DRAFT ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN (ESMP) FOR BUILDING CONSTRUCTIONS UNDER JTFRP(WORLD BANK FUNDED)

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
1	**DESIGN STAGE**		**Planning and Implementation**	**Supervision and Monitoring**
1.1	Impact of earthquake on building	The proposed building is located in Seismic Zone V and prone to high intensity earthquake. Therefore, it is imperative that seismic load factor must be taken into consideration while designing of building components.	Design Team	PIU
1.2	Safety of School Building during earthquake	As building is located in high seismic risks zone. Therefore, seismic arresters should be provided to withstand horizontal force during earthquake and as anti-dislocation device for slabs and building walls.	Design Team	PIU
1.3	Safety of proposed Building and its users	For safety of road users and building, necessary road safety signage, hazard signage and warning signage with reflective tapes need to be provided before and at the proposed building as per IRC guidelines.	Design Team	PIU
1.4	Specific component for Physically Challenged	Ramp for physically handicapped shall be provide in ground floor. Also, one toilet in the ground floor for physically handicapped shall be constructed.	Design Team	PIU
1.5	Fire hazard and Safety Measures	The Proposed building block for Government School is a Mixed Occupancy Building (Less Than 15 M in height) as per NBC 2016; it comes under the highest specification norms in terms of fire fighting and fire detection. Separate staircase on periphery must be provided evacuation in case of emergency. Following measures must be considered while designing the fire fighting and fire detection services: ♦ Non addressable Conventional Smoke Detectors are considered. ♦ Non Addressable Conventional Manual Call Points must be considered. ♦ Non Addressable Conventional Hooters should be considered.	Design Team	PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		♦ FRLS Sheathed Multi strand Wire is also considered for interconnecting the Smoke Detectors with Fire Alarm Control Panel. ♦ Fire Aid Hose Reel should be considered. ♦ Fire Extinguishers (CO_2 and water Based DCP) at all floors must be considered. ♦ 10000 L Terrace Tank with Terrace Pump 450 LPM has been considered.		
	PRE-CONSTRUCTION STAGE			
1.1.1	Site Clearance	➢ Any Tree cutting or vegetation removal is required for the construction of new building; the contractor shall take precautions to avoid damage to trees and vegetation in the off-site areas of operation. ➢ Any schedule trees to be cut due to design/ under unavoidable circumstances, permission shall be obtained from the concern authority. ➢ The Contractor will co-ordinate with the PIU and ensure that all necessary permissions are taken from the concern authority before cutting down any trees.	Contractor	Engineer/ Environmental Specialist PIU
1.1.2	Work Programme/ Planning	➢ Immediately after mobilization and as part of the Work Programme, the Contractor shall submit a plan including a method statement and timeline about specific actions that will be taken to implement the provisions mentioned in the EMP. The method statement will specifically include among other environment, health and safety aspects, a Building Demolition and Debris Management Plan, if any	Contractor	Engineer/ Environmental Specialist PIU
1.1.3	Information Dissemination	➢ Project Information Board showing the name of work, project cost, duration, date of commencement, date of completion, executing agency and contact details (including telephone number/s) for providing suggestions/filing grievances shall be displayed prominently in both English and in vernacular. ➢ Advance information and periodic update (at least once in a month) about construction schedule, safety measures, pollution abatement measures and other	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		such details shall also be displayed.		
1.1.4	Regulatory/ statutory clearances/ approvals	➢ Prior to construction commencement, the Contractor shall obtain all requisite statutory clearance/s for setting-up construction camp including labor camp; plants/equipment; use of material sources etc. as required in the light of central/state acts/regulations that apply to this work.	Contractor	Engineer/ Environmental Specialist PIU
		➢ Contractor will coordinate with Employer to plan and dispose off at a pre-approved location any unserviceable/unusable/debris arising from demolition of existing building, if any.		
		➢ The Contractor shall obtain Labour License and all required insurance as specified in the contract conditions from the concerned authorities. Originals will be checked/verified by the Engineer and a copy shall be available at the site office at all times.		
		➢ The Contractor is required to abide by all conditions laid out in the said clearances/consents given by the regulatory authorities. The monthly progress report shall include the status and action taken for each of the conditions mentioned in such permits/ consent letters/ clearances.		
1.1.5	Consultation and Consent/s	The Contractor shall consult and obtain written consent/s of landowners for temporary use of land for all construction related activities including that for: ➢ Setting-up and operation of construction (including plant site) and/or labour camp; ➢ Disposal of debris and other waste material in line with EMP conditions and as approved by Employer ➢ The Contractor shall consult the Employer and obtain written consent for temporary use of land within the school premises for setting-up and operating a construction yard, including toilets and other amenities, if the said premises will be used for such a purpose	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
1.1.6	Construction Camp Locations – Selection and Layout	➢ The Contractor shall construct his own site office, store/material yard and labour camp with facility for water, sanitation/toilets, electricity, safety, security and other requisites. ➢ The location for stockyards, reinforcement yards etc shall be defined and approved by the Engineer. ➢ The Contractor will construct/erect construction camp/ plant only after due written approval of the Engineer-in-Charge is obtained, keeping in view all facilities i.e access & approach, work zone, Oil & grease Storage Yards, parking lots, toilet facilities etc. Batch mix plant will be located at least 500 mts. away from habitation, preferably in the downwind direction. ➢ Campsite shall be located and constructed in a manner that minimizes interface with host/local communities or their resources (water etc.) and ensures safety of its residents and surrounding people. ➢ Material stocks/yards shall be located (preferably in the downwind direction) and covered so as to prevent dust pollution that may affect near-by residents/users.	Contractor	Engineer/ Environmental Specialist PIU
1.1.7	Engaging Labour/Workers	➢ The Contractor preferably will use unskilled/semi-skilled labour from the surrounding area to give the maximum benefit to the local community whenever this is possible.	Contractor	Engineer/ Environmental Specialist PIU
1.1.8	Orientation of Implementing Agencies	➢ The Contractor shall organize orientation sessions during all stages of the project, these includes on-site training in general and specific to the context of the sub-project. ➢ Training programme shall be conducted on quarterly basis. ➢ These sessions shall involve all staff of Client(EA), Consultant and Contractor involved in the implementation of EMP.	Contractor	Engineer/ Environmental Specialist PIU
1.1.9	Impacts on review of design	➢ Environmental Specialist of the PIU shall assess an impact, revise it and modify the EMP in consultation with the PMU as per the field survey in case of any changes/review in the project's scope of work.	Contractor	Engineer/ Environmental Specialist PIU
1.1.10	PUC of Vehicles	➢ The Contractor shall maintain a record of PUC for all vehicles and machinery used	Contractor	Engineer/

