supply source is MC supply
2.3	Minerals (MT)	No	
2.4	Construction material – stone, aggregates, sand/s oil (expected source – MT)	Yes	These materials shall be procured from authorized outlets in and around the project site. Total quantity of construction consumed is as follows: Aggregates : 614015 CFT Cement : 150000 bags Sand : 613373 CFT Bricks : 1700090 CFT Wood : 5000 VFT Steel : 2500 MT
2.5	Forests and timber (source – MT)	No	The Project shall not involve any use of timber during construction purpose. All material required for shuttering purpose shall be that of mild steel. In the project itself a mix of MDF; Aluminum shall be used to make minimum use of wood.
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Total Energy requirements 3000 KVA to be provided by Electricity Department. Energy requirements per square foot of built up area0.013 KWH/Sq Ft. One generator of 380 KVA, 500 KVA and two of 2000 KVA (Total-Four) are proposed. Solar water heating system shall also be provided
2.7	Any other natural resources (use appropriate standard units)	No	-

3.	**Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.**		
S.No.	**Information/Checklist confirmation**	Yes/No	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	No	The proposed project is for software development only . No material as covered under MSIHC Rules shall be used
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	--
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	The project shall provide employment to local people. It shall give initiative to small-scale business at local level.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	--
3.5	Any other cause	No	--

4.	Production of solid wastes during construction or operation or decommissioning (MT/month)		
S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	The area is plain thus not much of the land will be excavated. The project involves one basement for parking purpose. The soil excavated shall be used inside the project for cut and fill. The top soil shall be collected and used for landscaping.
4.2	Municipal waste (domestic and or commercial wastes)	Yes	The construction waste shall be used in making the internal roads/floors. About 800 Kg/day of solid waste shall be generated. Sludge generated from the STP shall @ 10 Kg/day and shall be used as manure for the green belt. The solid waste shall be duly segregated into biodegradable and non-biodegradable components. The non-biodegradable components shall be sold to resellers for re-use. The left waste shall be disposed to MC dumping site.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	Used oil from DG Set Category 5.1
4.4	Other industrial process wastes	No	--
4.5	Surplus product	No	--
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Sludge from STP shall @ 10 Kg/day and shall be used as manure for the parks and green belt
4.7	Construction or demolition wastes	Yes	See-Clause 4.2, Section-II (Activity) of Form-I.
4.8	Redundant machinery or equipment	No	--
4.9	Contaminated soils or other materials	No	--
4.10	Agricultural wastes	No	--
4.11	Other solid wastes	No	--

5.	Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)		
S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	The unit shall install 4 No. DG Sets- 380 KVA, 500 KVA and 2 No. 2000 KVA as standby. These shall be run on Diesel. These are to be used only as Standby and shall comply with emission limits as given in G.S.R. 520 (E), Environment (Protection) Amendment Rules 2003 at the manufacturing stage itself. The DG sets shall further be procured from agencies complying the noise emission standards at the manufacturing stage itself as per G.S.R. 371(E), the Environment (Protection) second Amendment Rules, 2002.
5.2	Emissions from production processes	No	--
5.3	Emissions from materials handling including storage or transport	No	--
5.4	Emissions from construction activities including plant and equipment	Yes	Dust may be generated during activities as excavation of foundation, the foundation shall be excavated in a minimum time as per PERT and CPM Chart using machines. The vehicles which ferry construction material as sand shall be covered from top and made wet before movement and thus no dust is generated. The construction activity shall be segregated in phases to avoid any significant generation of dust.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	The construction material involved shall not provide any odour. The STP based on activated sludge process shall be provided and no odours shall be generated from the operation. A tree belt is further proposed along the STP boundary and Solid Waste Segregation Area to mitigate crossover of odours if any.
5.6	Emissions from incineration of waste	No	--
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	--
5.8	Emissions from any other sources	No	--

