

Initial Environmental Examination (IEE) (Updated)



Bangladesh: Improving Computer and Software Engineering Tertiary Education Project (ICSETEP) Jashore University of Science and Technology

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CURRENCY EQUIVALENTS
(As of 15 August 2026)

Currency unit-		Taka (Tk.)
TK 1.00	=	\$ 0.0081
\$ 1.00	=	Tk. 122.72

ABBREVIATIONS

ADB	=	Asian Development Bank
CSE/IT	=	Computer Science and Engineering/Information Technology
COVID-19	=	Coronavirus disease
DoE	=	Department of Environment
ECA	=	Environment Conservation Act
ECC	=	Environmental Clearance Certificate
ECP	=	Environmental Code of Practice
ECR	=	Environmental Conservation Rules
EIA	=	Environmental Impact Assessment
EMP	=	Environmental Management Plan
EMOP	=	Environmental Monitoring Plan
IEE	=	Initial Environmental Examination
JUST	=	Jashore University of Science and Technology
MOE	=	Ministry of Education
MOEFCC	=	Ministry of Environment, Forest and Climate Change
PIU	=	Project Implementation Unit
PMU	=	Project Management Unit
SPS	=	Safeguard Policy Statement
UGC	=	University Grants Commission

WEIGHTS AND MEASURES

°C	=	Degree Celsius
dB(A)	=	A-weighted decibel
ha	=	hectare
mg/L	=	Milligram per Liter
m ²	=	Square Meter
µg/m ³	=	Microgram per Cubic Meter
ppm	=	Parts per million
NO ₂	=	Nitrogen Dioxide
PM _{2.5}	=	Particulate Matter 2.5
PM ₁₀	=	Particulate Matter 10

NOTE : In this report, "\$" refers to United States Dollars

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Contents

I.	INTRODUCTION	14
A.	INTRODUCTION	14
B.	OVERVIEW OF THE PROJECT.....	14
C.	PROJECT IMPLEMENTATION ARRANGEMENTS.....	15
D.	NEED FOR ENVIRONMENTAL ASSESSMENT	17
E.	IEE METHODOLOGY.....	18
II.	POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK	20
A.	NATIONAL ENVIRONMENTAL REQUIREMENTS	20
B.	ENVIRONMENTAL AGENCY.....	20
C.	ENVIRONMENTAL REGULATIONS.....	20
D.	ENVIRONMENTAL APPROVAL PROCESS.....	22
E.	APPLICABLE ENVIRONMENTAL STANDARDS	23
F.	RELEVANT INTERNATIONAL ENVIRONMENTAL AGREEMENTS.....	24
G.	ENVIRONMENTAL REQUIREMENTS OF THE ASIAN DEVELOPMENT BANK.....	26
H.	DISCLOSURE REQUIREMENTS	26
III.	DESCRIPTION OF THE PROJECT	30
IV.	DESCRIPTION OF THE ENVIRONMENTAL (BASELINE DATA)	35
A.	THE JASHORE UNIVERSITY OF SCIENCE AND TECHNOLOGY	35
B.	PHYSICAL ENVIRONMENT	37
C.	BIOLOGICAL ENVIRONMENT.....	48
D.	SOCIOECONOMIC ENVIRONMENT.....	51
V.	ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES.....	53
A.	PRE-CONSTRUCTION AND DESIGN PHASE	55
B.	CONSTRUCTION PHASE	59
C.	PREPARE CONSTRUCTION MANAGEMENT PLAN.....	59
D.	HIRING OF STAFF AND WORKERS.....	60
E.	ORIENTATION OF WORKERS AND STAFF	60
F.	SITE PREPARATION AND CONSTRUCTION WORKS.....	61
G.	IMPACTS ON AIR QUALITY	61
H.	IMPACTS ON NOISE.....	63
I.	GENERATION OF WASTE	65
J.	IMPACT ON PEOPLE.....	67
K.	COMPLETION OF CONSTRUCTION WORKS	69
L.	POST CONSTRUCTION PHASE	69
M.	OCCUPANCY OF THE NEW BUILDING	69
N.	EMERGENCY RESPONSE PLAN	70
O.	EFFECTS OF CLIMATE CHANGE.....	71
VI.	ANALYSIS OF ALTERNATIVES	72
VII.	INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION	73
A.	INTRODUCTION	73

B.	METHODOLOGY	73
C.	RESULTS OF CONSULTATION	73
D.	CONSULTATIONS AND INFORMATION DURING IMPLEMENTATION	74
VIII.	GRIEVANCE REDRESS MECHANISM	76
A.	OBJECTIVES OF THE GRIEVANCE REDRESS MECHANISM	76
B.	STRUCTURE	76
IX.	ENVIRONMENTAL MANAGEMENT PLAN AND MONITORING PLAN	78
A.	MONITORING	80
B.	IMPLEMENTATION ARRANGEMENTS	80
C.	INSTITUTIONAL CAPACITY DEVELOPMENT PROGRAM	95
D.	STAFFING REQUIREMENT AND BUDGET	96
X.	MONITORING INDICATORS.....	102
A.	ENVIRONMENT MANAGEMENT CELL	102
B.	ROLE OF ENVIRONMENT MANAGEMENT CELL	103
C.	CAPACITY BUILDING	104
D.	DOCUMENTATION AND REPORTING.....	105
XI.	COST ESTIMATION FOR ENVIRONMENTAL MITIGATION MEASURES AND MONITORING.....	106
A.	BUDGET PLAN FOR ENVIRONMENTAL MANAGEMENT	106
B.	BUDGET PLAN FOR ENVIRONMENTAL MONITORING	108
XII.	CONCLUSION AND RECOMMENDATION	111
	ANNEX 1: ENVIRONMENTAL CODE OF PRACTICE (ECOP)	112
	ANNEX 2: SUMMARY OF CONSULTATION DURING REVIEW OF DESIGN	121
	ANNEX 3: LIST OF PARTICIPANT AND PHOTOGRAPHS DURING SITE VISIT, DESIGN REVIEW MEETING	124
	ANNEX 4: MOU BETWEEN JUST AND CHOUGACHHA POURASHAVA FOR SOLID WASTE COLLECTION AND DISPOSAL FROM JUST CAMPUS.....	131
	ANNEX 5: ENVIRONMENTAL FIELD TEST REPORT AT PROJECT SITE	132
	ANNEX 6: ENVIRONMENTAL MONITORING CHECKLIST DURING CONSTRUCTION PERIOD.....	140
	ANNEX 7: LETTER FROM DoE FOR DECLARATION OF ECC FOR ICSETEP.....	143
	ANNEX 8: GBV/SEA-SH PREVENTION AND RESPONSE ACTION PLAN	144

Tables

Table I-1: Project Outputs	15
Table II-1: Up to Date Relevant Regulations	21
Table II-2: Ambient Air Pollution (Control) Rules (APCR) 2022 and Noise Pollution (Control) Rules 2025	23
Table II-3: Relevant Environmental Standards from IFC-WB EHS Guidelines 2007	24
Table II-4: Relevant Relevant International Environmental Agreement	25
Table II-5: Environmental Classification According to Safeguard Policy Statement 2009.....	26
Table II-6: Implications of the Safeguard Policy Statement 2009 to the Project.....	27
Table III-1: Output 1	30
Table III-2: Proposed Plan as per Design for the New Building	31
Table III-3: Implementation Schedule.....	34

Table IV-1:Summary of Environmental Setting within the Project Site.....	36
Table IV-2: Results of Ambient Air Quality Measurements	44
Table IV-3: Ambient Noise Level Measurements, Leq dB(A)	44
Table IV-4:Results of the Surface Water Quality Sampling	45
Table IV-5:Results of Groundwater and Drinking water Quality Sampling, JUST	46
Table IV-6:Sources of Drinking Water	46
Table IV-7:Plant Species within the JUST Campus	48
Table IV-8:Test Result of the Soil sample the JUST Campus	50
Table V-1: Environmental Impact Identification Matrix	53
Table V-2:Green Building Features of New ICT Centre for Excellence, JUST Campus	55
Table V-3:Design Feature and Function of the “IT EXCELLENCY CENTER”, JUST	57
Table V-4:Typical Noise Levels of Tools and Equipment.....	64
Table V-5:Common Sources of Noise and Decibel Levels	64
Table V-6:Key Elements of Draft Emergency Response Plan.....	70
Table VI-1:Comparison of “With Project” and “No Project” Options	72
Table VII-1:Information Disclosure Program	75
Table IX-1:Environmental Management Plan	83
Table IX-2:Training Program for Environmental Management	95
Table IX-3:Indicative Cost of EMP Implementation	97
Table IX-4: Environmental Monitoring Plan.....	98
Table X-1:Environmental and Social Trainings.....	104
Table XI-1:Environmental impact mitigation cost for Construction period.....	106
Table XI-2:Environmental monitoring cost during construction	109
Table XI-3:Estimated total costs for environmental impact management and monitoring.....	110

Figures

Figure I-1: Project Location	16
Figure I-2: Management structure.....	17
Figure III-1:Project Site-Location of the New Building within JUST Campus	31
Figure III-2:Proposed Building Features from Different Sides	33
Figure IV-1: Project’s Area Influence	35
Figure IV-2:Jashore University of Science and Technology	36
Figure IV-3:Location of the New Proposed Building	37
Figure IV-4:Climatic sub-regions of Bangladesh	38
Figure IV-5:Air and Noise Quality Sampling Location	44
Figure IV-6:Sample collection of Surface water from research pond.....	45
Figure IV-7: Sample collected from DTW and User level	47
Figure IV-8:Seismic Zone and Flood-Prone Areas in Bangladesh.....	48
Figure IV-9:Location of plants and vegetation within the JUST Campus	50
Figure IV-10: Soil Sample Collection Photos	50
Figure V-1: Diagrammatic view of Green Building Features.....	57
Figure V-2:Alternate Access Route to Site, JUST.....	61
Figure V-3:Waste Collection in JUST Campus Area.....	65
Figure V-4:Medical Centre, JUST.....	69
Figure VIII-1:Three-tier Grievance Redress Mechanism	77

Executive Summary

1. The Government of Bangladesh, through the Ministry of Education (MOE), requested the Asian Development Bank (ADB) for financing of about \$100 M to cover the cost of the improving the relevance and quality of computer science and engineering and information technology (CSE/IT) programs in selected universities. These universities are (i) Bangladesh University of Science and Technology (BUET), (ii) Jashore University of Science and Technology (JUST), and the (iii) University of Dhaka (DU).
2. The project is expected to strengthen the preparation of graduates to take on jobs, improve the connection with industries to understand their requirements for human resource, and to create the required environment in developing the skills for entrepreneurship relevant to CSE/IT.

Project Description

3. The proposed project will help improve relevance and quality of CSE/IT programs in selected universities. It aims to increase job-ready graduates, increase research and development (R&D) capacity through industry collaboration and interdisciplinary research projects, and develop technology entrepreneurship. These objectives will be delivered through the following four outputs.

Output	Description
Output 1: Modern Learning, research, and start up facilities established	The Improving Computer and Software Engineering Tertiary Education Project will support the three universities in developing classrooms, laboratories, industry collaboration and start up or incubation space, and auxiliary facilities. The project will establish the supporting environment which will include adopting green building features such as energy efficiency, water saving, climate and disaster-resilient design; accessibility for persons with disabilities; female-friendly amenities such as students' study areas and staff lounges, and safety features like access control system, increased lighting at night, and video surveillance system.
Output 2: Quality and industry relevance of CSE/IT programs enhanced	The project will assist the universities in updating and improving their CSE/IT degree programs using new technologies, blended learning, industry-demanded soft-skills, and strengthen the existing digital libraries to ensure that they are aligned with international standards. JUST will set up an industry certification centre for information technology (IT) professionals in the southwest region. JUST, DU, and BUET will provide undergraduate scholarships to attract more female students to CSE/IT. There will be a support to enable the IT industry to introduce flexible working hours and telecommuting to boost women participation in the IT industry.
Output 3: R&D and	The University Grants Commission (UGC) to provide grants on

technology entrepreneurship strengthened	the following research initiatives: (i) industry collaboration addressing industry problems or developing new products or services; (ii) interdisciplinary work on IT solutions that associate with other areas to develop new products or services; (iii) cutting edge CSE/IT research; and (iv) IT solutions to address disability issues. Research proposals can be developed together with foreign universities. There would also be support in introducing training programs on technology entrepreneurship as well as rules and incentives to encourage more university-based start-ups and spin-off firms using the facility in Output 1.
Output 4: Project management capacity strengthened.	The project will provide the necessary resources for effective project implementation and management—including necessary information system for planning, implementation and monitoring of grant scheme, stipend programs, and training, and strengthen the capacity of the UGC and three universities in key functions of modern higher education institutions including student services and industry relations.

4. From Output 1, a new building “IT Eceliency Center” for JUST will be constructed in the JUST campus. This new building will be a 10-storey building of about 20,448 m² (summation of all 10 floors as per the detailed design) Gross Concrete Area (GCA) to accommodate Parking, Driver’s waiting zone, Generator room, Pump room, Water reservoir, Daycare, Waste management station, Water treatment room, Reception, Lobby, Lounge, Entrepreneurs lounge, Café, Kitchen, Plaza, Teacher’s café, Security office, Fire control room, STP, Male toilet, Female toilet, Fire stair, Sub-station, Prayer space, Teacher’s lounge, Women faculty lounge, Admin office room, Jury deliverable room, Meeting POD, Incubation Hub, LAB, LAB Equipment room, Classroom, Professor’s room, Associate Professor’s room, Meeting room, Head room, Male Faculty toilet, Female Faculty toilet, Directors room with rest room and toilet, Data center room, Dean office with rest room, Female common room, Seminar class room, VIP waiting, Conference room, PS room with Pantry, Post Graduate Research Lab, ICT office, Auditorium, Locker, Machine room, Solar panel, Mezzanine, Storage, Rehearsal room, Overhead tank and Lift Machine room. Given the location of JUST, vehicles will be provided to as conveyance during industry-related activities and conferences. This new building has been designed with incorporation of green building features and climate change resilient.