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	and Equipments	during the contract period, which shall be produced to the PIU/PMU for the verification if they asked for.		Environmental Specialist PIU
1.1.11	Sand (all river and stream beds used directly or indirectly for the project)	➢ The Contractor shall identify sand quarries and make extraction of sand after the mandatory approvals from the concern authority. And submit the copy of the same to the PIU/PMU for verification. ➢ In the case of procurement from third party, the sand shall be taken for construction use from the approved agency only.	Contractor	Engineer/ Environmental Specialist PIU
1.1.12	Labour Requirements	➢ The contractor shall preferably use labours from the local communities to avoid additional stress on existing facilities as like lands, drainage, medical services, power and drinking water etc. ➢ In the case of requirements of temporary labour camp, the Lay-out plan must be approved by Environmental Specialist of the PIU prior to establishment.	Contractor	Engineer/ Environmental Specialist PIU
1.1.13	Deployment of Safety Officer	➢ The Contractor shall deploy one of the Key Personnel minimum 5 years experience having environmental background competent to deal with monitoring and managing environmental risks & the EMP Implementation.	Contractor	Engineer/ Environmental Specialist PIU
1.1.14	Contractor Environmental & Social Management Plan (C-ESMP)	➢ The Contractor shall submit supplementary Management Strategies and Implementation Plans as necessary to manage the ESHS risks & impacts of building construction activities. These Management Strategies and Implementation Plans collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The C-ESMP should include a contractor's proposal with environmental mitigation action plan prepared by the Project Manager of implementing agency will be operationalized by the contractor to their workers/employees. ➢ The C-ESMP shall be approved by the Environmental Specialist of PIU prior to the commencement of construction activities.	Contractor	Environmental Expert PIU
2.1	**CONSTRUCTION STAGE**			
2.1.1	Protection of Surrounding Properties	Contractor shall take due care to protect and prevent damage/s to the following during preparatory and construction work of the new building within	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		School/College/Fire & Emergency premises: a. Existing structures/buildings within the premises b. Access/haul road c. Structures surrounding the building ➢ In case of any damage due to the construction activity or negligence, the restoration/repairs shall be carried out by the Contractor at his own cost.		
2.1.2	Water Logging	➢ The Contractor shall ensure that civil work and related activities such as clearing and grubbing, stacking of materials and debris disposal are carried out in a manner that avoids water logging. ➢ Ensure no water logging occurs along barricaded operational area during rainy days/season. ➢ The waste water from construction zone and/or camp sites should not be disposed into nearby water bodies or in a manner that causes a possibility of water logging ➢ The contractor should plan well in advance prior to on-set of monsoon to avoid water-logging besides providing temporary cross drainage systems.	Contractor	Engineer/ Environmental Specialist PIU
2.1.3	Generation & disposal of Debris	➢ Debris generated due to dismantling process and the other construction activities shall be appropriately re-used during the construction. ➢ In case of unable to re-use, a Solid Waste Management Plan to be developed by the Contractor in consultation with the local competent authority, this shall be approval by the Environmental Specialist of the PIU/PMU to ensure the safe disposal.	Contractor	Engineer/ Environmental Specialist PIU
2.1.4	Procurement of Materials (including water extraction/use)	➢ The Contractor shall not procure any kind of construction material (such as aggregates, sand, earth and water) from ecologically protected and/or sensitive areas. ➢ The Contractor shall procure material from quarries/crushers/ borrow areas that have been approved /licensed by the State Govt. A copy of such an approval and/or consents from the concerned authority shall be submitted to the Engineer-in-charge/ Environmental Specialist PIU prior to procuring and using the material ➢ Sand shall be procured from approved sources and vendors..	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
2.1.5	Water Extraction	➢ No extraction of water are allowed from any water source, navigation channel, intake channel, or flood spill channel by the Contractor without prior permit of authorised licensing authority of Jammu & Kashmir. Any user of ground water desiring to withdraw ground water for any purpose shall apply to the prescribed authority for grant of a permit for this purpose, and shall not proceed with any activity connected with such sinking unless a permit has been granted by the authority. ➢ The water meter to be installed by the Contractor in case of ground water extraction and abide by the conditions led down under the Jammu and Kashmir Water Resources (Regulation & Management) Act, 2010. The contractor shall minimize wastage of water during the construction.	Contractor	Engineer/ Environmental Specialist PIU
2.1.6	Measures for prevention of pollution	➢ All precautionary measures for prevention of pollution on account of the construction work (including both on-site and off areas) shall be implemented as per the requirements/standards of CPCB, SPCB and in line with measures listed in this EMP. ➢ Contractor will chose/select a material source after assessment of the availability of sufficient materials, quality and compliance to environmental regulatory requirements. ➢ Requirements for establishing and operating a batching plant shall comply with requirement of the relevant legislations. Necessary Consent to Establish (CTE), Consent to Operate (CTO) and Hazardous Waste Authorization (as applicable) will be obtained from State Pollution Control Board (SPCB), as required. ➢ The conditions imposed in CTE, CTO and/or Hazardous Waste Authorization will be strictly compiled by the Contractor. The discharge standards promulgated under the Environment Protection Act, 1986 will be strictly adhered to. ➢ Vehicles, equipment and machinery for construction will confirm to relevant Bureau of Indian Standard (BIS)/CPCB standards. ➢ Contractor will ensure that all vehicles, equipment and machinery used for construction work are regularly maintained and in good working condition. The Contractor will submit PUC certificates for all vehicles/equipment/ machinery used for the project.	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
2.2	**Water Pollution Control**			
2.2.1	Water Pollution from Construction Wastes, Fuel, Lubricants and Chemicals	➢ Measures shall be taken to ensure that wastewater from the construction zone/labour camp doesn't contaminate any surface water body or the aquifer ➢ Storage of materials like cement etc. shall be done in a manner (with impervious layer on bottom and a covered shed on top) that does not contaminate land and ground/surface water. ➢ All waste arising from the project are to be disposed off as per prescribed limits/standards of JKSPCB/CPCB ➢ The Contractor shall ensure that none of any activities during maintenance of machineries and re-fuelling has PoLs contamination polluting to the environment. ➢ All spills and discarded petroleum products shall be disposed off in accordance with MoEF /JKPCB guidelines.	Contractor	Engineer/ Environmental Specialist PIU
2.3	**Air Pollution**			
2.3.1	Dust Pollution	➢ The Contractor will take every precaution to reduce the level of dust and gaseous pollution from the work site/s. Measures to reduce the level of dust (PM 2.5 and PM 10) will be taken and the Contractor will make arrangements to minimize dust pollution through provision of wind screens/barriers, water sprinkling/mist fine spray arrangement and encapsulation of dust source (as required) shall be made. ➢ Ensure all tipper trucks are loaded only up to permitted capacities and adequately covered with wetted cloth, so that en-route dust and spills are avoided. Alternatively, water resistant tarpaulins can also be used to cover trucks. ➢ Screens of hessian cloth, agro-net and such other barricading materials will be erected along dumped and stock piled sites, so that generation of dust can be minimized to a great extent. ➢ Air monitoring shall be conducted as per environmental monitoring schedule by approved/repute agency at designated sites.	Contractor	Engineer/ Environmental Specialist PIU
2.3.2	Emission from Construction Equipment and Machineries	➢ The Contractor shall ensure that all equipment & machinery used for construction are regularly maintained and confirming to the emission norms of JKPCB. ➢ The contractor shall furnish PUC certificates for all vehicles/equipment/machinery being used at the project site. The monitoring should be conducted as per schedule and	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		the results shall also be furnished to the Office of PIU for the observation. ➢ The Diesel Generator to be kept at defined place approved by Engineer/Environmental Specialist of PIU. ➢ DG set will be provided with vertical opening chimney of adequate height as per CPCB guidelines (Height of stack in meter = Height of the building + 0.2 √KVA).		
2.4	**Noise Pollution**			
2.4.1	Noise Pollution: Noise from Construction Equipment and Machineries	➢ The Contractor shall confirm the following : ➢ Care shall be taken to reduce the noise as the construction will be carried out close to other functional buildings. All noise causing activities shall be preferably undertaken during non-operational hours (of other buildings). ➢ All equipment used in construction shall be provided with proper exhaust muffler. ➢ Only acoustic enclosures fitted DG set will be allowed at the construction and plant/camp sites. ➢ Maintenance of equipment and machinery (including proper lubrication, tuning and checks for muffler effectiveness) shall be regular and up to the satisfaction of the Engineer to keep noise level under control. ➢ The Noise monitoring shall be conducted as per schedule thorough an approved/repute monitoring agency at noise generating sources and its result should be displayed at project site.	Contractor	Engineer/ Environmental Specialist PIU
2.5	**Safety (Site Safety & Workers Safety)**			
2.5.1	Site Safety/ Workers Safety & PPEs Material handling & Painting etc.	➢ The Contractor will make sure that during the construction work all relevant provisions of the Building and Other Construction Workers (Regulation of Employment and Conditions of Services) Act, 1996 are adhered to. ➢ The Contractor will comply with all the precautions as required for ensuring the safety of the workmen as per country's labour regulations and International Labour Organization (ILO) Convention No. 62 as far as those are applicable to this contract.	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		The Contractor should demarcate the construction zone with affective barricading. **Barricades include the use of followings :** ➢ Channelling devices as barrier by use of Bamboo poles / Green –nets/ corrugated galvanised iron (G. I. Sheets). ➢ Caution Tape/ Signs/ Safety Cones/Barricades; ➢ The Contractor should ensure that the barricading items should be approved and it may be improved as per need & requirements before fixing at in the surrounding from the beginning to end of construction zone for limiting the access to general public for safety reasons. ➢ The Contractor shall plan separately for material Storage Yards as to keep steel, aggregate, sand & cement etc. Reinforced Yard for HAND TOOL USAGE, Scrap yards, Oil & grease Storage, diesel storage, fire – extinguisher for easy access in emergency and clear access & approach for the safe movement and hazard free sites.		
		Workers Safety/ PPEs a) The Contractor shall provide and ensure enforcement with zero tolerance the following: ➢ Protective footwear, goggles and clothing to all workers employed at work sites preparing cement mortars for brick work, concreting, painting etc. ➢ Protective footwear, hamlets, safety jacket to all workers employed on re-enforcement / cutting of iron & steel engaged in building works etc. ➢ Welder's protective eye-shields to workers engaged in welding works. ➢ Full body safety/harness- belts to workers working at height in building construction. ➢ Hand glove and safety jacket to workers engaged in brick masonry activities. ➢ The Contractor shall comply with all regulations regarding safe scaffolding, centering in formwork, shuttering, ladders, working platforms, gangway, stairwells, excavations and safe means of entry and egress in building construction for risk free site. ➢ Adequate safety measures for workers during handling of materials to be taken up. ➢ Provide facemasks to the workers when paint is applied in the form of spray or a		