6.	Generation of Noise and Vibration, and Emissions of Light and Heat:		
S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Unit shall install 4 DG Set – 380 KVA, 500 KVA and 2 of 2000 KVA. DG Sets for standby use only. The DG sets shall be of in-built acoustic enclosure as approved by CPCB and conforming to MoEF Notification GSR 371 (E).
6.2	From industrial or similar processes	No	--
6.3	From construction or demolition	No	Normal construction is there without using any heavy machinery. The noise if any shall be contained within the area. No construction at night shall be there. No demolition is involved.
6.4	From blasting or piling	No	--
6.5	From construction or operational traffic	Yes	The traffic during construction phase may be around only 15 vehicles in a day. This shall not have any significant impact. During the operational phase only personnel vehicles as cars/ two wheelers shall be used by the workers for which adequate parking is given. In addition adequate green area is given, so that noise impact is minimized. At ground level only 14.19% area is covered and rest is open.
6.6	From lighting or cooling systems	No	--
6.7	From any other sources	No	--

Traffic Details are as given below:

Total parking required: 1 ECS/50 sq/m of area= 405 ECS
Parking provided in basement over 4753.6 sq.m @ 35 sq.m/ECS= 135
Parking provided on Ground (6790.99 sq.m) @ 25 sq.m/ECS= 272

Total parking provided for 407 ECS against 405.

7.	**Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:**		
S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
7.1	From handling, storage, use or spillage of hazardous materials	No	--
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	About 80 Kl/day of sewage shall be generated that shall be recycled for the purpose of irrigation and in toilets for flushing. The wastewater shall be treated to BOD < 5 mg/l and shall be discharged after UV Treatment. The water being discharged being tertiary treated shall not add to any pollutant load.
7.3	By deposition of pollutants emitted to air into the land or into water	No	--
7.4	From any other sources	No	--
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	--

8.	**Risk of accidents during construction or operation of the Project, which could affect human health or the environment**		
S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	--
8.2	From any other causes	No	The Building shall comply with the requirements of National Building Code towards Fire Safety for multistory structures.
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	The Building is designed against Earthquakes for Zone-IV requirements as laid down in NBC.

9.	**Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality**		
S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
9.1	Lead to development of supporting. utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: •Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other	No	The project only involves development of office for software development as per project report and the related impacts are discussed. There shall not be any further consequential cumulative impacts.
9.2	Lead to after-use of the site, which could have an impact on the environment	No	--
9.3	Set a precedent for later developments	No	--
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	--

(III)	Environmental Sensitivity		
S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	--
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	Sukhna Lake and Wetland @ 2 Km upstream
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	--
4	Inland, coastal, marine or underground waters	No	--
5	State, National boundaries	-	Not Applicable- general Conditions not applicable
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	--
7	Defence installations	Yes	Chandimandir @ 5 KM
8	Densely populated or built-up area	No	The Manimajra town is @ 2 Km
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*	-	Panoramic view of key features on Google view is given in Drawing-4. No such sensitive man made land uses in immediate vicinity
10	Areas containing important, high quality or scarce resources *(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	No	No notified resources are there in the knowledge of applicant
11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*	--	No

12	Areas susceptible to natural hazard which could cause the project to present environmental problems (*earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*)	-	The Building is designed against Earthquakes for Zone-IV requirements as laid down in NBC. The area has not faced any natural hazard so far.

(IV) Proposed Terms of Reference for EIA studies

M/s Tech Mahindra Limited has proposed a Office Building over a Plot of 10 acres (40478.26 Sq.m) with a Built up area of 25260.62 sq.m comprising of two Blocks with built up areas - Block-A (Amenities): 1514.91 Sq.m Block-B (Main Building): 18571.88; a Guard House: 13.16 Sq.m and a Basement of 5160.67 Sq.m. The Coverage at G.F: is only 5743.12 Sq.m (14.19%). The Main Building is Basement + 3 Floors. Block A is Ground+ First. Total Project Cost is 110.9 Crores

The Project falls in Category-B Clause 8(a)- 'Construction Projects' and is a small project over only 10 acres and therefore falls in category-B2. The details of the project are given in Form-I and Form-1A along with EMP.

The unit has initial plans to built 17500 sq.m of area only and therefore has not applied for environmental clearance; at present 80% of the construction is complete and unit intends to complete the entire built up area of 25260.62 sq.m over 10 acres only and as such is applying for environmental clearance.

It is submitted that project be granted clearance subject to compliance of proposals as laid down in EMP that include:

1. Provision of a STP of based on activated sludge process shall be provided with tertiary level of treatment i.e BOD < 5 mg/l and after disinfection to recycle the sewage for gardening and use in toilets for flushing as per water balance diagram. The remaining treated sewage shall be discharged into sewer line.