Implementation Arrangements

5. MOE will be the executing agency (EA) acting through UGC while the key implementing agencies (IAs) are JUST, DU, and BUET. A project management unit (PMU) will be set up at UGC and project implementation unit (PIU) at the three universities who will be responsible for the day-to day management, monitoring, reporting, and coordination during implementation. A project steering committee (PSC) will be arranged at the MOE to provide guidance and direction, monitor and review the overall progress and outputs of project implementation. The PSC will be chaired by the Secretary, MOE with representatives consisting of UGC

chairperson, assigned UGC member, vice chancellors of the three universities, and representatives from other agencies to ensure that the project achieves the targets and outcomes as well as coordination in resolving potential issues during implementation. An environmental safeguard consultant will be engaged at the PMU to provide technical support on compliance to ADB requirements.

Environmental Requirements

6. As per the power provided in the Clause number 20 of Bangladesh Environment Conservation Act (ECA) 1995 (Number 1 Act in 1995), the Government of Bangladesh provided the Rules named as Environment Conservation Rules (ECR) 2023 which is the main environmental regulations in Bangladesh now that provides that no project or industrial unit can be undertaken without securing an environmental clearance certificate (ECC) from the Department of Environment (DOE). The rules (ECR 2023) mainly consist of Categorization of the projects (Green, Yellow, Orange and Red) and any proposed residential or commercial building project normally assessed as category Orange. As per law of ECR 2023, in Schedule I “list of various categories of industrial establishments and project [Sub-rule (2) of Rule 5, Clauses of Sub-rule (2) of Rule 5, Sub-rule (4) of Rule 12 and Sub-rule (3) of Rule 13]: Orange category industrial establishments or projects Sl. No. 25; (Page No. 3053) – Residential and Commercial Buildings (Build up area from 5,000 to 20,000 Sqm). There is a clear indication that below the build-up area 5,000 Sqm is not required to need ECC from DoE. DoE also given the official letter which indicated that no ECC is required for the individual building under ICSETEP. ECR 2023 remain applicable and that an ECC is not required based on the written DoE determination. The official letter issued by the DoE indicating that no ECC is required for the proposed building at JUST. (The letter inserted in Annex-7). The university have their own development planning, engineering and maintenance units with adequate staff that oversee the projects needed to ensure the sustained provision of education in Bangladesh.

7. The Safeguard Policy Statement (SPS) 2009 of ADB sets out the requirements for environmental safeguard that applies to all ADB-financed projects and grants. Under SPS 2009, projects or grants are screened and categorized based on their potential environmental impacts.

Output 1 will involve construction of three new buildings in JUST, DU, and BUET. These interventions will have potential environmental impacts, and thus, following SPS 2009, the project has been classified as category B on environment requiring the preparation of an initial environmental examination (IEE). Based on the requirements of SPS 2009, this IEE is prepared and will be publicly disclosed to ADB website. Aside from SPS 2009, disclosure of IEE is also required by the Access to Information Policy (AIP) 2019. The IEE prepared for the project is presented in three volumes to cover the three implementing universities: (i) Volume 1 – JUST; (ii) Volume 2 – BUET, and (iii) Volume 3 – DU. This Volume 1 of the (Due to site changes and as per updated baseline

condition) updated IEE will discuss the due diligence of the new building for JUST provides as present updated condition.

Description of the Existing Environment

8. JUST is a public university established in 2007 and located within an area of about 142,000 square meters (m²), or 14.2 hectares. The new building, to be known as the “ICT Centre for Excellence” in JUST, will be located within its premises and will occupy about 3,253 m² (or 2.29% of the total area). There are no natural water sources, protected areas, or ecologically sensitive areas adjacent to or near the university but there is a research pond under the Fisheries Department located west of the site. JUST has several academic buildings including a mosque, hostel, staff dormitory or housing, and a 25-bed capacity medical center.

9. The site is flat terrain with an average elevation of about 8 meters (m) above mean sea level. The annual average maximum temperature is about 31°C and minimum temperature of about 16°C. Annual average rainfall is about 1,402 millimeters (mm) and relative humidity varying from 67% to 84%. The area lies in the south western region of Bangladesh considered as a low-flood-risk zone and is within seismic zone III (low intensity seismic zone). The surrounding area of JUST is within the low-lying agricultural land that is usually cultivated regularly, three crops in each year.

10. The Department of Climate and Disaster Management Department of JUST has carried out environmental quality measurements in October 15 and 16, 2025 at one sampling station for ambient air quality, noise, soil, surface and the groundwater quality of the water source. Results indicate that inhalable particles, with diameters that are generally 10 micrometers and smaller (PM_{2.5}) were under the Air Pollution Control Rules (APCR) 2022 and noise limits was exceeded in day time at the sampling station based on the Noise Pollution Control Rules (NPCR) 2025. At the time of sampling, there were movements of vehicles on the existing Jashore–Churamonkhathi-Chowgacha road adjacent to the project site. Surface and Groundwater quality meets the limits set by Schedule 2, Rule 31 of ECR 2023 for pH, Salinity, Dissolved Oxygen, TDS, Turbidity, Nitrate, Iron, Arsenic and Manganese. There are around 5,000 trees of 75 different species already grown up in the open spaces within the campus which is already improved the landscape and have been provided shade to students during summer. Adequate Tree Plantation Plan has been recommended at the project site to PIU as appropriate.

Anticipated Impacts and Mitigation Measures

11. This new building will incorporate green building features that aim to reduce energy and water consumption, and thus, is also expected to be a climate change-resilient building. These features are included in the budget with an estimated cost of about 10% of the total project cost on civil works (or about 159.78 crore BDT). This cost will cover design, use of construction materials, energy efficient lighting systems and electric fans, and relevant Energy Star or equivalent efficiency standards applicable in Bangladesh. The use of energy-efficient

lighting and cooling equipment from incorporating the green building features will contribute to an estimate of about 220.85 tCO₂ emissions reduction per year.

12. Prior to construction works, the PMU in UGC and the PIU in JUST will ensure that the Contractors will assume the responsibility in compensating for any temporary damage, loss, or inconvenience resulting from accident or failure to comply with regulations in implementing the project. The Contractors will be also required to prepare a health and safety plan (H&SP) based on guidance notes from WHO and other international best practices to address the risk occupational health and safety of the workers at the site. The H&SP will be approved by the PIU and PMU prior to implementation. PMU and PIU together with the environmental safeguard consultant will conduct an orientation to the Contractors and workers on their responsibility to comply with environmental requirements, their awareness of diseases such as HIV/AIDS, tuberculosis, others and their adherence to best practices on occupational health and safety in construction.

13. Associated environmental impacts are mainly during the construction phase such as increased noise and dust levels, occupational health and community safety risks, generation of waste, movements of construction vehicles, presence of workers within the premises of JUST, and similar impacts due to civil, mechanical, and electrical works for the new building. The Contractors will be required to prepare a construction management plan describing the commitments to implement measures in managing these temporary impacts and to comply with the environmental management plan (EMP). The Workers H&SP will be an integral part of the EMP.

14. An alternate access route will be used to prevent construction vehicles passing through the main entrance of JUST along the Churamonkathi–Chaugachha Road. Construction and Solid Waste that may be generated during project implementation will be disposed of in designated disposal site approved by Chaugachha Pourashava Authority. This may be ultimately at the Integrated Landfill and Resource Recovery Centre in Jashore which is under the City Regional Development Project implemented by the Local Government Engineering Department with support from the ADB.

15. The construction site will be temporarily enclosed with clear and proper demarcation to separate access of university students, faculty, and administrative staff. The Contractors will designate security personnel to prevent unauthorized access to the construction site. The use of personal protective equipment and safety gear such as hard hats, working gloves, earmuffs, goggles, masks, and similar safety protection will be mandatory. The Contractors will provide sanitary facilities, safe drinking water, first aid kits, facial masks, hand washing stations with adequate soap and water, hand sanitizers with at least 60% alcohol (if water and soap are not available) to prevent the potential spread of any viral disease, and fire-fighting system. Good housekeeping at the work site and temporary space during break-time will be always enforced. Toolbox meetings will be conducted daily prior to start of work to reinforce the importance of health and safety in the workplace and compliance to the rules and regulations of the construction site. Those who fail to attend the daily toolbox meetings will not be allowed to work for the day. Strict compliance to any contagious disease containment

measures such as physical distancing, hand washing, staggered work schedule, etc. will be enforced.

16. The PIU will ensure that ambient air quality limits set by the International Finance Corporation World Bank Environmental, Health, and Safety General Guidelines 2007, or IFC–WB EHS General Guidelines 2007, the APCR 2022, and the Noise Pollution (Control) Rules 2025 will not be exceeded during the construction phase. The PIU and the environmental safeguard consultant will monitor compliance of the Contractor.

Analysis of Alternatives

17. No alternative site was considered for the new building as this is the best option in terms of ownership, adequate area, and availability. The “no project” option will mean that the open green space within JUST will not have its best and highest usage of land. At the same time, the undergraduate and graduate students, faculty, and staff of CSE Department will not have the opportunity to benefit from the innovative IT learning environment that the new building will provide.

18. The “with project” option entails that the demand for IT graduates to meet the requirements of the IT industry will be met; temporary jobs for skilled and non-skilled workers during construction will be created; and there will be more options for R&D, training, and private sector linkages, which are expected to improve chances of graduates for employment.

Information Disclosure, Consultation, and Participation

19. During the feasibility study period of the project stake holder consultation meeting were held, in which a total of 16 participants (five females and 11 males) joined the consultation meeting on 1 April 2019 in JUST. Issues raised were potential noise and dust levels during construction, access to the building of persons with disability on mobility and vision, workers’ behavior and access to students’ areas, waste management, and emergency preparedness. The PIU in JUST will ensure that these concerns are taken into consideration in the building design and during construction phase. Further to the above during the design consideration of the green building suggested by ADB, several discussion and consultation meeting have been held with design consultant team with PIU officials including Vice Chancellor of JUST, PMU officials with consultants, UGC authority for updating the design during the period through April to August 2025 at PIU, JUST, PMU office and UGC conference room. Finally, the of green building with energy savings, and inclusion of all safeguard and gender-based requirement were fulfilled. No further public consultation meeting was arranged by PIU.

20. Consultations will be continued during project implementation period. AS the COVID-19 situation in the country is in minimum threat, restrictions imposed by the government also will be relaxed now. But consultations with students, faculty, administrative staff, and other stakeholders with keeping DG Health Guidelines and also maintained WHO’s Health Guidelines. Now the health situation is improved, the approach to consultations like town hall meetings, focus group discussions, and interviews may be followed. The PIU will ensure that

all means of communication with stakeholders will include a way to provide comments and suggestions. The PIU office will include an information desk.

21. PIU will create a project webpage in the JUST website and will provide a link to project information. Information such as the grievance redress mechanism (GRM) and project brief (both in English and Bangla) will be made available to stakeholders as printed materials. A project brief (a one-page flyer or a question-and-answer [Q&A] sheet, or a frequently asked questions [FAQ]) both in English and Bangla will be made available at the PIU, construction site office, PMU, and JUST administration office. This updated IEE, which provides more information, will be posted on the ADB website following SPS 2009 and AIP 2019.

Grievance Redress Mechanism

22. The PMU at PIU will establish a grievance redress mechanism (GRM) to deal with potential complaints that may be lodged against the project. The GRM will include the creation of a Grievance Redress Committee (GRC), which may consist of the PMU head, PIU Member, local government representative, representative of the Contractor, and witness of the complainant. The environmental safeguard consultant at the PMU will act as the secretary of the GRC. Complaints can be lodged either in person to the Site Engineer, in writing, or by phone, email, complain box etc. A complainant can seek redress in two tiers: (i) through the site engineer of the Contractor or PIU level, (ii) through the GRC. The complainant is not restricted to seek redress through the legal system at any point in the GRM process.

23. The PIU will disclose details on the GRM through the project website of JUST as well as on billboards at the construction site in Bangla, GRM logbook and monthly reporting. Complain will be accepted via hotline, email, complain box at visible site keeping confidential if require. Details will include the contact person, a hotline phone number, and a simplified flowchart on how to file a complaint. If needed, the environmental safeguard consultant will help the affected person in submitting a complaint.

Environmental Management Plan

24. The Environmental Management Plan (EMP) describes the measures to be implemented to ensure that the identified impacts during the construction phase and post-construction phase are mitigated. The EMP includes an environmental monitoring plan (EMOP) that identifies the parameters to be monitored, frequency of monitoring, location, implementing responsibility, and supervision. A Contractor ESMP/CEMP, OH&SP and LMP will be prepared by the Contractors for approval by the PIU and PMU. The H&SP will be an integral part of the EMP. The cost of implementing the EMP and the EMOP will be included as a separately identified BoQ/provisional (non-competitive) sum, tracked through payment certificates with itemized safeguard cost.

25. As soon as the project becomes effective, the PIU through the PMU, will prepare environmental monitoring reports that will be submitted to ADB semi-annually during construction and annually during post-construction. These monitoring reports will be posted on the ADB website following the requirements of SPS 2009 and AIP 2019. The PIU will

designate a staff to coordinate with the environmental safeguard consultant at the PMU in submitting environmental monitoring reports and other concerns on environmental safeguard compliance.

Capacity Building

26. Capacity building for effective implementation of the environmental and social safeguard requirements is a key element of the ESMP. Capacity building for environmental and social safeguard management will need to be carried out at all tiers of the project, including PMU, PIU, CSC and the contractors. At the construction site, CSC with suggestion from PMU will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers. The various aspects that are covered under the capacity building will include general environmental and social awareness, key environmental and social sensitivities of the area and key environmental and social impacts of the project, ESMP requirements, OHS aspects and waste disposal.

Documentation and Reporting

27. Project Construction Management and Supervision Consultants will collect all data and information related to the implementation of ESMP on behalf of PIU and submits monthly, half yearly and yearly reports to the Project Director during construction. During operational phase, the JUST, PIU will give additional responsibility to one of the officers from JUST Engineering Section, who will collect related data and information regularly and prepare reports as desired by project management.