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		surface having dry lead paint is rubbed and scrapped. ➢ Workers of electrical activities should be provided with insulating (rubber) gloves with leather protectors, safety shoes, insulating sleeves, and flame-resistant (FR) clothing. ➢ **Labour below the age (Child labour)** is strictly prohibited for any work and no woman shall be employed for painting with products containing lead in any form. The contractor shall also ensure that no paint containing lead or lead products is used except in the form of paste or readymade paint. **'The Construction Safety Plan'** to be prepared by the Contractor during mobilization, the same should be furnished to the Engineer/ Environmental Specialist of PIU for approval & final acceptance. The Contractor shall fulfil the requirements to enforce compliances for risk free sites with zero tolerance.		
2.5.2	Tool Box Meetings	➢ **Tool box** meeting shall be conducted at work site every alternate day in order to ensure Personal protective equipment (PPEs), risks free site and safety culture at workplace during the construction. ➢ The Contractor shall fix a place of **Assembly Points** for Toolbox Talk. ➢ Tool box safety meetings are on the job meetings and shall keep workers alert to work related accidents & hazards, use of PPEs for safety of life and prevent any unforeseen incidents, accidents and injuries. The meeting should involve groups of workers who work together and face same sort of injury risks at work site. Toolbox meeting improve safety culture, personal protective equipments to workers; identify risks & hazards and ensure appropriate measures to reduce the risks further.	Contractor	Engineer/ Environmental Specialist PIU
2.5.3	Risk from Electrical Equipment(s)	The Contractor shall take all required precautions to prevent danger from electrical equipment and ensure the followings: ➢ All electrical circuit conductors bare or insulated are assumed to be energized until proven otherwise. It shall be de-energized, locked out and tested for the absence of voltage before working on them or working near them. ➢ All electrical works as like welding, cutting, installation, operation, maintenance,	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		and repair works should be performed at designated place. Any electrical wire & cable never be kept haphazard as to cause danger or inconvenience to any person or the public at work place. ➢ Avoid the use of worn, damaged, or poorly spliced cables, welding gun cables, or torch cables. Make sure all connections are tight, clean and insulated. ➢ Any electrical works in wet working environment should be avoided. ➢ Molded Circuit Breakers **(MCB)** to be used as a switch and for over current protection. ➢ Extension cords and any such wire being used to be kept it away from heat, oil & chemicals, sharp edges and must not be on the path of workers movement at workplace to avoid any electric hazard. ➢ The Contractor shall keep record of **Electrical Safety Checklists** at work site for the observation of Engineer-in-chage/Environmental specialist of PIU as and when they asked. ➢ All machines to be used in the construction shall conform to the relevant Indian Standards (IS) codes, shall be free from patent defect, shall be kept in good working order, shall be regularly inspected and properly maintained as per IS provision and to the satisfaction of Engineer-in-charge.		
2.5.4	First Aid	The contractor shall arrange for – ➢ A readily available first-aid box including an adequate availability of sterilized dressing materials, antiseptic and medicine as per the Factories Rules at the work place. ➢ Agreements with nearest hospital with suitable transport facilities for injured or sick person(s) to reach hospital at time during any emergency ➢ The Contractor shall ensure a training of Cardio-Pulmonary Resuscitation (CPR) to a Safety Officer for timely first-aid to the victim for the breathing and heartbeat. ➢ Emergency numbers will be displayed prominently at camp and construction site. ➢ Availability of suitable transport at all times to take injured or sick person(s) to the nearest hospital. Designated vehicle, which can be used as ambulance, will be	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		available at construction site		
2.5.5	Storage of flammable liquid, Gas Cylinder, diesel & petrol and POLs	➢ The Contractor shall fix a define place for Storage of flammable liquid, Gas Cylinder, diesel & petrol and POLs in well ventilated areas. ➢ The collection, disposal and place for storage of flammable materials should be duly approved by the Engineer-in-chage/Environmental Specialist of PIU for safe use as part of management plan.	Contractor	Engineer/ Environmental Specialist PIU
2.6	**Labour Camp Management**			
2.6.1	Location of labour camps & Accommodation	➢ The contractor shall provide, erect and maintain necessary temporary living accommodation and ancillary facilities during the construction for labour to the standards as approved by the Engineer –in-charge, if required or they can return to their places of residence after the end of day's work. Pooled transportation facilities as may be required, will be provided by Contractor. ➢ Location and Lay-out: The location, layout and basic facility provision of labour camp will be submitted to Engineer prior to its construction and a written approval shall be sought by the Contractor before proceeding with site finalization and construction on the ground The Contractor shall follow all relevant provisions of the Labour Act, 1970 and the Building & Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and other conditions stated in the EMP for construction and maintenance of labour camp.	Contractor	Engineer/ Environmental Specialist PIU
2.6.2	Dwelling of Labour Camps & minimum basic facilities	Accommodation and Basic Amenities **Site general requirements:** a) Levelled ground, drainage, paved, plinth height, soak –pits & septic tanks. Dumping ground for garbage or other refuse, and fencing/ security at camp. For the dwelling of Labour Camps & basic minimum facilities, sanitation, health and hygiene, the Contractor shall ensure that	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		• All weather shelter with the required tenement size, toilets, bathrooms and washing area shall be provided, as per provisions of the Labour Laws. • Separate toilet facilities and bathrooms shall be provided for the women workers. • If a common mess is not provided/ operated, additional space for cooking shall be provided. • The Contractor will maintain necessary living accommodation and ancillary facilities in functional and hygienic manner. • The Contractor will construct and maintain all labour accommodation in such a fashion that uncontaminated clean water is available for drinking, cooking, bathing and washing. • Fans and proper ventilation (turbine type ventilators) will be provided in labour accommodation. • Workers will be provided with beds and no worker will be allowed to sleep on the ground. • A residential facility (for selected number of workers such as security guards etc.) if allowed within the construction zone shall have separate entry and exit, not interfering with the operation of the two other buildings in the school premises. • Fuel for Cooking: Fuel wood use will not be allowed. LPG cylinders will be provided at labour camp by the Contractor • Fire Safety: Adequate fire safety precautions shall be taken and the required fire safety equipment (such as fire extinguishers) shall be provided by the Contractor Necessary HIV/AIDS prevention measures will be put into place and awareness programs at least once in a quarter shall be organized.		
2.6.3	Potable Water	The Contractor shall also ensure the following:	Contractor	Engineer/