2. The total design population of the project shall be 2000 persons. The water requirements shall be 90 KL/day.

3. Provision of parks over 5.66 acres/22900 sq.m and trees along the boundary and in the parks as well as providing a buffer of trees along the STP and Solid Waste Segregation area.

4. Provision of a separate area for segregation of @ 800 Kg/day of solid waste into recyclable and biodegradable waste.

5. Provision of 4 No. DG sets: 380 KVA, 500 KVA and two of 2000 KVA each. Gen-sets for standby use only with in-built acoustic enclosures in compliance MoEF notification GSR 371 (E) and emission levels as per GSR G.S.R. 520 (E), Environment (Protection) Amendment Rules 2003.

6. Provision of Rain Water Harvesting Structures for tapping @ 8100 Kl/annum of roof top rain water to recharge the aquifer. Two recharge pits of 8 m x 6m x 4.5 m with a total holding capacity of 432 m^3 with 3 No. perforated bore pipe each of 200 mm dia are provided.

Tech Mahindra Limited
Special Economic Zone
Plot No-23, Phase - II,
Rajiv Gandhi Chandigarh Technology Park
Kishangarh, Chandigarh
Tel. : +91 172 6608400
www.techmahindra.com

7. Provision of Fire-fighting Measures and an Earthquake resistant structure as laid down in National Building Code

8. Provision of parking area @ 4753 sq.m in Basement and 6790 sq.m on ground for 407 ECS

9. Compliance with Energy Saving Features that will include providing (1) CFL fixtures (2) Use of Low-pressure sodium lamps for the most energy-efficient outdoor lighting along the road and security lighting with 25% mix with Solar Street Lights. It shall be ensured that outdoor light fixtures have reflectors, deflectors, or covers to make more efficient use of the light source (3) KWH/Sq.FT 0.013 (4) Synergy green glass

10. Environmental Monitoring during the Construction and Operational Phase as per terms and Conditions imposed by State Pollution Control Board.

Signature

Name

For: Tech Mahindra Ltd.

Stamp/Seal

Address:

FORM 1A

FORM-1A	(Only for construction projects listed under item 8 of the Schedule)
	CHECK LIST OF ENVIRONMENTAL IMPACTS (Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme)
1.	**LAND ENVIRONMENT** (Attach panoramic view of the project site and the vicinity) Will the existing land use get significantly altered from the project that is not consistent with the surroundings? (Proposed land use must conform to the approved Master Plan / Development Plan of the area. Change of land use if any and the statutory approval from the competent authority be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii) the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.
Reply:	Panoramic view of the project site and the vicinity is attached as **Drawing-3 and Drawing-4**. See **Drawing- 1** and **Drawing- 2** for location and site plan. The land is a part of CTP Phase-II and taken on lease on Free Hold basis from Chandigarh Administration.
1.2	List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.
Reply:	M/s Tech Mahindra Limited has proposed a Office Building over a Plot of 10 acres (40478.26 Sq.m) with a Built up area of 25260.62 sq.m comprising of two Blocks with built up areas - Block-A (Amenities): 1514.91 Sq.m Block-B (Main Building): 18571.88; a Guard House: 13.16 Sq.m and a Basement of 5160.67 Sq.m. The Coverage at G.F: is only 5743.12 Sq.m (14.19%). The Main Building is Basement + 3 Floors. Block A is Ground+ First. Total Project Cost is 110.9 Crores The design population is 2000. The water demand 90 KLD and Effluent generated is 80 KLD. The solid waste generated shall be 800 Kg/day.
1.3	What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing landuse, disturbance to the local ecology).
Reply:	No likely impact on adjacent facilities. The project is in a developed area.
1.4	Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).
Reply:	No. The project is over a small plot area of 10 Acres in an approved and developed Technology Park. The project site falls under Seismic Zone IV.

1.5	Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)
Reply:	No
1.6	What are the quantities of earthwork involved in the construction activity-cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc.)
Reply:	The soil excavated will be for only foundations. Also a basement of 5160.67 sq.m area is proposed for parking. The excavated soil shall be used within project site for cut and fill. The top soil shall be used for landscaping.
1.7	Give details regarding water supply, waste handling etc during the construction period
Reply:	See Clause-2.2 of Section-2 of Form-I and See section 1.23 of Section-II (Activity) of Form-I regarding water supply. For waste handling See 4.2 of Section-2 of Form-I.
1.8	Will the low lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)
Reply:	No.
1.9	Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)
Reply:	No. The waste during construction shall include material as broken brick, dry plaster pieces, broken sanitary items which shall be used within as in lying down floors, internal road. The pieces of iron shall be sold to Kabadis. For sewage handling from labour proper toilets with Septic tank shall be provided.