Cost Estimation for Environmental Mitigation Measures and Monitoring

28. Detailed cost estimates for environmental mitigation are given in Chapter XI. Total EMP implementation, training and monitoring cost for New Building in JUST will be BDT 10,756,000.00. This cost will include in the civil works BoQ/bid documents and commit to separate safeguard BoQ items/provisional sums with auditable tracking during implementation.

Conclusion and Recommendation

29. While the project will have associated environmental impacts during construction phase, overall, it will have significant contribution in advancing the goals of Information Technology Improvement sector through improving computer and software engineering tertiary education.

30. The project is environment category B based on SPS 2009 and an IEE was prepared during feasibility study period. As the project site is shifted, but within the same premises and conceptual design with surrounding baseline condition is changed. It is decided that the previous IEE need to be updated and this IEE has been updated. Stakeholders were consulted and a GRM will be set up consistent with the requirements of SPS 2009. Potential environmental impacts of the project are mainly during the construction phase, which are

considered temporary, of short duration, and can be easily mitigated through the implementation of the EMP and EMOP, compliance of the Contractors with the approved building design and relevant regulations, and compliance monitoring by the PIU. Appropriate health and safety measures will be implemented based on the guidance from the government and WHO to ensure the wellbeing of students, staff, and the immediate local communities surrounding the JUST premises. An environmental safeguard consultant will provide the required technical support to the PIU and the PMU in ensuring compliance with the environmental requirements of ADB.

I. Introduction

A. Introduction

31. Bangladesh, a developing nation, faces multifaceted challenges including high inflation, significant external debt and political instability marked by corruption and weak governance. Economically, it struggles with low investment, low labour productivity, reliance on imports and concentrated export base, while environmentally; it remains highly vulnerable to climate change and natural disasters. Socially, challenges include persistent poverty, unemployment, inequality, rapid urbanization and a gap between human development and economic progress. To overcome present situation and to make future Bangladesh as an economically inclusive and politically accountable society Government of Bangladesh fix the goals: i) to become a participatory democracy; ii) to have an efficient, accountable, transparent and decentralized system of governance; iii) to become a poverty-free middle-income country; iv) to have a nation of healthy citizens; v) to develop a skilled and creative human resource; vi) to become a globally integrated regional economic and commercial hub; vii) to be environmentally sustainable; and viii) to be a more inclusive and equitable society.

32. One of the goals to develop a skilled and creative human resource is to ensure that Bangladesh will be known as a country of educated people with skills in information technology. In addition, one of the outcomes visualized for education, training and skills development to be established, knowledge-based, technologically oriented and gender equitable learning system.

33. To achieve these goals, the government through the Ministry of Education (MOE), requested the Asian Development Bank (ADB) for financing of about \$100 million to cover the costs of Improving Computer and Software Engineering Tertiary Education Project, which is expected to improve the relevance and quality of computer science and engineering and/or institute for information technology (CSE/IT) programs in selected universities. These universities are (i) Bangladesh University of Engineering and Technology (BUET), (ii) University of Dhaka (DU), and (iii) Jashore University of Science and Technology (JUST).

34. Following the requirements of ADB's Safeguard Policy Statement (SPS) 2009, the environmental assessment for the project, Initial Environmental Examination (IEE) of JUST is one of the environmental assessment reports. The IEE for each university is based on the environmental impact assessment (EIA) format given in the Annex-1 of SPS 2009, pp. 41–43.

B. Overview of the Project

35. The Improving Computer and Software Engineering Tertiary Education Project is expected to strengthen the preparation of graduates to take on jobs, improve the connection with industries to understand their requirements for human resource, and to create the required environment in developing the skills for entrepreneurship relevant to CSE/IT. Table I-1 presents the four project outputs while Figure I.1 presents the project location.

Table I-1: Project Outputs

Output	Description
Output 1: Modern Learning, research, and start up facilities established	The Improving Computer and Software Engineering Tertiary Education Project will support the three universities in developing classrooms, laboratories, industry collaboration and start up or incubation space, and auxiliary facilities. The project will establish the supporting environment which will include adopting green building features such as energy efficiency, water saving, climate and disaster-resilient design; accessibility for persons with disabilities; female-friendly amenities such as students' study areas and staff lounges, and safety features like access control system, increased lighting at night, and video surveillance system.
Output 2: Quality and industry relevance of CSE/IT programs enhanced	The project will assist the universities in updating and improving their CSE/IT degree programs using new technologies, blended learning, industry-demanded soft-skills, and strengthen the existing digital libraries to ensure that they are aligned with international standards. JUST will set up an industry certification centre for information technology (IT) professionals in the southwest region. JUST, DU, and BUET will provide undergraduate scholarships to attract more female students to CSE/IT. There will be a support to enable the IT industry to introduce flexible working hours and telecommuting to boost women participation in the IT industry.
Output 3: R&D and technology entrepreneurship strengthened	The University Grants Commission (UGC) to provide grants on the following research initiatives: (i) industry collaboration addressing industry problems or developing new products or services; (ii) interdisciplinary work on IT solutions that associate with other areas to develop new products or services; (iii) cutting edge CSE/IT research; and (iv) IT solutions to address disability issues. Research proposals can be developed together with foreign universities. There would also be support in introducing training programs on technology entrepreneurship as well as rules and incentives to encourage more university-based start-ups and spin-off firms using the facility in Output 1.
Output 4: Project management capacity strengthened.	The project will provide the necessary resources for effective project implementation and management—including necessary information system for planning, implementation and monitoring of grant scheme, stipend programs, and training, and strengthen the capacity of the UGC and three universities in key functions of modern higher education institutions including student services and industry relations.

BUET = Bangladesh University of Engineering and Technology, CSE/IT = Computer Science and Engineering or Information Technology, DU = University of Dhaka, JUST = Jashore University of Science and Technology Source: Development Project Proposal, MoE

C. Project Implementation Arrangements

36. MOE will be the executing agency (EA) acting through UGC while the key implementing agencies (IAs) are JUST, DU, and BUET. A project management unit (PMU) will be set up at UGC and project implementation units (PIUs) at the three universities who will be responsible for the day-to-day management, monitoring, reporting, and coordination during

implementation. A project steering committee (PSC) will be arranged at the MOE to provide guidance and direction, monitor and review the overall progress and outputs of project implementation. The PSC will be chaired by the Secretary, MOE with representatives consisting of UGC chairperson, assigned UGC member, vice chancellors of the three universities, and representatives from other agencies to ensure that the project achieves the targets and outcomes as well as coordination in resolving potential issues during implementation.

37. An environmental safeguard consultant will be engaged intermittently until the completion of construction phase (about two years) to provide technical support to the PMU and PIUs on compliance to environmental requirements of ADB, and the building construction requirements of the government. The project is expected to be completed by June 2027. Figure I-1 presents the project location in Bangladesh Map and Figure I-2 management structure.



Figure I-1: Project Location

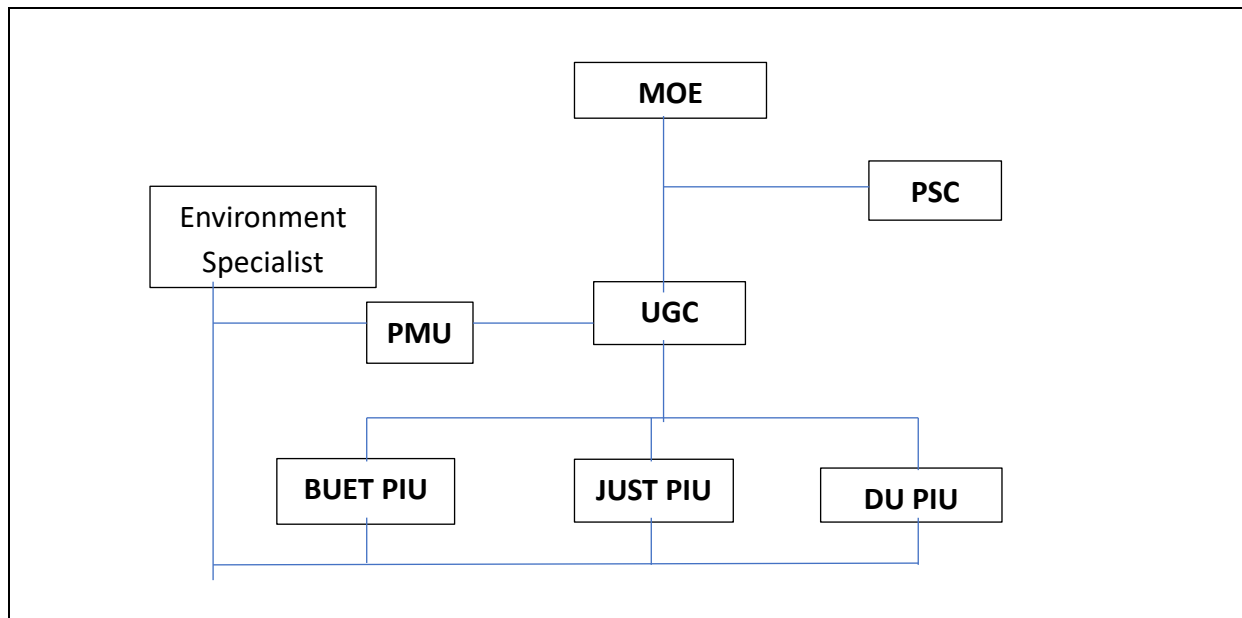


Figure I-2: Management structure

BUET = Bangladesh University of Engineering and Technology, DU = University of Dhaka, JUST = Jashore University of Science and Technology, MOE = Ministry of Education, PIU = Project Implementation Unit, PMU = Project Management Unit, PSC = Project Steering Committee, UGC = University Grants Commission

D. Need for Environmental Assessment

i. Requirement of the Government

38. As per the power provided in the Clause number 20 of Bangladesh Environment Conservation Act (ECA) 1995 (Number 1 Act in 1995), the Government of Bangladesh provided the Rules named as Environment Conservation Rules (ECR) 2023 which is now the main environmental regulations in Bangladesh that provides “no project or industrial unit can be undertaken without securing an environmental clearance certificate (ECC) from the Department of Environment (DOE)”. The rules (ECR 2023) mainly consist of Categorization of the projects (Green, Yellow, Orange and Red) and any proposed residential or commercial building project normally assessed as category Orange. In ECR 2023, Schedule I “list of various categories of industrial establishments and project [Sub-rule (2) of Rule 5, Clauses of Sub-rule (2) of Rule 5, Sub-rule (4) of Rule 12 and Sub-rule (3) of Rule 13]: Orange category industrial establishments or projects Sl. No. 25; (Page No. 3053) – Residential and Commercial Buildings (Build up area from 5,000 to 20,000 Sqm). DoE finally mentioned that ECC from the DOE is not required for this individual building with Ground Coverage Area (GCA) less than 5000 sqm. ECC requirements depend on DoE categorization rather than implying a blanket rule. The official letter issued by DoE is appended in the Annex-7 of this report.

39. A formal letter has been submitted to DG, DoE copy with the Director ECC for getting documentary indications on January 06, 2026. PMU Consultant met several times with concerned officers for pursuing to issue the letter to PMU and finally they made a response letter with non-requirement of ECC for these individual buildings in separate locations. Gross Concrete Area of JUST as per the detailed design is nearly same i.e. 20,448 m². But the categorization of classification is defined as Ground Coverage Area. As the Ground Coverage Area (GCA) of the proposed building is (3,253 m²) less than 5000 m², ECC is not required for

this proposed building at JUST. The official letter issued by DoE is appended in Annex-7 of this report.

ii. Requirement of ADB

40. The Safeguard Policy Statement (SPS) 2009 of ADB sets out the requirements for environmental safeguard which applies to all projects and Grants ADB finance.

41. SPS 2009 requires that projects to be funded by ADB will be subject to screening and categorization based on their potential environmental impacts. The categorization determines the required environmental assessment.

42. A Rapid Environmental Assessment checklist was used to determine the potential environmental impacts of the project. Given the associated civil works that will be involved in the construction of the new buildings, the project is classified as category B on environment requiring an initial environmental examination (IEE). A category B project is considered likely to have adverse environmental impacts that are less adverse, site-specific, few if any of them irreversible, and in most cases mitigation measures can be more readily designed.

E. IEE Methodology

i. Objectives

43. Preparation of this updated IEE aims to (i) describe the existing environment; (ii) assess the potential environmental impacts of the proposed project; (iii) identify the mitigation and/or enhancement measures corresponding to the potential environmental impacts identified; (iv) describe the environmental management and monitoring plan to be implemented and complied; and, (v) ensure that all the statutory regulatory requirements relevant to the project have been identified and considered, to understand what requires compliance.

ii. Scope

44. This updated IEE has been prepared following the requirements of SPS 2009. The scope covers the general existing environmental profile of the project site, assessment of potential environmental impacts during design and/or pre-construction, construction, and operation (or post-construction) stages; and a description of the Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMOP). During feasibility study period site visit and face-to-face interview were held in January and March-April 2019 collected the secondary data, conduct consultation, and coordinate with relevant agencies of the government. For updating the report field study and survey was done on 27, 28 and 29 July 2025. Environmental samplings were done on October 15 and 16, 2025. Beside this, secondary data and information were collected from different govt. offices, govt. reports, publications, etc. As the COVID-19 impact throughout the country is found minimum and threat due to this will be minimum, considering this health and safety plan (H&SP) will be will be prepared and it will be a part of the EMP. The following steps were considered:

- Undertake site visits to collect relevant secondary data to establish the baseline environmental condition;
- Assess the potential impacts due to location, design, construction and post construction of the CSE/IIT building;

- Examine opportunities for environmental enhancement and identify measures;
- Prepare an EMP outlining the measures to mitigate potential environmental impacts including the institutional arrangements;
- Identify key environmental parameters required to be monitored during project implementation and prepare an EMOP;
- Carry out consultation with affected stakeholders, local administrative bodies to identify perceptions of the project and introduce project components and anticipated impacts; and,
- Disclose the draft IEE on the ADB website and prepare in Bangla a project brief and/or frequently asked questions (FAQ) that can be publicly available at the offices of UGC, JUST and the construction sites.