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		a) Potable water supply: The Contractor shall provide potable water facilities at the building construction site in an accessible place, as per standards set by the Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996. b) Sufficient (minimum 20 liters at any given point of time) and clean (potable) water for drinking shall be placed in the mess/labour camp and at the construction site. c) The tank shall be placed at least 1 m above the surrounding ground level. d) If any water storage tank is provided that shall be kept such that the bottom of the Analysis of water shall be done every month as per parameters prescribed in IS 10500-2012 for the drinking water.		Environmental Specialist PIU
2.6.4	Sanitation and drainage System	Workers shall not be allowed to defecate in the open. Proper toilets fitted with septic tank and with required hand washing facility will be provided by the Contractor at the camp/labour camp and construction site. The contractor will ensure that - ➢ The sewage system for the camp is designed, built and operated in such a manner that no health hazard occurs and no pollution to the air, ground water or adjacent water sources takes place. ➢ Waste water generated from the sanitary facilities of labour camp is disposed in a septic tank/soak pits. ➢ Separate toilets/bathrooms, wherever required, will be provided for men and women, marked in English/Urdu and in local language. ➢ Toilets are provided with septic tank/s and the cleaning of toilets by disinfectant be made every day for sanitation & hygiene ➢ Adequate water supply is provided in all toilets and urinals. ➢ Night soil is disposed off with the help of local municipal extractor, if such an	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		arrangement exists. If local municipal does not exists night soil is to be disposed of by putting layer of it at the bottom of a permanent tank prepared for the purpose and covered with 15 cm. layer of waste or refuse and then covered with 30cm layer of earth for a fortnight. ➢ Adequate health care is to be provided at work force during the entire phase.		
2.6.5	Waste Disposal	➢ The Contractor will provide garbage bins in the camp and construction site and it will be ensured that these are regularly emptied and waste is disposed off in a hygienic manner as per the Solid Waste (Handling and Management) Rules, 2016. ➢ Burning of wastes shall not be allowed. ➢ Solid waste generated at the construction site, plant/camp site, will be collected in covered wasted bins and segregated as biodegradable (food waste, paper, etc) and non-biodegradable (plastic, polyethylene bag etc.). ➢ Waste food should be stored in sealed containers and disposed of at designated/appropriate locations. Waste food or waste from kitchen should not be thrown around the site as it will only attract vermin/pests. Biodegradable (food waste, paper etc.) solid waste should be disposed in a compost pit or in a place/manner followed by Srinagar Municipal Corporation (SMC) ➢ Polyethylene/plastic wastes will be stored in empty cement bags and should be sent for recycling.	Contractor	Engineer/ Environmental Specialist PIU
3.1	**Contractor Demobilization**			
3.1.1	Site Cleanup Operations, Restoration and Rehabilitation	➢ After the completion of works and prior to handing over the building for usage, the site has to be cleaned and all waste materials/debris has to be removed and disposed at pre-approved designated locations/sites. The clean-up and restoration operation has to be implemented by the Contractor prior to demobilization. ➢ The Contractor will clear all temporary structures; remove excess/unused material, dispose all garbage, night soils and waste in an environmentally sound manner. ➢ All disposal pits/trenches will be filled in and effectively sealed off. ➢ All work sites and off-site areas used for the project (including construction/labour camp, plant site, material sources etc.) shall be restored/rehabilitated by the	Contractor	Engineer/ Environmental Specialist PIU