2.	WATER ENVIRONMENT
2.1	Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement met? State the sources & quantities and furnish a water balance statement.
Reply:	Total water demand is 90 KLD. See Clause-2.2 of Section-2 of Form-I regarding water supply. Water Balance Diagram is also given.
2.2	What is the capacity (dependable flow or yield) of the proposed source of water?
Reply:	Water supply source is Municipal Supply.
2.3	What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)
Reply:	The water complies with the requirements of IS:10500.
2.4	How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)
Reply:	See Water Balance Diagram. About 40% of sewage shall be recycled at full occupation. The seasonal water requirement for irrigation will vary from 19-59 KLD for irrigation. The excess if any shall be disposed to MC sewer.
2.5	Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)
Reply:	No
2.6	What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)
Reply:	Nil, the wastewater shall be given tertiary treatment and recycled.
2.7	Give details of the water requirements met from water harvesting? Furnish details of the facilities created.
Reply:	The potential is 8181 Kl/annum. Details are given in A-VIII
2.8	What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?
Reply:	Nil. The proposed development does not interfere with any natural drainage.
2.9	What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)
Reply:	Any impact on ground water due to abstraction (although municipal supply is there) shall be balanced through rainwater harvesting. See A-VIII.

2.10	What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)
Reply:	The Construction Planning shall be done so that the excavation is prior to monsoon and all loose material is lifted to earmarked site so that there are no chances of soil flowing along with run-off and clogging the storm system. Further during the construction an agreement shall be there with the contractor to store all material as aggregates, sand and bricks in proper earmarked stacks. The material like cement or any material that can lead to generation of leachate shall be stored under sheds. The construction shall be further taken in Phases so that at one time only a portion is being handled.
2.11	How is the storm water from within the site managed?(State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels
Reply:	Proper storm water drainage system as per guidelines of Town and Country Planning shall be laid down. The landscape plan with storm water details is shown in **Drawing-7**
2.12	Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)
Reply:	No. At the time of Peak Construction Activity @ 100 workers shall be employed. Of this @ 40 workers shall reside at the site and rest of workforce shall be local that shall commute daily. A temporary common toilet and bathroom facility shall be provided for this workforce with a connection to septic tank. The temporary housing for this workforce shall be within the plot and no hutments shall be allowed outside. The workforce shall also be provided with kerosene to use stoves for cooking and burning of wood shall be allowed.
2.13	What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)
Reply:	About 80 Kl/day of sewage shall be generated that shall be recycled for the purpose of irrigation from 19 KL to 59 KL from monsoons to summer and in toilets to the extent of 40% within the project. The wastewater shall be treated to BOD < 5 mg/l. A STP based on activated sludge process shall be provided. The water being discharged will tertiary treated shall not add to any pollutant load. See **Annexure-VI** for feasibility on STP.
2.14	Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use
Reply:	See **Drawing 8,9 and 10**

3.	**VEGETATION**
3.1	Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with it's unique features, if any)
Reply:	No.
3.2	Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project)
Reply:	No
3.3	What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale
Reply:	See Landscape **Drawing-7**
4.0	**FAUNA**
4.1	Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.
Reply:	No
4.2	Any direct or indirect impacts on the avifauna of the area? Provide details.
Reply:	No
4.3	Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna
Reply:	Not Applicable

5.	AIR ENVIRONMENT
5.1	Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)
Reply:	No. The proposed project does not have any permanent operating source of fossil fuel burning as Boiler or Furnace being a office. The generators to be provided shall only act as standby and shall comply by standards as laid down in MoEF Notifications GSR 371E and GSR 520 E for compliance at manufacturing stage for noise and emission levels. The ground coverage is only 14%. Therefore heat islands shall not be there.
5.2	What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.
Reply:	The Project only involves office building. There shall not be generation of hazardous gases or odorous fumes. The dust generation during the construction activity shall be controlled as given in EMP.
5.3	Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.
Reply:	The project shall have adequate space for parking for 407 ECS as per details in Form-I
5.4	Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.
Reply:	The project has an internal road all around for movement of traffic inside the project site. The zoning plan is given in Drawing-2
5.5	Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.
Reply:	See 5.3, Green Belt shall be provided to mitigate noise pollution from road traffic.
5.6	What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details.
Reply:	See Clause-6 of Section-II of Form-I.