45. Specifically, for JUST, site visits were conducted in July 27, 28 and 29, 2025 to collect secondary data, conduct consultations, and coordinate with relevant agencies of the government. Environmental sampling was done intermittently from 15 and 16 October 2025.

II. Policy, Legal and Administrative Framework

A. National Environmental Requirements

46. The following presents the relevant regulatory agency, process, regulations, and international environmental agreements.

B. Environmental Agency

47. The Ministry of Environment, Forest and Climate Change (MOEFCC) is the agency that plans, promotes, coordinates and oversees the implementation of programs and plans on environment and forestry. MOEFCC manages all national environmental matters and is responsible for activities such as prevention and control of pollution, forestation and regeneration of degraded areas and protection of the environment, and in the framework of legislations. MOEF also conducts surveys, impact assessment, control of pollution, research, and collection and dissemination of environmental information and creation of environmental awareness among all sectors in Bangladesh.

48. Created in 1989, the Department of Environment (DOE) performs the regulatory functions of the MOEFCC. DOE is the main agency entrusted with regulating and enforcing environmental management regulations in order to ensure sustainable development and to conserve and manage the environment. DOE ensures the consistent application of environmental rules and regulations, and provides guidance, training and conduct promotional campaign on improving the awareness of environmental issues.

C. Environmental Regulations

49. The main environmental regulations in Bangladesh were the Environment Conservation Act (ECA) 1995 and the Environment Conservation Rules (ECR) 1997 and finally elaborately established in Environment Conservation Rules (ECR 2023) in 2023.

50. Originally ECA 1995 provides the requirements on environmental protection, improvement of environmental standards, and control and abatement of environmental pollution in Bangladesh. As per the power provided in the Clause number 20 of Bangladesh Environment Conservation Act (ECA) 1995 (Number 1 Act in 1995), the Government of Bangladesh provided the Rules named as Environment Conservation Rules (ECR) 2023 that provides for the declaration of ecologically critical areas, categorization of industries and projects and identification of the types of environmental assessments needed for respective categories of industries or projects. Among other things, these rules set (i) the National Environmental Quality Standards for ambient air, various types of water, industrial effluent, emission, noise, vehicular exhaust etc.; (ii) the requirements for and procedures to obtain environmental clearance certificate (ECC); and (iii) the requirement for the IEE based on categories of industrial and other development interventions.

51. As per ECR 2023 outline the regulatory mechanism to protect the environment in Bangladesh. This currently implemented ECR sets project categorization, EQS/Standards, ECC procedures, and required assessment type (IEE/EIA)-with a proper citation/source for the ECR 2023 schedule/table used. Table II-1 presents a summary of relevant environmental regulations.

Table II-1: Up to Date Relevant Regulations

Regulation	Brief Description	Applicability
Bangladesh National Building Code 2020	Sets minimum standards for design, construction, quality of materials, use and occupancy, location and maintenance of all buildings to safeguard, within achievable limits, life, limb, health, property and public welfare.	High
Bangladesh Building Construction Rules 2008	These rules superseded the previous Building Construction rules of 1984. These rules seek to control development plot-by-plot and case-by case. It controls development by imposing conditions on setbacks, site coverage, construction of garages, access to plot, provision of lift, land use of that plot and height of building. Restricting the height of a building in Building Construction Rules 1996 helps to control the density of an area and manage the growth of the city in some way.	High
Disaster Management Act 2012	Coordinates activities on disaster management, making them object-oriented and strengthens and formulate rules to build up infrastructure of effective disaster management to fight all types of disaster.	Medium
Environment Court Act 2000 (amended in 2002 and 2010)	This Act is under the Judiciary and Ministry of Environment and Forests to ensure the resolution of disputes on environmental and social damages resulting from any development activities. This Act also allows for the effective completion of environment-related legal proceedings.	Low
Nise Pollution (Control) Rules, 2025	Bangladesh's Noise Pollution (Control) Rules, 2025 enforce strict new limits and enforcement powers. Noise pollution during construction works is: (i) High intensity noise created construction equipment cannot be used in Silent Area during day and night time and Residential Area during night time. (ii) Bricks/Stone Crushing machine, Mixture machine, Piling Machine with others high intensity noise creating construction equipment cannot be used within residential area and beyond the residential area about 500 meters between 7.00 PM to 7.00 AM.	Medium
Fire Prevention and Extinction Rules, 2014	The Fire Prevention and Extinction Rules, 2014 enforce the fire prevention and Extinguishing Act 2003 in Bangladesh. It mandates rigorous fire safety standards, including obtaining an occupancy certificate, conducting regular safety inspections and installing specific firefighting equipment. These rules outline the legal requirements and operating standards to ensure public safety in high-rises and commercial buildings in Bangladesh.	Medium
Bangladesh Labour Act 2006 (amended 2013), Bangladesh Labour Rules 2015	These regulations are under the Ministry of Labour, which provides for the occupational rights and safety of factory workers and the provision of comfortable work environment and reasonable working conditions including the prohibition of child labour and adolescent labour. Based on this Act and Labour Laws, medical facilities, first aid and accident and emergency arrangements are to be provided by the authority to the workers at workplaces.	Medium
Air Pollution (Control) Rules 2022	Bangladesh's Ministry of Environment, Forest and Climate Change enacted the Air Pollution (Control) Rules 2022 to combat the country's severe air quality crisis. The Rules regulate industrial,	Medium

	vehicular and project emissions and empower the government to declare heavily polluted areas as “Degraded Air Sheds” to enforce strict mitigation measures.	
Solid Waste Management Rules 2021	The Solid Waste Management Rules 2021 are Bangladesh’s primary legal framework for sustainable waste reduction, segregation and processing. They mandate household waste segregation, introduce Extended Producer Responsibility (EPR) for manufacturers and provide strict environmental guidelines for landfills and recycling facilities.	Medium
Ozone Depleting Substance (Control) Rules, 2004	In Bangladesh, the primary legal framework is the Ozone Depleting Substance (Control) Rules, 2004. Enforced by the Department of Environment, these rules regulate the import, export, production and use of Ozone-Depleting Substances (ODS) in alignment with the Montreal Protocol and the Kigali Amendment.	Low
Hazardous Waste (e-waste) Management Rules, 2021	The Hazardous Waste (e-waste) Management Rules, 2021, enacted by the Government of Bangladesh, mandate systemic e-waste storage and recycling. It introduces Extended Procedure Responsibility (EPR), requiring manufacturers and importers to collect and recycle e-waste, beginning at a 10% collection target in the first year.	Low
Medical Waste (Management and Processing) Rules, 2008	The Medical Waste (Management and Processing) Rules, 2008, outline Bangladesh’s legal framework for handling healthcare facilities waste. They strict, segregated handling, colour coded bins, transport rules and set a strict 48-hour storage limit for unrefined hazardous waste.	Low
Ecologically Critical Area (ECA) Management Rules, 2016	The Ecologically Critical Area (ECA) Management Rules, 2016 were framed under the Bangladesh Environment Conservation Act, 1995, to protect conserve and restore endangered ecosystems. These rules establish committees at national, district and village levels to regulate harmful activities, manage natural resources and provide alternative livelihoods for residents.	Low
Bangladesh Biosafety Rules 2012	The Bangladesh Biosafety Rules 2012, regulate the import, export and commercialization of Genetically Modified Organisms (GMOs) and Living Modified Organisms (LMOs). They ensure modern biotechnology is safely applied to agriculture, medicine and industry while protecting human health and the environment.	Low
Bangladesh Biological Diversity Act, 2017	The Bangladesh Biological Diversity Act, 2017 is the primary national legislation that safeguards ecosystems (like the Sundarbans) regulates the transfer of generic resources and protects associated traditional knowledge.	Low

D. Environmental Approval Process

52. ECR 2023 para 6 provides that no industrial unit or project can be established or undertaken without securing an environmental clearance certificate (ECC) from the DOE. Following the requirements of ECR 2023, the DOE has classified various development interventions according to the potential adverse environmental impacts for the purpose of issuing the ECC. This classification includes: (i) green; (ii) Yellow; (iii) Orange; and (iv) Red. The Green classification refers to industries or projects considered to be relatively pollution-free, thus, no environmental study will be required. The Yellow, Orange, and Red category are those projects and industrial units that may have medium to potential adverse environmental

impacts and therefore requires an environmental impact assessment (EIA). Securing the ECC for these categories involves two steps: (i) issuance of site clearance certificate (SCC), and then (ii) the ECC.

53. The site clearance certificate will be issued by the DOE upon approval of the IEE and the receipt of the “No Objection Certificate (NOC).” These documents serve as “proof of authorization” to initiate a project. The IEE includes the terms-of-reference (TOR) of the EIA which requires the approval of the DOE. Once the EIA has been reviewed and approved by the DOE, the ECC will be issued. The project proponent cannot open line of credit in favour of importable machineries and cannot start any physical activities for the development project without the DoE-approved EIA.

E. Applicable Environmental Standards

54. Table II.2 lists the applicable standards to meet national regulations of Ambient Air Pollution (Control) Rules (APCR) 2022 and Noise Pollution (Control) Rules (NPCR) 2025. SPS 2009 provides that during construction, the government will apply pollution prevention and practices that are in line with international good practice as set by international standards such as the International Finance Corporation-World Bank Environmental, Health, and Safety General Guidelines 2007 or IFC-WB EHS General Guidelines 2007. In addition, should the regulations of the government differ from the levels and measures set by the IFC-WB EHS General Guidelines 2007, the government will achieve whichever is more stringent. The relevant standards from IFC-WB EHS General Guidelines 2007 are given in Table II-2.

Table II-2: Ambient Air Pollution (Control) Rules (APCR) 2022 and Noise Pollution (Control) Rules 2025

AIR		
Pollutant	Standards	Averaging Period
Carbon Monoxide: CO	05 mg/m ³	8-hours
	20 mg/m ³	1-hour
Lead: Pb	0.25 µg/m ³	Annual
	0.50 µg/m ³	24-hours
Nitrogen Dioxide: NO ₂	40 µg/m ³	Annual
	80 µg/m ³	24-hours
Particulate Matter 10: PM ₁₀	50 µg/m ³	Annual
	150 µg/m ³	24-hour
Particulate Matter 2.5 PM _{2.5}	35 µg/m ³	Annual
	65 µg/m ³	24-hour
Ozone: O ₃	180 µg/m ³	1-hour
	100 µg/m ³	8-hour
Sulphur Di-Oxide: SO ₂	250 µg/m ³	1-hour
	80 µg/m ³	24-hour
Ammonia	100 µg/m ³	Annual
	400 µg/m ³	24-hour
NOISE		
Zone Class	Limits in Leq dB(A)	
	Daytime	Night time
	(6 A.M. – 9 P. M.)	(9 P.M. – 6 A.M.)
i) A sensitive area i.e schools, hospitals, mosques etc.	50	40
ii) Residential zone	55	45
iii) Mixed areas: residential, commercial & industrial	60	50
iv) Commercial areas	70	60
v) Industrial areas	75	70

dB(A)=A-weighted decibels, NO₂=nitrogen dioxide, ppm=parts per million, µg/m³=microgram per Cubic meter, PM_{2.5}=particulate matter 2.5, PM₁₀=particulate matter 10. Note: Daytime shall mean from 6 a.m. to 9 p.m. Night-time shall mean from 9 p.m. to 6 a.m. Leq means equivalent continuous sound level. or the average sound pressure level over a specified time interval

a) National Ambient Air Pollution (Control) Rules 2022.

b) National Noise Pollution (Control) Rules 2025.

Table II-3: Relevant Environmental Standards from IFC-WB EHS Guidelines 2007

Table 1.1.1: WHO Ambient Air Quality Guidelines ^{7, 8}		
	Averaging Period	Guideline value in $\mu\text{g}/\text{m}^3$
Sulfur dioxide (SO ₂)	24-hour	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)
	10 minute	500 (guideline)
Nitrogen dioxide (NO ₂)	1-year 1-hour	40 (guideline) 200 (guideline)
Particulate Matter PM ₁₀	1-year	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)
	24-hour	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)
Particulate Matter PM _{2.5}	1-year	35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)
	24-hour	75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)
Ozone	8-hour daily maximum	160 (Interim target-1) 100 (guideline)

Table 1.7.1- Noise Level Guidelines ⁵⁴		
	One Hour L _{Aeq} (dBA)	
Receptor	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00
Residential; institutional; educational ⁵⁵	55	45
Industrial; commercial	70	70

¹² US EPA Prevention of Significant Deterioration Increments Limits applicable to non-degraded airsheds.

F. Relevant International Environmental Agreements

55. Aside from the national environmental regulations, international environmental agreements where Bangladesh is a party will be referred to in the design and implementation of the project. Table II-4 lists the applicable international environmental agreements that can provide guidance during project implementation.

Table II-4: Relevant Relevant International Environmental Agreement

International Environmental Agreement	Date Ratified	Description
Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris 1972)	3 November 1983	Entered into force on 23 November 1972, this convention defines and provides for the conservation of the world's heritage by listing the natural and cultural sites whose value should be preserved.
Vienna Convention for the Protection of the Ozone Layer 22 March 1985	2 August 1990	A framework for efforts to protect the globe's ozone layer by means of systematic observations, research and information exchange on the effects of human activities on the ozone layer and to adopt legislative or administrative measures against activities likely to have adverse effects on the ozone layer.
Montreal Protocol on Substances that Deplete the Ozone Layer (a protocol to the Vienna Convention for the Protection of the Ozone Layer)	2 August 1990	This international treaty was entered into force on 1 January 1989 and is designed to protect the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion. This treaty also requires controlling emissions of substances that deplete ozone.
Kyoto Protocol (1997)	22 October 2001	An international agreement adopted on 11 December 1997 and entered into force on 16 February 2005, which commits its Parties to set internationally- binding emission reduction targets. This agreement is linked to the United Nations Framework Convention on Climate Change (UNFCCC).
UNFCCC (1992)	15 April 1994	This framework came into force on 21 March 1994 and aims to achieve stabilization of greenhouse gas (GHG) concentrations in the atmosphere at a level low enough to prevent dangerous anthropogenic interference with the climate system.
Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal (1989)	1 April 1993	This convention came into force on 5 May 1992 which aims to reduce the amount of waste produced by signatories and regulates the international traffic in hazardous wastes.
UNESCO World Heritage Convention 1972	3 August 1983 (Accession) Accession – the state accepts the offer or the opportunity to become a party to a treaty already negotiated and signed by other states	This convention describes the concepts of nature conservation and the preservation of cultural properties. Parties agree to identify and nominate properties on their national territory to be considered for inscription on the World Heritage List, gives details of how a property is protected, and provides a management plan for its upkeep.