Sl. No	Activities	Management/Mitigation Measure	Responsibility	
		Contractor to a better condition (if not at least to its original condition). Construction zone including camp, and any other area used/affected due to the project operation will be left clean and tidy at the Contractor's expense to the entire satisfaction to the Engineer ➢ Completion of work (as covered under contract clause of GCC) will also include rehabilitation and clean-up of the work sites including disposal of debris/construction wastes at pre-approved locations.		
	Liabilities	➢ Measures shall be taken to avoid/minimize inconvenience to school staff, students and users of buildings around the construction site - accordingly they shall be informed through written communication/messages and leaflets. ➢ Any liability arising out of Contractor's agreement with the landowners/Srinagar Municipal Corporation/local people (including those related to temporary use of land and disposal of debris) shall be settled and certified before closure of the work by the Contractor.		
	Environmental Monitoring and Reporting	➢ During the construction phase, the Contractor will carry out environmental monitoring for ambient air quality and noise levels by engaging reputed / approved laboratory ➢ The Contractor will be required to submit Monthly Status Reports on EMP compliance covering parameters and points mentioned in the section above		
4.1	**Environmental Enhancement by Authority**			
4.1.1	Enhancement measures	➢ Enhancement at all incidental spaces shall be planned and carried-out at the end of building construction works. ➢ The enhancement measures to be considered tree plantation at open available space, planting of shrubs, rain water harvesting, adequate storm water drainage, landscaping to improve aesthetics views etc in college/school campuses.	PIU/ PMU	Engineer/ Environmental Specialist PIU/PMU