6.	**AESTHETICS**
6.1	Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?
Reply:	No
6.2	Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?
Reply:	No
6.3	Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.
Reply:	The architecture shall suit the local development.
6.4	Are there any anthropological or archaeological sites or artifacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.
Reply:	No
7.	**SOCIO-ECONOMIC ASPECTS**
7.1	Will the proposal result in any changes to the demographic structure of local population? Provide the details.
Reply:	The project is of small nature with a population of only 2000. No significant impact shall be there on demographic structure.
7.2	Give details of the existing social infrastructure around the proposed project.
Reply:	The project is in CTP Phase-II adjoining to CTP Phase-I which houses projects as DLF, Infosys. There is village kishangarh and Manimajra Town within 2 Km
7.3	Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?
Reply:	No
8.	**BUILDING MATERIALS**
8.1	May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)
Reply:	The proposed construction shall involve use of concrete and brick using PPC cement, which is fly ash, based. All interior partitions shall be made on half brick wall to save quantum of bricks and to reduce structural load and thus less consumption of steel. In concrete work admixtures shall be used to reduce water cement ratio, which saves both cement and water.
8.2	Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?
Reply:	See clause-5.4/5.5 of section-II of Form-I.
8.3	Are recycled materials used in roads and structures? State the extent of savings achieved?
Reply:	The construction debris shall be used in building the road and floors.
8.4	Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project
Reply:	See EMP and Clause 4.2 of Section-II of Form-I.

9.	ENERGY CONSERVATION
9.1	Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?
Reply:	Total Energy requirements 3000 KVA to be provided by Electricity Department. 4DG Sets to be provided for Standby power to run lifts, Water Supply, Fire Fighting Systems, STP and other emergency uses. Daily diesel consumption for 4 hours operation is 1000 Liters/day (approx.). Energy consumption has been minimized by use of CFL in place of incandescent lamps, Energy saving low ballasts are proposed to be installed.
9.2	What type of, and capacity of, power back-up to you plan to provide?
Reply:	The back-up source is Generators see 9.1, Form 1A.
9.3	What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation
Reply:	The synergy green glass is used.
9.4	What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.
Reply:	The orientation of building blocks are kept considering orientation of sun..
9.5	Does the layout of streets & buildings maximize the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details
Reply:	20% mix of solar lights shall be used for outdoor lighting. A solar water heating system shall also be provided.
9.6	Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?
Reply:	West area is the hottest area according to the sun movement in the afternoon keeping this in the mind less openings are proposed in this area for saving the electricity in the terms of lighting and at the roof brick bet-coba has to be provided which acts as a thermal insulation.
9.7	Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.
Reply:	Transformer of 98% efficiency will be used.
9.8	What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects?
Reply:	This Project is going to be a lush green project. The project is designed as a low density project. The green belt plan as proposed shall ensure that trees and shrubs of different varieties and sizes are planted. These will cut-off any local heat island generation and provide dilution effect.

9.9	What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.
Reply:	The thermal characteristic of building envelop considered for the project are: Roof: With 50 mm insulation. U Value: 0.14 Btu/sq. ft deg F External walls: External walls are 9" thick U Value: 0.33 Btu/sq. ft deg F Fenestration: Synergy Green glass is provided in windows. U Value: 1.1 Btu/sq ft deg F and shading coefficient of 0.76.
9.10	What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans
Reply:	A fire Extinguishing system as per the requirements of National Building Code shall be provided. See Drawing-7 for Fire Fighting Plan.
9.11	If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.
Reply:	Synergy Green glass
9.12	What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration
Reply:	Not Applicable
9.13	To what extent the non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used.
Reply:	Solar Water heaters are provided. 20% of outdoor lighting requirements through solar mix.
10.	Environment Management Plan
Reply:	The Environment Management Plan would consist of all mitigation measures for each item wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire. The Environment Management Plan is enclosed along at Annexure-IX .