G. Environmental Requirements of the Asian Development Bank

56. The SPS 2009 sets the environmental requirements and review procedures that apply to all projects and grants that ADB finance. SPS 2009 comprises three key safeguard areas: environment, involuntary resettlement, and indigenous peoples. It aims to avoid adverse project impacts to both the environment and the affected people; minimize, mitigate and/or compensate for adverse project impacts; and help Borrowers to strengthen their safeguard systems and to develop their capacity in managing the environmental and social risks.

57. SPS 2009 uses a categorization system to indicate the significance of potential environmental impacts, which is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts within the project's area of influence. The project categorization system is described in Table II-5.

Table II-5: Environmental Classification According to Safeguard Policy Statement 2009

Category	Definition	Assessment Requirement
A	Likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, and may affect an area larger than the sites or facilities subject to physical works.	Environmental impact assessment
B	Likely to have adverse environmental impacts that are less adverse than those of Category A. Impacts are site specific, few if any of them irreversible, and in most cases mitigation measures can be designed more readily than Category A.	Initial Environmental Examination
C	Likely to have minimal or no adverse environmental impacts.	No environmental assessment is required but the environmental implications of the project will be reviewed.
FI	Project involves investment of ADB funds to or through a financial intermediary (FI).	FIs will be required to establish an environmental and social management commensurate with the nature and risks of the FI's likely future portfolio to be maintained as part of the FI's overall management system.

Source: ADB 2009. Safeguard Policy Statement

H. Disclosure Requirements

58. Aside from the SPS 2009 requirements, the AIP 2019 provides for the requirements of disclosure for project information of projects and grants funded by ADB (footnote 3). Consistent with SPS 2009, this requires the disclosure of documents submitted by the borrower and/or client:

- i) A draft EIA report for category A project, at least 120 days before Board consideration;
- ii) A draft environmental assessment review framework, where applicable, before appraisal;
- iii) The final EIA or IEE, upon receipt by ADB;
- iv) A new or updated EIA or IEE, and a corrective action plan, if any, prepared during project implementation, upon receipt by ADB; and,

v) The environmental monitoring reports, upon receipt by ADB.

59. Table II-6 presents a summary of the implications of SPS 2009 to the project.

Table II-6: Implications of the Safeguard Policy Statement 2009 to the Project

SN	SPS 2009 Principles	Description
1	Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks.	The components with environmental implications have been identified under Output 1 of the Project: (a) construction of three new multi-storey buildings within the university premises of JUST, BUET, and DU. A Rapid Environmental Assessment (REA) checklist was completed for these components, and the environment category based on SPS 2009, is B requiring an IEE.
2	Conduct an environmental assessment for each proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic (including impacts on livelihood through environmental media, health and safety, vulnerable groups, and gender issues), and physical cultural resources in the context of the project's area of influence. Assess potential transboundary and global impacts, including climate change. Use strategic environmental assessment where appropriate.	An IEE following the requirements of SPS 2009 was conducted for the components with environmental implications.
3	Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the alternative proposed. Also consider the no project alternative.	Alternative sites, where appropriate, were considered and included in the IEE.
4	Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an environmental management plan (EMP) that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle.	An EMP is included in the IEE for each of the components with environmental implications under the three universities of the MOE. The EMPs will provide guidance to the construction contractor and their subcontractor (if any) who will be engaged during project implementation to ensure compliance to the relevant provisions in SPS 2009.
5	Carry out meaningful consultation with affected	Three consultations events were

	people and facilitate their informed participation. Ensure women's participation in consultation. Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and considered. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment. Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.	undertaken during the preparation of the IEE (i.e., one per university). Consultations will continue through the PIUs in each university (as appropriate) during project implementation. A three-tiered grievance redress mechanism (GRM) is included in the IEE including the proposed composition of the grievance redress committee (GRC). The implementation of the GRM will be monitored by the PMU established under the UGC.
6	Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders.	The IEE will be endorsed by the MOE for public disclosure through the ADB website.
7	Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.	At the construction phase, the contractors will be responsible for implementing the EMP and will be monitored by the PIU and PMU for compliance. Environmental monitoring reports and corrective actions (if needed) will be prepared by the PIUs and will be disclosed to ADB website.
8	Do not implement project activities in areas of critical habitats, unless (i) there are no measurable adverse impacts on the critical habitat that could impair its ability to function, (ii) there is no reduction in the population of any recognized endangered or critically endangered species, and (iii) any lesser impacts are mitigated. If a project is located within a legally protected area, implement additional programs to promote and enhance the conservation aims of the protected area. In an area of natural habitats, there must be no significant conversion or degradation, unless (i) alternatives are not available, (ii) the overall benefits from the project substantially outweigh the environmental costs, and (iii) any conversion or degradation is appropriately mitigated. Use a precautionary approach to the use, development, and management of renewable natural resources.	All the proposed interventions with environmental implications are not located in critical habitats as defined by SPS 2009.
9	Apply pollution prevention and control technologies	Construction activities will generate

	and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines. Adopt cleaner production processes and good energy efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of hazardous materials from their production, transportation, handling, and storage. Avoid the use of hazardous materials subject to international bans or phaseouts. Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.	waste and may increase ambient dust and noise levels. Vegetation and land clearing will be done. No hazardous chemicals will be used in vegetation clearing. The new buildings will use Energy Star certified products and will incorporate green building features.
10	Provide workers with safe and healthy working conditions and prevent accidents, injuries, and disease. Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities.	Construction works may cause accidents or injuries to workers. Contractors will be required to comply with the EMP and implement, to the extent possible, the Environmental Codes of Practice (ECPs). Compliance will be monitored by the PIUs and the PMU. Contractors will be required to prepare a health and safety plan in response to COVID-19 pandemic and will be an integral part of the EMP.
11	Conserve physical cultural resources and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of "chance find" procedures that include a pre-approved management and conservation approach for materials that may be discovered during project implementation.	The sites are within the existing premises of the universities and are not known to have physical cultural resources as defined by SPS 2009.

IEE= Initial Environmental Examination, MOE= Ministry of Education, PIU= Project Implementation Unit, PMU= Project Management Unit, SPS= Safeguard Policy Statement

III. Description of the Project

60. The Improving Computer and Software Engineering Tertiary Education Project will have four outputs as summarized in Table III-1. The component that will have environmental implications from Output 1 (see below) will be the construction of new IT buildings for BUET, DU, and JUST.

Table III-1: Output 1

Output 1: An established modern learning, research, and start up supporting environment	The project will support the three universities in developing classrooms, laboratories, industry collaboration, start-up or incubation space, and auxiliary facilities. The project will establish the supporting environment, which will include adopting green building features such as energy efficiency and water-saving and climate- and disaster-resilient design; accessibility for persons with disabilities; female friendly amenities such as students' study areas and staff lounges; and safety features like access control system, increased lighting at night, and video surveillance system.
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61. During the feasibility study for the proposed building at JUST, the project was 10-storey building of about 20,412 square meters (m²) Gross Concreate Area (GCA) which was the summation of all (10) floor. Proposed building site was located at north-east corner of the JUST campus and adjacent to the Jashore-Chawgachha road which is isolated from the JUST campus. During the detail design of the building the location of the building has been shifted from the Jashore-Chawgachha road side to the other side but in the same plot of land and withing Gross Concreate Area is 20,448 m² nearly same as before. This new building will be known as the "ICT Centre for Excellence" on 3,253 m² of land and the total multiple floor area comprises of the facilities are Parking, Driver's waiting zone, Generator room, Pump room, Water reservoir, Day-care, Waste management station, Water treatment room, Reception, Lobby, Lounge, Entrepreneurs lounge, Café, Kitchen, Plaza, Teacher's café, Security office, Fire control room, STP, Male toilet, Female toilet, Fire stair, Sub-station, Prayer space, Teacher's lounge, Women faculty lounge, Admin office room, Jury deliverable room, Meeting POD, Incubation Hub, LAB, LAB Equipment room, Classroom, Professor's room, Associate Professor's room, Meeting room, Head room, Male Faculty toilet, Female Faculty toilet, Directors room with rest room and toilet, Data centre room, Dean office with rest room, Female common room, Seminar class room, VIP waiting, Conference room, PS room with Pantry, Post Graduate Research Lab, ICT office, Auditorium, Locker, Machine room, Solar panel, Mezzanine, Storage, Rehearsal room, Overhead tank and Lift Machine room.

62. Given the parking area in proposed building, movement and parking of vehicles will be needed during industry-related activities and conferences only for outsider, for this reasons accommodation of 23 vehicles are provided in the parking space of the proposed building, no more vehicle will be provided in the building. There is more separate parking space in the JUST campus, in any abnormal situation if required those space will be used. As per the feasibility study report maximum 900 users will be accommodated in the proposed building. Water demand calculated following the commercial building use only 36,000 litres/day maximum. RCC Water Tank on the top roof of the building has been designed of capacity about 30,000 litres. As per the BoQ, Underground water tank has been designed for

2,50,000 litres. After use of water maximum 80% waste water will be disposed through the surface drain and 20% will be disposed through the septic and sock well. Moreover, Sewerage Treatment Plant (STP) has been designed with adequate capacity. For 200 users' septic tank and sock well has been provided in the tender BoQ following BNBC 2020. Solid waste generation has been calculated as per commercially used building and stay time at the building. As per municipal waste generation per capita, based on "Municipal Study" 0.5 kg/person/day, Commercial user factor (present) 40% i.e in the proposed building is 0.2 kg/person/day waste; total waste generated $900/0.2=180$ kg per maximum day. Detailed waste management plan will be provided before the handover of the building to the JUST Authority.

63. The new building has been designed with incorporation of green building features and climate change resilient. Details in Table V-2. The total estimated cost of civil works is 159.77 crore BDT. Figure III-1 shows the project site within the premises of JUST.

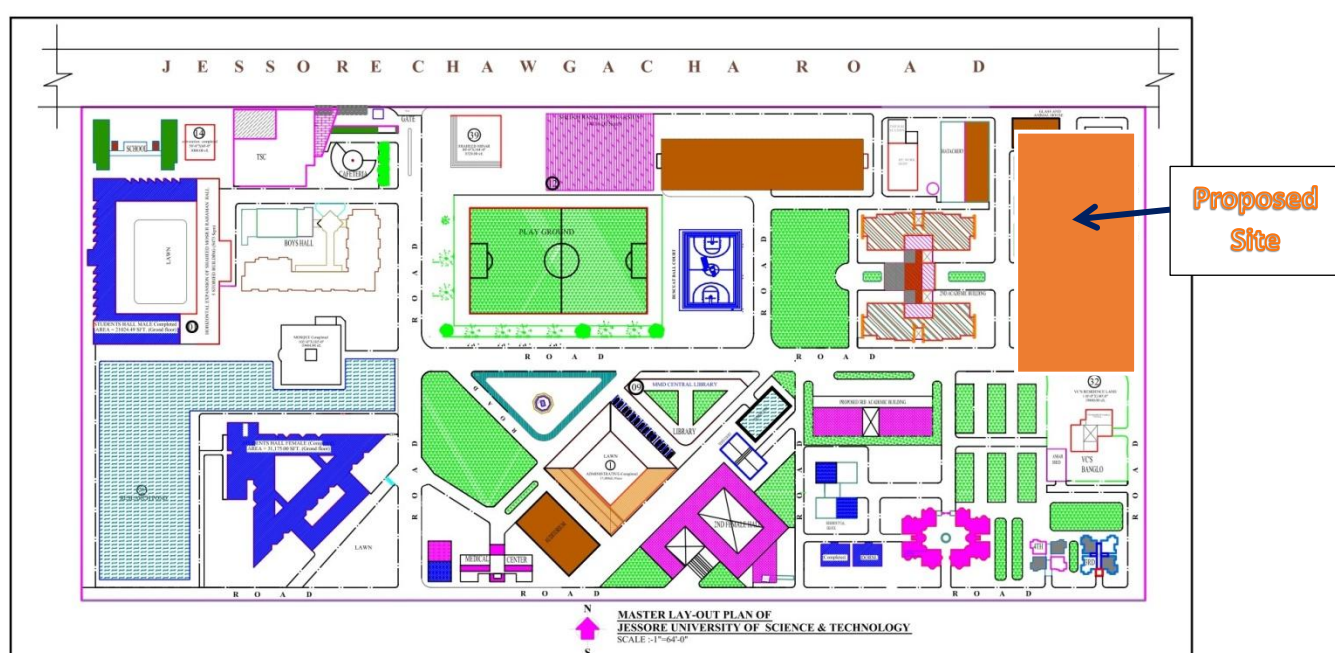


Figure III-1:Project Site-Location of the New Building within JUST Campus

64. The summary of the building structure is given in Table III-2:Proposed Plan as per Design for the New Building while Figure III-2 shows the perspective views from all respects of the proposed building.

Table III-2:Proposed Plan as per Design for the New Building

Arrangement	Purpose
Guest lounge for trainees and international trainers	Accommodation facility for about 100 people.
Car Parking Facilities	23 car parking facilities for smooth movement
Pump room, water reservoir and water treatment plant	Adequate and potable water supply in building
Day Care Centre, separate wash and others facilities for female	To Balance gender issues in the users
Seminar rooms and conference halls	Rooms will be designed and equipped to be a showcase for organizing international conferences and seminars.