Environmental Monitoring Plan

The environmental monitoring plan for the proposed school building has been prepared based on the environmental monitoring indicators as shown in **Table below**

Environmental Monitoring Indicators

Sr. No.	Indicator	Details	Frequency	Responsibility
I.	**Construction Phase**			
1.	Ambient Air Quality	24 hourly Ambient Air Quality monitoring for $PM_{2.5}$, PM_{10}, SO_2 and NO_x and CO at Batching Plant	Once in six months	Contractor by engaging approved/ reputed Environmental Laboratory
2.	Noise Levels	Noise levels (dB) and 24 hourly L_{eq} (dB) at Batching Plant and school building construction site	Once in six months	Contractor by engaging approved/ reputed Environmental Laboratory
3.	Occupational Health & Safety	Occupational health & Safety of workers engaged in construction activities	Daily	Environment & Safety Officer of the Contractor
II.	**Operation Phase**			
4.	Building Protection Work and Scour Protection	Monitoring of Building Protection and Scour Protection	During rains	Concern Engineer from PIU

Institutional Arrangements for Implementation of EMP

During implementation of the proposed buildings, PIU (R&B) and Contractor will be responsible for ensuring that the environmental management measures as given in EMP are implemented and regulatory requirements are met. The building construction contractor will undertake implementation of EMP, which will be part of bid and contract agreement. The institutional arrangement mechanism for the proposed building construction is presented in **Table below**

Institutional Arrangement for Proposed Building

Implementing/ Monitoring Agency	**Designation**	**Responsibilities**
Project Implementation Unit	Project Director	• Overall responsible for EMP implementation. • Reporting to various stakeholders (World Bank) on status of EMP implementation • Review of the progress made by contractors. • Conducting periodic field inspection to ensure EMP implementation. • Maintaining progress reports on EMP implementation
	Environmental Expert of PIU	• Assist the PIU in the implementation of the EMP provisions. • Provide guidance to the PIU/contractor on implementation of EMP provisions. • Carry out periodic field visits and ensure compliance with the EMP provisions. • Assist the PIU in the compilation of the monitoring reports and progress reports on EMP implementation

Contractor	Environment & Safety Officer	• Responsible for ensuring the implementation of mitigation measures as per provision in the EMP document. • Obtaining consents and permission for Batching Plant, etc. • Monthly reporting to PIU. • Discussing various environmental & safety issues and environmental mitigation and monitoring actions with all concerned directly or indirectly. • Conducting periodic environmental and safety training for contractor's supervisors and workers along with sensitization on environmental & safety issues that may be arising during the construction stage of the school building. • To carry out environmental monitoring and control activities including pollution monitoring.

Reporting System

The contractor will follow the reporting system for environmental management measures and environmental management indicators as given in **Table below**. The Contractor will report to the PIU on the progress and status of the implementation of environmental management measures as per the EMP. EMP implementation report will comprise photographic evidences (with date, time and geo reference) for implemented mitigation measures, monitoring reports, etc

Table : Reporting System

S.No	Item	Stage	Contractor	PIU
			Implementation& Reporting to PIU	Supervise /Field Compliance Monitoring
1.	Identification of disposal location for demolition wastes from existing building	Construction	One Time	One Time
2.	Monthly EMP Implementation Report	Construction	Monthly	Monthly
3.	Pollution Monitoring	Construction	Six Monthly	Six Monthly

4.	Cleaning and Restoration	On completion of construction of building	One Time	One Time

The contractor will take all reasonable steps to protect the environment on and off the building construction site and to avoid damage or nuisance to person or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation

Clause for Nonconformity to EMP - Protection of the Environment, The Contractor shall implement necessary mitigation measures as given in EMP for which responsibility is assigned to him as stipulated in the EMP. Any lapse in implementing the same will attract the damage clause as detailed below:

- Any complaints of public, within the scope of the Contractor, formally registered with the PIU and communicated to the Contractor, which is not properly addressed within the time period intimated by the PIU shall be treated as a major lapse.
- Non-conformity to any of the mitigation measures stipulated in the EMP Report (other than stated above) shall be considered as a minor lapse.
- On observing any lapses, PIU shall issue a notice to the Contractor, to rectify the same.
- Any minor lapse for which notice was issued and not rectified, first and second reminders shall be given after ten days from the original notice date and first reminder date respectively. Any minor lapse, which is not rectified, shall be treated as a major lapse from the date of issuing the second reminder.
- If a major lapse is not rectified upon receiving the notice, PIU shall invoke reduction, in the subsequent interim payment certificate.
- For major lapses, 10% of the interim payment certificate will be withheld, subject to a maximum limit of about 0.5% of the contract value.
- If the lapse is not rectified within one month after withholding the payment, the amount withheld shall be forfeited.

Budgetary Provisions for Implementation of EMP

The EMP shall be integrated part of the bid/construction contract in the form of technical specifications and environmental performance requirements. The costs to be incurred on implementation of EMP, shall be incidental to the civil works and therefore, no separate environment budget will be provided to the contractor. The contractor will ensure effective implementation of EMP during pre-construction, construction and demobilization phase

Budget for EMP Implementation

The environmental budget for the various environmental management measures anticipated for pre construction, construction and operation of the proposed building is detailed in **Table below**. There are several other environmental issues that have been addressed as part of good engineering practices, the costs for which have been accounted for in the engineering cost. The budget for EMP is given in **Table below**

Table - Budget for Implementation of Environmental Management Plan

Component	Stage	Items	Unit	Unit Cost	Quantity	Total Cost
Demolition of devastated building (If Any)	Construction Phase	Demolition of devastated school/college/any other building and disposal of demolition wastes	Lump sum	-	-	As per building to be demolished
Erosion at site	Construction Phase	School/College/any other building Protection Work	Cost to be included in DPR			0
Safety of School/College/any other building	Operation Phase	Safety Signage at and before School/ College/any other building as per IRC Guidelines	Cost to be included in DPR			0
Horizontal Seismic Force	Construction Phase	Seismic arrester to be provided to prevent dislocation of slabs and other structures of school building	Cost to be included in DPR			0
Approaches	Construction Phase	Approaches to connect school building with existing road	Cost to be included in DPR			0

Air	Construction	Tarpaulin Covers for vehicles transporting, construction material to school/college/any other building construction site	Lump sum	25000/-	-	25000
Water	Construction	Oil Interceptors at workshop at camp site	Nos	50000/-	1	50000
		Sanitary facilities at construction camp	Nos	40000/-	2	80000
			Cost included in DPR/BOQ			
Personal Protective Equipment	Construction	Personal Protective Equipment like vest, helmet, safety shoe, hand gloves, gumboots, earplug, etc	Lump sum	-	-	100000
Solid Waste Management	**Construction Phase**	Solid Wastes collection, segregation and disposal from roads, construction site and camp	Lump sum	-	-	40000
Hazardous Waste Disposal	**Construction Phase**	Collection and disposal of used oil from maintenance of DG set and construction equipment	Nos	-	-	-
First Aid Boxes	**Construction Phase**	First Aide boxes at the construction site, camp and batching plant	Lump sum	2000/-	2	4000
Monitoring	**Construction Phase**	Monitoring of air quality and noise level	Lump sum	-	-	200000
		Total				499,000.00

SOCIAL MANAGEMENT PLAN (SMP)

A Social Management Plan (SMP) is prepared for addressing the social impacts arising out of execution of a project. This subproject does not involve any negative social impacts as the subproject does not require any land acquisition or acquisition of assets. So preparation of SMP is not involved. However, the subproject will require a Labour Management Plan, which is discussed below:

Labour Management Plan

This Labour Management Plan is designed to avoid or reduce undesired labour influx impacts during the construction activities. Based on this, the Contractor will develop the mitigation measures and provide appropriate roles and responsibilities to implement them. The Contractor will:

- Ensure implementation of relevant Labour laws relating to their welfare, wages, basic amenities at work place, overtime, insurance etc.
- Avoid or reduce instances of negative impacts on the community and maintain constructive relationships between local communities and workers' camps;
- Establish standards on worker welfare and living conditions at the camps that provide a healthy, safe and comfortable environment.

This Labor Management Plan should be implemented in conjunction with the project's Environment & Social Management Plans (ESMPs).

Management and Monitoring

The summary of the potential impacts related to camp activities, mitigation and management measures to avoid or reduce these impacts, and the monitoring required to determine the performance of these measures are discussed below. The Contractor shall develop a Contract Plan to take mitigation measures described below:

Maintaining Community Relations

1. Unauthorized movements of construction workers (during and after working hours) could result in trespassing, and create amongst residents a sense of their privacy being invaded. This may result in increasing incidents of crime and or violence and threats to the safety of community members. The disparity of income levels and potential availability of illegal substances, illicit or culturally inappropriate lifestyle choices can also cause increased tension between local communities and the workers at camps. Contractor shall enforce a 'closed' camp policy. Workers will be strictly prohibited from leaving camps for non work related activities and interacting with the local community unless agreed by Company.