Commercial zone for IT industries, incubation centre	Commercial space for around 10–15 IT industries for IT business with proper facilities including broadband internet connection, electrical facilities, etc. There will enough space for a software incubation centre.
Professional and language training, online test centres	Space for training centres of Professional and English Language Certification courses and online test centres will be accommodated.
Departmental laboratory and data centre	Space for CSE departmental laboratories and data centre given by the government will be provided.
Departmental laboratory	Space for CSE departmental laboratories to accommodate Diploma students.
Teacher lounge	Office rooms, meeting rooms for the faculties of CSE Department, space for part-time teachers, visiting professors, and advisors.
Classrooms, seminar library, and information booth	Classrooms for undergraduate and graduate students of the CSE Department, seminar library, and information helpdesk.
Classrooms, seminar library, and information booth	Information booth, car parking for internal members and guests.
Auditorium with adequate capacity and modern facilities	To accommodate large scale (may be national level) exchange of views and comments in effectiveness of IT sector
Solar panel and rainwater harvesting system	Use of effective energy and use natural available resources

CSE= Computer Science and Engineering; IT= Information and Communication Technology





Figure III-2:Proposed Building Features from Different Sides

Implementation schedule

65. The development of the proposed building at JUST (out of three) campus will be in easy implementation in respect with time consume and employing resources at the pace of need of adequate usages. The total concrete area of 20,448 sqm in all the floor (10 storied building with 23 car parking in basement floor and auditorium at 7th floor) will be under construction plan. Detailed usage of the details floor area is described in above para 61. If all the component of the structures is constructed before the target requirement, then project output will be achieved fruitfully with proper usage of construction resources. All the concerned authority (JUST Engineering Department, Construction Supervision Consultant and Contractor's responsible and experienced staff with skilled workers) will take care and close supervision to complete all the works in time and follow the schedule of works properly within implementation timeframe. Therefore, as per the present status of the project implementation it is recommended for all works catering the needs during the periods 2025-2026, 2026-2027 and 2027-2028.

Table III-3: Implementation Schedule

	2025								2026								2027								2028													
Item	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
Design, Estimate, Bid																																						
Evaluation & Award																																						
Mobilization & Piling work																																						
Foundation Construction																																						
Sub-structure Construction																																						
Superstructure Construction																																						
Finishing and Other Works																																						
Electrical Works																																						
Sanitary & Plumbing																																						
Fire Fighting																																						
Air Conditioning																																						
ICT Installation																																						
Environmental Mitigation Measures																																						
Social Mitigation Measure																																						
Construction Supervision Consultant																																						

IV. Description of the Environmental (Baseline Data)

66. This chapter describes the existing environment within the study area and is based on baseline measurements but relying heavily on secondary data from government sources, international organizations, and other research entities. Baseline measurements on ambient air quality, noise, and water supply in JUST were conducted on 21 March, 25 March, and 31 March, 2019 by the Department of Environmental Science and Technology, JUST during the feasibility study. Measurements were done within a 500-meter radius from the project site (Figure IV-1). During the update of this IEE air quality, noise, soil, surface and ground water sampling is done with analysis on October 15 and 16, 2025 by the Department of Climate and Disaster Management under JUST. It was observed that the surrounding ecological condition has been positively updated from the feasibility study period (2019-2021). The close plantation has been developed in and around the JUST campus a under construction buildings (during 2019-2021) has been completed now which is in operation. Overall environmental condition is better than feasibility study stage.

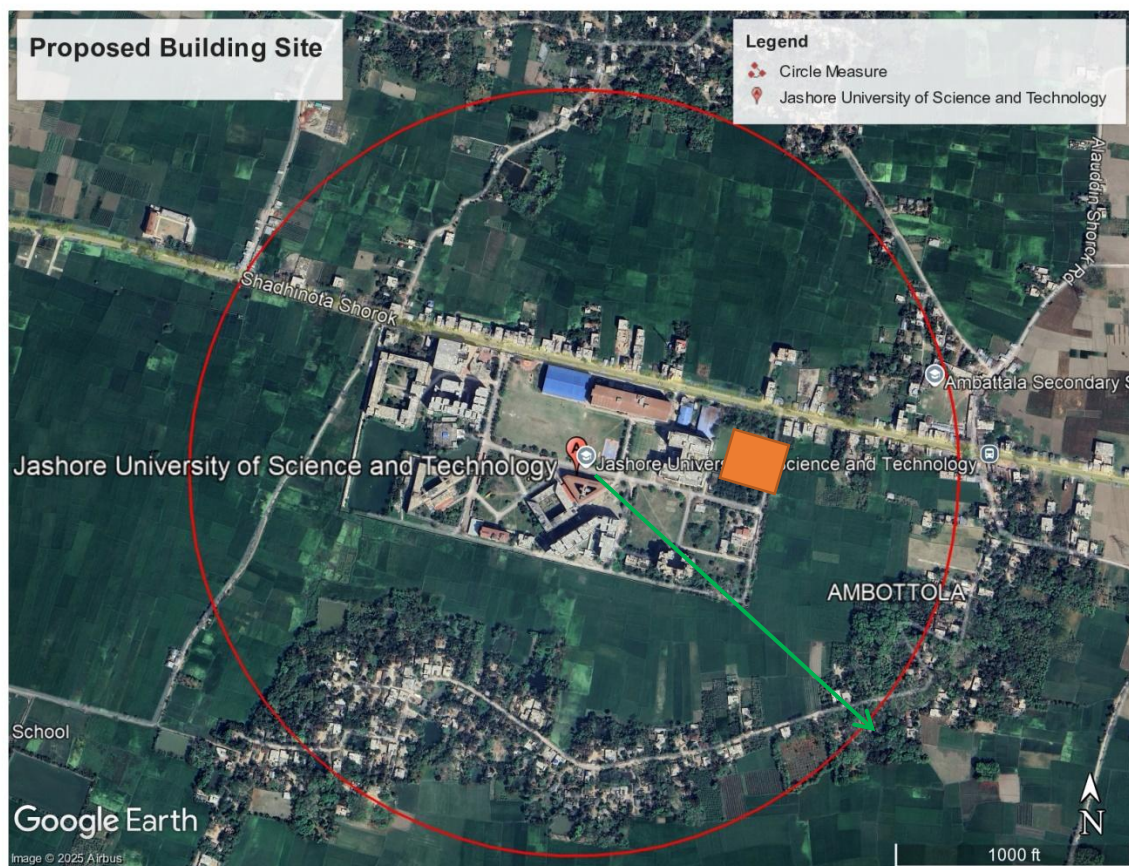


Figure IV-1: Project's Area Influence

A. The Jashore University of Science and Technology

67. JUST is a public university established in 2007 and is located within an area of about 142,000 m² (14.2 hectares). The new building will occupy about 3,253 m² (or 2.29% of the total area). The university is bounded on the north by the Churamonkathi-Chaugacha Road (a regional road), the Islampur village under Dogachhia union on the south, a "Baby Care School" and agricultural land on the east, and the Research Pond under the Fisheries

Department on the west. There are no natural water sources, protected areas, or ecologically sensitive areas adjacent to or near the university. JUST have several academic buildings as well as a mosque; dormitories for students, faculty members, and administrative staff; and a 25-bed capacity medical centre. Table IV-1 presents a summary of the environment setting within the study area. Figure IV-2 shows the other faculty buildings located inside the JUST campus while Figure IV-3 shows the proposed site for the new building within the premises of JUST.



Figure IV-2: Jashore University of Science and Technology

Table IV-1: Summary of Environmental Setting within the Project Site

Item	Details
Location	Jashore District under Sajiali Mouza, Churamankati Union, Kotwali (Jashore Sadar) Thana
Latitude	23.233415
Longitude	89.127631
General Elevation	Average ground elevation 8.0 meters above mean sea level
Topography	Flat terrain and land are relatively plain
Major Physiographic Unit	Ganges River floodplain
Soil Type	Sandy Silt
Climatic Conditions	Subtropical monsoon climate where rainy season is hot and humid having about 85% of the annual rainfall. Winter is predominately cool and dry while summer is hot and dry interrupted by occasional heavy rainfall and thunderstorms. The annual average maximum temperature is about 31°C and minimum temperature is about 16°C Annual average rainfall is about 1,402 millimetres and relative humidity varies from 67% to 84%.
Flooding	Area lies in the southwestern region of Bangladesh considered as low-flood-risk zone
Seismicity	Area is within Zone I (i.e., lowest intensity seismic zone)
Present site land status	University area is surrounded by the low-lying agricultural land that is cultivated every two years

Nearest water bodies	University Research Pond is adjacent to the project site
Ecologically Critical Area(s)	No ecologically critical area
Reserve and/or protected forests	No reserves or protected forests
Archeologically important place	There is no known archeologically important site.
Major settlements	Islampur, Doragachhia, Sajiali villages



Figure IV-3:Location of the New Proposed Building

B. Physical Environment

a) Geology and Soil

68. Jashore is in the southwestern part of the Bengal Basin, a long-established area of subsidence and deposition containing an almost complete sequence from the cretaceous to recent alluvium. The surface geology consists mainly of quaternary sediments, although there are some tertiary deposits in the eastern flood belt. Clay soils are prevalent in the low-lying areas, and medium-textured soils at the higher grounds.

69. Jashore is included in hydrogeological unit II of the Holocene Deltaic and Piedmont Plains. Deltaic and piedmont deposits mainly consist of unconsolidated sand, silt, and clay of varying thickness. The aquifer system in the area consists of several aquifers occurring at various depths at various positions of the hydrogeological unit. The aquifers are separated by clayey aquitards. The number of aquifers in the area is less in the northern part whereas there are up to four aquifers in the southern part. The shallow aquifer varies widely in thickness with the region and accordingly, depth of the deep aquifer also varies. The shallow aquifer is thicker toward the north. During discussion from the surrounding farmers those are using shallow tube wells in their irrigation purpose, ground water level

in shallow depth observed below 40 meters. During construction of foundation works in the project building, no chance of dewatering will be needed.

b) Climate

70. The project area experiences a tropical monsoon climate characterized by four main seasons, namely, winter (December–February), summer (March–May), monsoon (June–September), and the post-monsoon or autumn season (October–November). The climate region map of Bangladesh is given in Figure IV-4.

71. The rainy season is hot and humid, and characterized by heavy rainfall, tropical depressions, and cyclones. The winter is predominately cool and dry. The summer is hot and dry interrupted by occasional heavy rainfall and thunderstorms. Gentle north and north westerly winds with occasional violent thunderstorms, called northwester during summer and southerly wind with occasional cyclonic storm during monsoon, are prominent wind characteristics of the region.

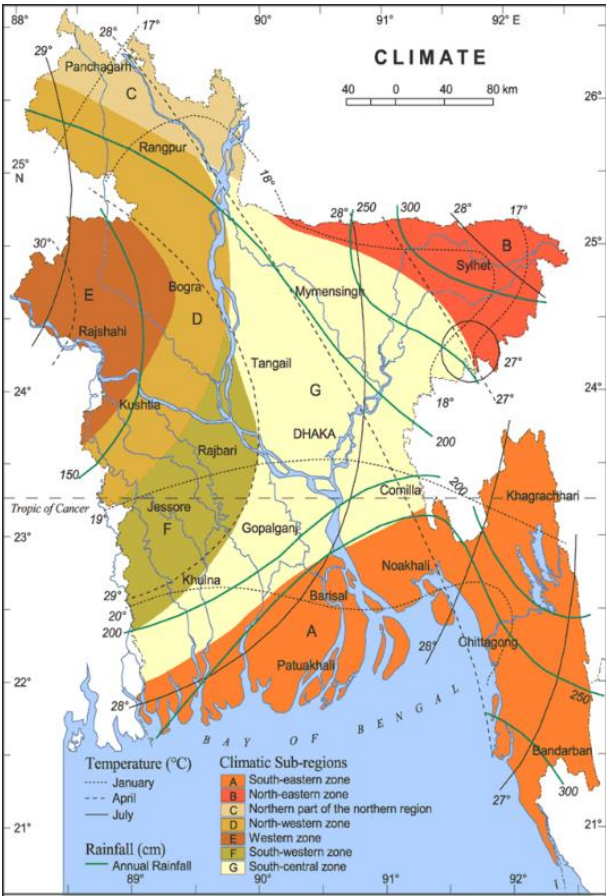
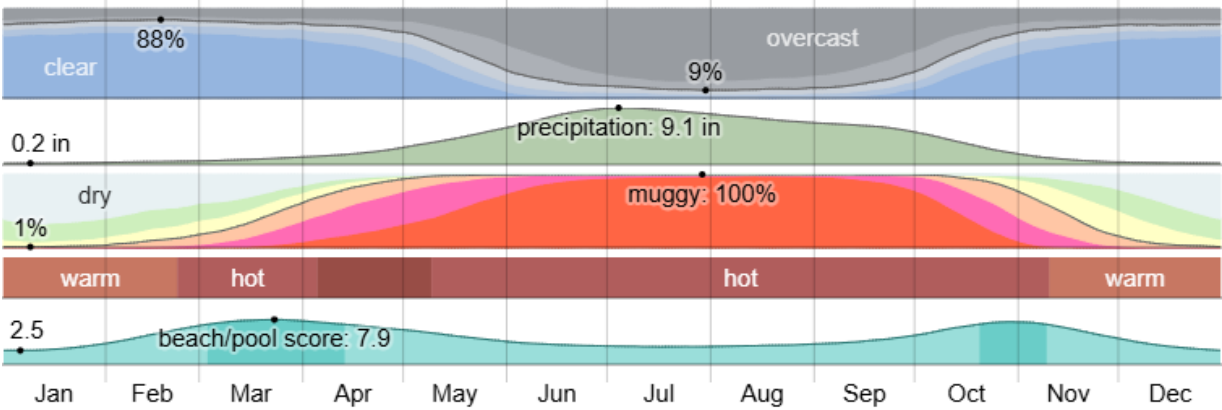


Figure IV-4: Climatic sub-regions of Bangladesh¹

72. Climate and average weather year-round in Jashore area, data recorded from 2018 to 2026 at the Jashore Station of the Bangladesh Meteorological Department were used to describe the meteorological condition within the study area. In Jashore, the wet season is oppressive, overcast, hot and the dry season is mostly clear and warm. Over the course of the year, the temperature typically varies from 55°F (12.78°C) to 96°F (35.56°C) and is rarely below 50°F (10°C) or above 101°F (38.33°C).