2. Contractor, as appropriate, shall provide adequate recreation facilities for workers to reduce incentive for leaving camps during leisure time. Contractor shall limit workers' interaction with the community when outside the camp e.g., by organizing transport directly to and from the worksite.

3. If community members or local businesses express grievances in relation to camp related activities/operations, the contractor shall immediately respond to the grievance requiring camp related activities/operations to be amended to address community grievances.

Discipline in the Camp

4. The workers shall abide by camp rules which include a disciplinary process. Contractor shall ensure adherence to the code of conduct by the workers in the camp.

5. The Project shall, be cognizant of the environment in which it works and shall, where practicable, respect local cultural events such as religious events, funerals and the like.

6. The contractor shall provide briefing to all migrated workers on camp rules, behaviour between fellow workers and the community; procedures for dealing with camp related complaints, and a community relations orientation. The objective of this orientation will be to increase awareness about the local area and cultural sensitivities.

7. Potential interaction between workers, persons engaged in illicit activities and the community increases the risk of spreading communicable diseases, particularly in more remote communities. The Contractor shall comply with the minimum health requirements for project execution within camps and to outside communities.

Community Resources

8. Any infrastructure, services or resources used by camps that result in reductions or shortage for the local community will have a negative impact. Contractor shall utilize these resources for camp use in a manner that minimizes impacts on local supply and use.

9. Increased demand for food and other provisions may deplete natural resources e.g., firewood, timber, game, fisheries, etc. potentially causing shortages of supply in the local community, and/or increasing the price of goods, affecting affordability for local communities. The contractor shall as far as possible not purchase products in the local community unless through formal contracts.

Camp Location

10. Setting up of camps may result in displacement of residents, loss of productive lands and the resources upon these lands. Camps may also restrict or impede access to areas for the local community. Potential camp locations will be selected in consultation with the affected communities.

11. Construction camps may result in a noticeable increase in traffic, noise, air emissions and light intrusion which could negatively affect the lifestyle of nearby communities and pose a potential safety issue. The Project shall refer to that Environmental Management Plan's (EMP) that include mitigation/avoidance measures that relate to the local community.

In-migration

12. There is a strong likelihood of in-migration into areas around the construction camps. The Contractor shall enforce a 'closed' camp policy. Existing communities may also relocate to be closer to the camps. In-migration can result in disputes and sometimes violence between the new settlers and the resident community. Migrants moving into existing settlements may increase demand and inflate prices for housing, goods and services and increased pressure on infrastructure, services and resources.

Worker Welfare & Living Conditions and Non-discrimination

13. Construction workers living in camps may encounter stresses and discomforts that negatively impact their health and welfare. These may be caused by poor living conditions (accommodation, ablution and sanitary, health, recreation catering and laundry). Contractor shall comply with minimum standards for camp buildings, facilities and services. This will include but are not limited to first aid facilities and services; drinking water & sanitary and ablution facilities; entertainment and recreation facilities and services; communication services; food and canteen facilities and services; accommodation requirements; and laundry facilities. There will be no discrimination in facilities based on worker's race, gender or nationality.

14. Measures are put in place for the safety and welfare of women and children in the camps. Crèches for the women labor must be provided in the labor camps.

15. Cultural issues (nationality, religion, discrimination and harassment, etc.). Contractor may provide prayer rooms and other facilities, as necessary and to the extent practicable, to satisfy the religious needs and customs of its workforce.

16. Contractor's personnel shall not engage in any discrimination or harassing behaviour. Contractor shall establish an Equal Opportunity Policy to promote non-discrimination in accordance with labor legislations.

17. Contractor shall implement a worker grievance procedure to address grievances between the workers.

18. Camp rules in relation to alcohol consumption and drug prohibition will be complied with. Contractor shall provide recreational facilities where practicable. In addition, Contractor will provide counselling for all workers, with no discrimination by race, sex or religion.

Security of the Camp

19. Camps will be controlled by security to avoid intrusions from outside community. Contractor shall include security measures to be provided at the camps which may include fencing, locks, and alarms, pass card systems, badge and pass system, access points, safe transport of personnel as appropriate.

20. Decommissioning of camps has several potential impacts. Local employment and provision of local goods and services at camps will no longer be required. Locals employed and previously accommodated in camps will no longer have access to services and benefits available at camps(e.g. health services, recreation facilities); and Infrastructure which provides benefits to communities may no longer be maintained (e.g. roads) and may be decommissioned and removed or reinstated (e.g. access tracks). Contractor is to follow a proper retrenchment procedure and where community requests, some infrastructure and services may be retained at the discretion of Company. Where practicable, Contractor will return camp areas to former land forms.

Roles and Responsibilities

The Contractor shall ensure that sufficient resources are allocated on a regular basis to meet the requirements of this Plan. The Contractor Plan shall describe the roles and responsibilities of the personnel and ensure that they are communicated properly to all concerned.

Training and Awareness Generation

The Contractor shall ensure that all personnel responsible for the execution of the tasks and requirements contained within this Plan are competent based on their education, training and experience. The Contractor Plan shall describe the training and awareness requirements necessary for its effective implementation. The contractor shall also consult with the communities to help build economic and social capacity that benefits communities.