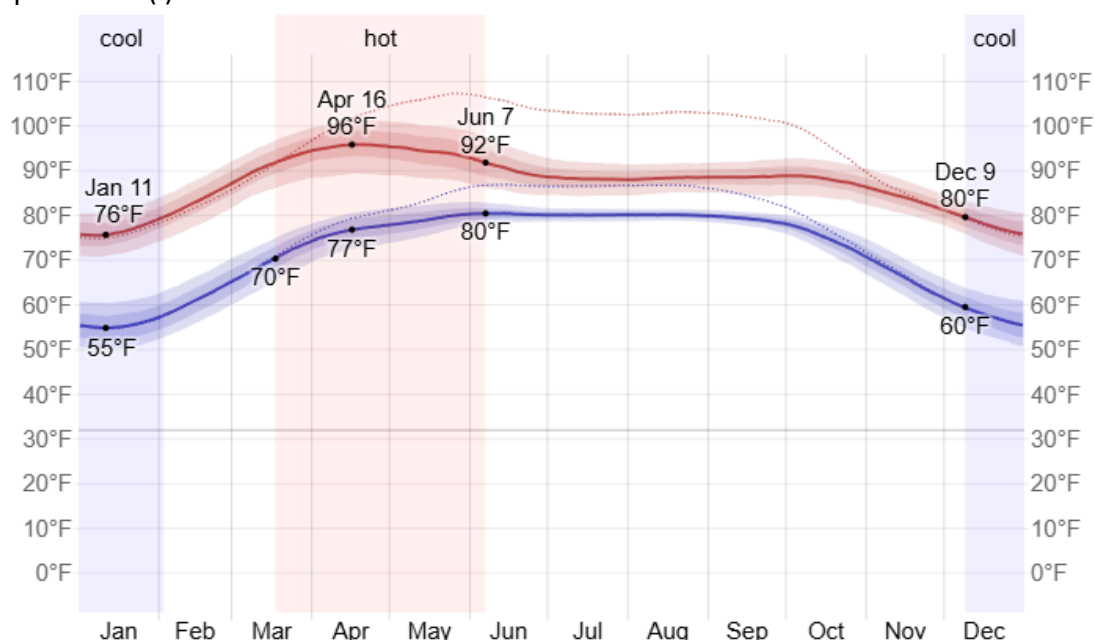


¹ www.thebangladesh.net

73. **Climate in Jashore:** The hottest month is April, with an average high of 96°F (35.56°C), and the coldest month is January, with an average low of 56°F (13.33°C). Skies are clearest in February and cloudiest in August. Precipitation is highest in July, with an average of 8.8 inch (224 mm), and lowest in January, with an average of 0.3 inch (7.62 mm). Muggy conditions are most common in July and least common in January. The best times of the year for hot weather activities are from early March to mid-April and from mid-October to November.

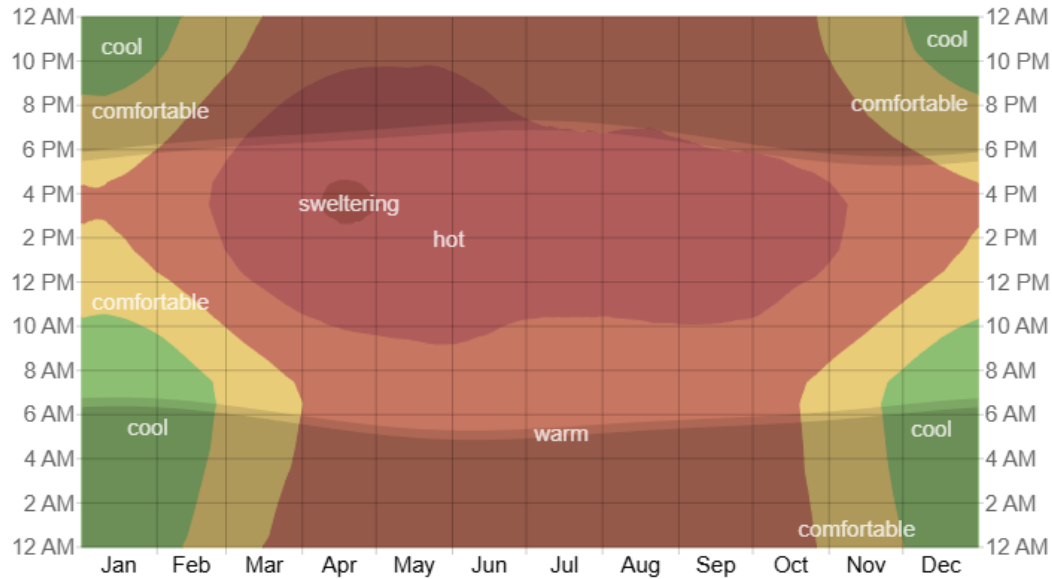
74. **Temperature by Month in Jashore:** The hot season lasts for 2.7 months, from March 17 to June 7, with an average daily high temperature above 92°F (33.33°C). The hottest month of the year in Jashore is May, with an average high of 94°F (34.44°C) and low of 79°F (26.11°C). The cool season lasts for 1.8 months, from December 9 to February 2, with an average daily high temperature below 80°F (26.67°C). The coldest month of the year in Jashore, with an average low of 56°F (13.33°C) and high of 77°F (25°C).

75. (i) Average High and Low Temperature and (ii) average temperature by month in Jashore are given below the diagram tabular form for the history from 2018 to 2026. The daily average high (red line) and low (blue line) temperature, with 25th to 75th and 10th to 90th percentile bands. The thin dotted lines are the corresponding average perceived temperatures (i).

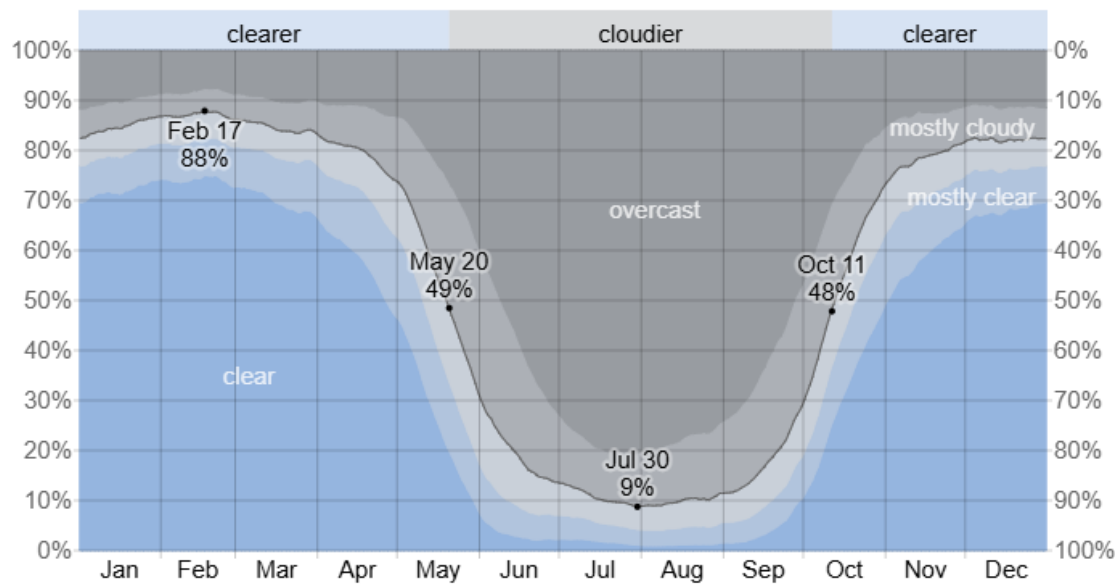


Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High Temp.	77°F	83°F	92°F	96°F	94°F	90°F	88°F	88°F	89°F	88°F	84°F	78°F
	25°C	28.33°C	33.33°C	35.56°C	34.44°C	32.22°C	31.11°C	31.11°C	31.67°C	31.11°C	28.89°C	25.56°C
Ave. Temp.	64°F	71°F	80°F	86°F	86°F	85°F	84°F	84°F	83°F	81°F	74°F	67°F
	17.78°C	21.67°C	26.67°C	30°C	30°C	29.44°C	28.89°C	28.89°C	28.33°C	27.22°C	23.33°C	19.44°C
Low Temp.	56°F	61°F	70°F	77°F	79°F	80°F	80°F	80°F	79°F	75°F	66°F	58°F
	13.33°C	16.11°C	21.11°C	25°C	26.11°C	26.67°C	26.67°C	26.67°C	26.11°C	23.89°C	18.89°C	14.44°C

76. The figure below shows that a compact characterization of the entire year of hourly average temperatures for the year from 2018 to 2026. The horizontal axis is the day of the year, the vertical axis is the hour of the day, and the colour is the average temperature for that hour and day.

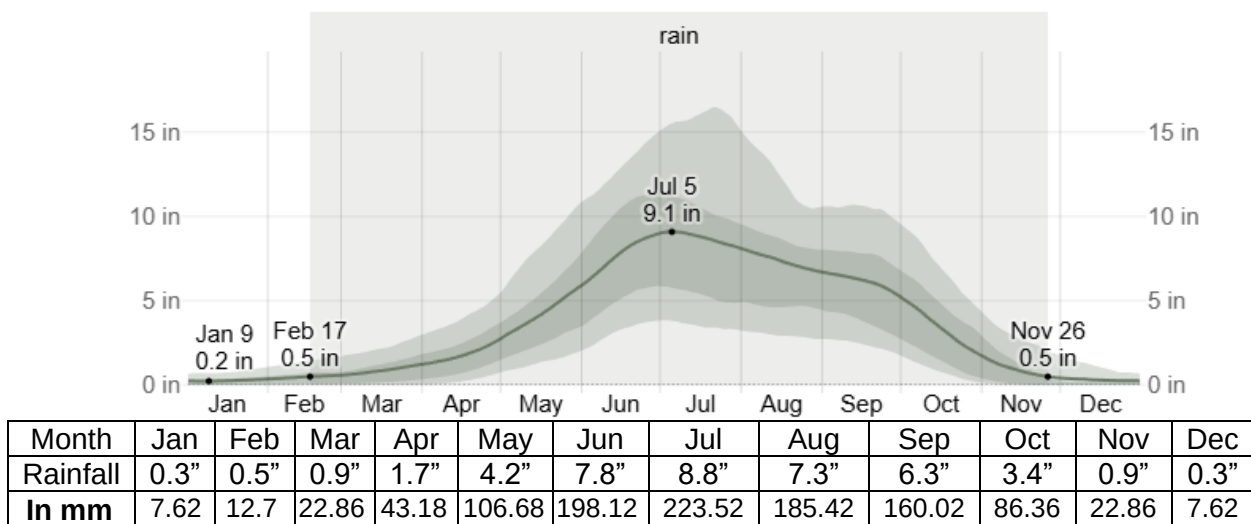


77. **Clouds:** In Jashore, the average percentage of the sky covered by clouds experience extreme seasonal variation over the course of the year. The clearer part of the year in Jashore begins around October 11 and lasts for 7.3 months, ending around May 20. The clearer month of the year in Jashore is February, during which on average the sky is clear, mostly clear or partly cloudy 87% of the time. The cloudier part of the year begins around May 20 and lasts for 4.7 months, ending around October 11. The cloudiest month of the year in Jashore is August, during which on average the sky is overcast or mostly cloudy 90% of the time. The history shown in the figure below for 2018 to 2026.

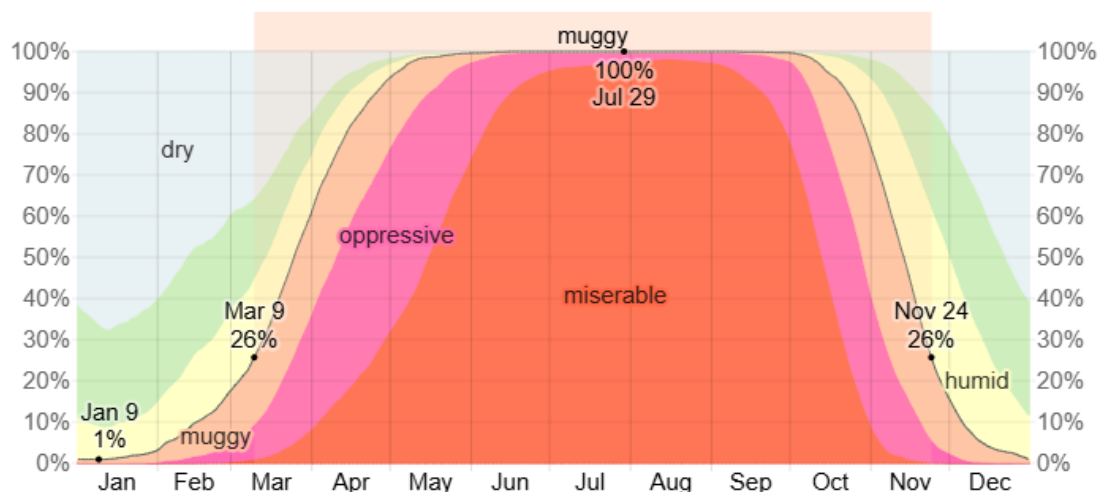


Fraction	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cloudier	15%	13%	15%	21%	47%	81%	89%	90%	82%	45%	21%	18%
Clearer	85%	87%	85%	79%	53%	19%	11%	10%	18%	55%	79%	82%

78. **Rainfall:** The variation within the months and not the monthly totals, the rainfall accumulated over a sliding 31-day period centered around each day of the year. Jashore experiences extreme seasonal variation in monthly rainfall. The rainy period of the year lasts for 9.3 months, from February 17 to November 26, with a sliding 31-day rainfall of at least 0.5 inches (12.7mm). The month with the most rain in Jashore is July, with an average rainfall of 8.8 inches (223.52mm). The rainless period of the year lasts for 2.7 months, from November 26 to February 17. The month with the least rain in Jashore is January, with an average rainfall of 0.3 inches (9.652mm).

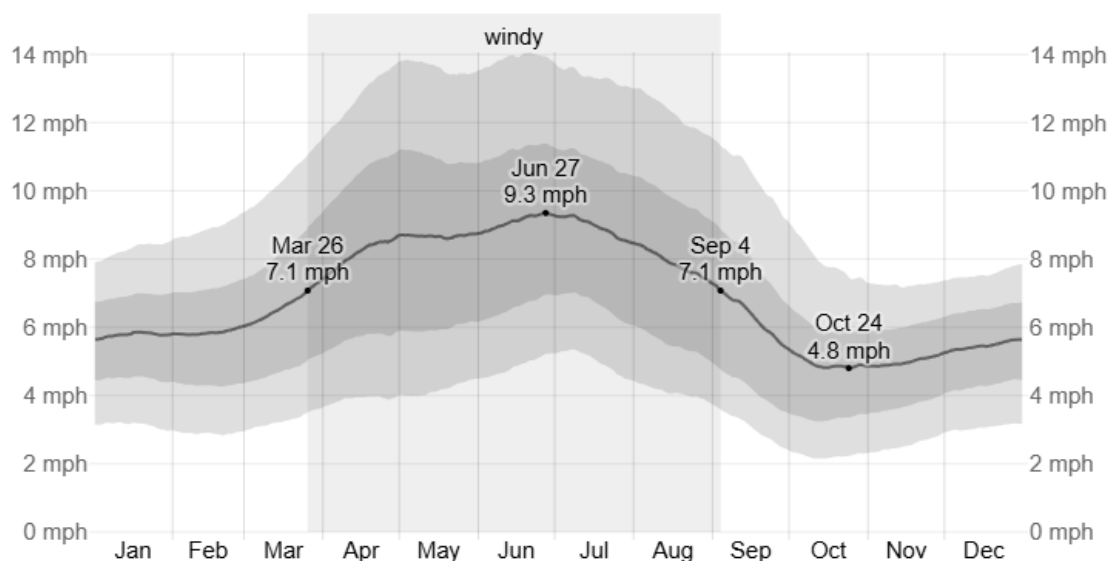


79. **Humidity:** Generally, humidity comfort level feels on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so while the temperature may drop at night, a muggy day is typically followed by a muggy night. Jashore area experiences extreme seasonal variation in the perceived humidity. The muggier period of the year lasts for 8.5 months, from March 9 to November 24, during which time the comfort level is muggy, oppressive, or miserable at least 26% of the time. The month with the fewest muggy days in Jashore is January, with 0.5 days that are muggy or worse. Humidity comfort level for the history of 2018 to 2026 are given below:



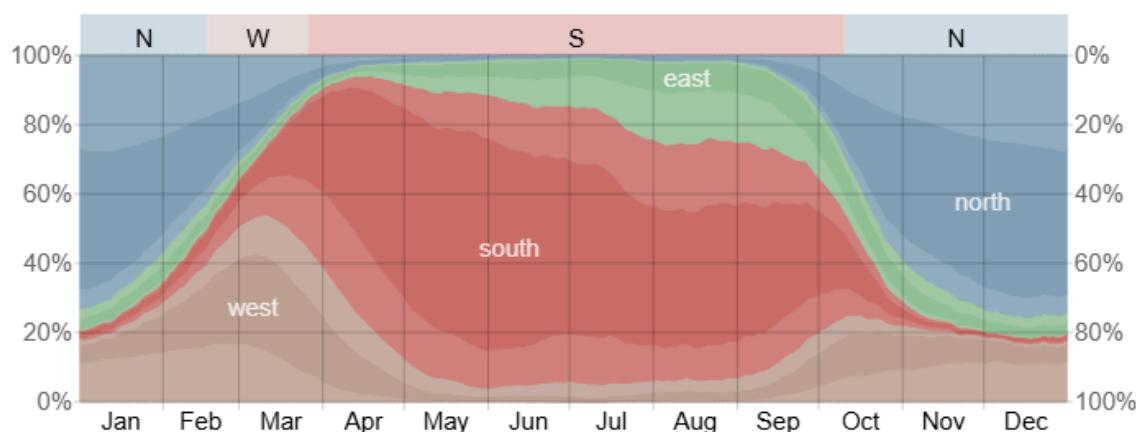
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Muggy days	0.5d	2.8d	11.8d	24.4d	30.4d	30.0d	31.0d	31.0d	30.0d	28.5d	12.7d	1.5d

80. **Wind:** This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages. The average hourly wind speed in Jashore experiences significant seasonal variation over the course of the year. The under part of the year lasts for 5.3 months, from March 26 to September 4, with average wind speeds of more than 7.1 miles (11.426km) per hour. The windiest month of the year in Jashore is June, with an average hourly wind speed of 9.1 miles (14.645 km) per hour. The calmer time of year lasts for 6.7 months, from September 4 to March 26. The calmest month of the year in Jashore is October, with an average hourly wind speed of 4.9 miles (7.886km) per hour. The history of average wind speed in Jashore is given below for the year from 2018 to 2026.



Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wind Speed	5.8	5.9	6.7	8.2	8.7	9.1	8.9	7.8	6.3	4.9	5.0	5.5
	9.334	9.495	10.783	13.197	14.001	14.645	14.323	14.645	10.139	7.886	8.05	8.851

81. The predominant average hourly wind direction in Jashore varies throughout the year. The wind is mostly often from the west for 1.3 months, from February 17 to March 26, with a peak percentage of 54% on March 11. The wind is most often from the south for 6.5 months, from March 26 to October 10, with a peak percentage of 85% on May 27. The wind is most often from the north for 4.2 months, from October 10 to February 17, with a peak percentage of 73% on January 1.



Reference: https://weatherspark.com/y/111695/Average-Weather-in-Jessore-Bangladesh-Year-Round#google_vignette

c) Air Quality and Noise

82. There is no record of ambient air quality monitoring within the study area from the DoE. Existing sources of air pollution are vehicular emissions, unpaved roads, and daily activities of farming near the campus and from settlements. There is no industry or brick field near the JUST campus. The study area is rural with JUST as the central public institution.

83. Baseline ambient air quality measurements were conducted on 15 October, 2025 by the Department of Climate and Disaster Management of JUST on a 24-hour averaging time. One location is selected beside the existing road of Jashore-Chawgacha and adjacent to the proposed construction site. The construction site is located at the north-east corner of the JUST campus and fur from others faculty buildings. The construction site will be protected with adequate height construction fencing wall. Air quality impact due to construction works at the project site may be on the users of the existing road only and impact at the other side of the campus is minimum. Parameters measured were fine inhalable particles, with diameters that are generally 2.5 micrometres and smaller ($PM_{2.5}$); inhalable particles, with diameters that are generally 10 micrometres and smaller (PM_{10}); and nitrogen dioxide (NO_2) using portable air quality monitoring instruments at one site around the project site. At the time of sampling, there were three on-going major building constructions within the premises of JUST.

84.

85. Table IV-2 presents the results of measurements while Figure IV.5 shows the photograph of sampling location.

Table IV-2: Results of Ambient Air Quality Measurements

Location	Concentration ($\mu\text{g}/\text{m}^3$)					
	PM _{2.5}	PM ₁₀	SPM	NO ₂ (ppm)	CO (ppm)	SO ₂ (ppm)
Churamonkathi-Chougacha Road, adjacent to the site	19	28	34.83	(0.005)/ 9.39 $\mu\text{g}/\text{m}^3$	(0.31)/ 0.355 mg/m^3	(0.048)/ 125.5 $\mu\text{g}/\text{m}^3$
DoE Standard	65	150	100			
Air Pollution Control Rules (APCR) 2022	65 $\mu\text{g}/\text{m}^3$ (24 hours)	150 $\mu\text{g}/\text{m}^3$ (24 hours)		80 $\mu\text{g}/\text{m}^3$ (24 hours)	20 mg/m^3 (1-hour)	80 $\mu\text{g}/\text{m}^3$ (24 hours)
IFC-WB EHS General Guidelines 2007 (Table 1.1.1)	25 $\mu\text{g}/\text{m}^3$ (24-hour ave-time)	50 $\mu\text{g}/\text{m}^3$ (24-hour ave-time)		200 $\mu\text{g}/\text{m}^3$ (1-hour ave-time)		

$\mu\text{g}/\text{m}^3$ = microgram per cubic meter, NO₂ = nitrogen dioxide, PM_{2.5} = particulate matter 2.5, PM₁₀ = particulate matter 10.

86. Results show that all the parameter levels at the sampling station are within the limits set by the APCR 2022 and DoE standard except SO₂. Referring to the WB-IFC EHS General Guidelines 2007, all the results are within the standard limit.



Air and Noise Quality Sampling location at Churamonkathi-Chougacha road near project site

Figure IV-5: Air and Noise Quality Sampling Location

87. Ambient noise levels were also measured the same time as the ambient air quality sampling in the same stations. Results of the 24-hour noise level measurements during day time show that it did not meet the limits set by the Noise Pollution Control Rules 2025 and the WB-IFC EHS General Guidelines 2007 due to the movement of traffic through Jashore-Churamonkathi-Chougacha road. But at the night time it shows within the limits. Results of noise level measurements are given in Table IV-3.

Table IV-3: Ambient Noise Level Measurements, Leq dB(A)

Location		Day Time	Night Time
		(6 a.m. to 9 p.m.)	(9 p.m. to 6 a.m.)
Near the Jashore-Chougacha Road, adjacent to the site		70	46
Noise Pollution Control Rules 2025	Sensitive zone or area	50	40
	Residential area	55	45
	Mixed area	60	50

WB-IFC EHS General Guidelines 2007	Residential, institutional, educational	55	45
		(7 a.m. to 11 p.m.)	(11 p.m. to 7 a.m.)

Source: Department of Environmental Science and Technology, JUST

d) Water Resources and Quality

88. There is no natural surface water source within the study area. The University Research Pond is adjacent to the site of the proposed new building. Bhairab River runs parallel to the study area but is about 2.4 km from the site. Surface water composite sample collected from the existing Research Pond in a 10 cm 500 ml HDPE bottle, stored in a cooler box and transported followed by standard protocol also tested onsite and laboratory. The results are shown in the table below.

Table IV-4: Results of the Surface Water Quality Sampling

Parameter	Testing Place	Unit	ECR 2023 Schedule 2 & 4	Result
pH	Onsite	-	6.0-9.0	6.69
TDS	Onsite	mg/L	1000	200
DO	Onsite	mg/L	≥5.0	8.86
Turbidity	Onsite	NTU	5.0	2.33
BOD ₅	Laboratory	mg/L	≥6.0	≤2.0
TOC	Laboratory	mg/L	NYS	117
TP	Laboratory	mg/L	NYS	0.255
TSS	Laboratory	g/L	10	0.012
COD	Laboratory	mg/L	50	197.6
Oil & Grease	Laboratory	mg/L	20	NYS

89. All the rested parameters Results of BOD₅ (5-Day Biochemical Oxygen Demand) consume Dissolved Oxygen. Result of COD shows that higher Chemical Oxygen Demand (COD) 197.6 means significant organic pollution in water, depleting dissolved oxygen, which harms aquatic life (fish suffocation, death) and disrupts ecosystems, leading to eutrophication and algal blooms; monitoring and treating high COD is crucial for environmental protection and efficient waste water management to ensure water quality and support aquatic health.



Surface Water Sample Collected from Research Pond adjacent to the project site

Figure IV-6: Sample collection of Surface water from research pond

90. The Chougachha Pourashava belongs to the hydrogeological unit II of Holocene Deltaic and flood Plains. Groundwater is available and the water table does not go beyond the suction limit throughout the year. The water in the shallow layer contains iron but the water in the deep layer does not contain excessive iron. Arsenic is not reported to be a problem in both deep and shallow aquifers.

91. For water supply, JUST uses three deep tube wells drilled within the campus premises. Of the three deep tube wells, two tube wells are used as drinking water supply and one tube well for irrigation and general purposes. The capacity of each pump is 600 liters per minute (l/min) to 800 l/min. There is no central water purifying system in JUST. Water filtration systems are installed within the academic buildings and residents in the dormitory or staff housing. Each building has its own reinforced cement concrete overhead water tank. Results show that groundwater quality of the water sample from the tube well installed in the central cafeteria of JUST meet the limits set by Schedule 3b, Rule 12 of ECR 2023 for fecal coliform, pH, arsenic, lead, cadmium, and chromium (see). Table IV-6 lists the distribution of water supply within the campus premises.

Table IV-5:Results of Groundwater and Drinking water Quality Sampling, JUST

Parameter	Unit	Drinking Water DoE Standards	Result from DTW	Result from Tap
Salinity	ppt	NYS	0.30	0.30
pH	-	6.5-8.5	6.53	6.51
Arsenic	ppm	0.05	0.00	0.00
DO	mg/L	≥6.0	8.74	9.31
TDS	mg/L	NYS	327	372
Turbidity	NTU	5.0	0.07	
Nitrate	mg/L	45	6.81	
Iron	ppm	0.3 - 1.0	0.04	0.02
Manganese	ppm	0.40	0.55	0.12
TC	CFU	NYS		Nil
FC	CFU	NYS		Nil

ml= millilitre, mg/l= milligram per litre,

92. Results shows that all the parameters of water quality at the outlet of the DTW meets the DoE quality standard, insignificance deviation is observed at the user level (Tap) due to passing through the pipelines in the different buildings.

Table IV-6:Sources of Drinking Water

Description	Source
Vice Chancellor's residence	Deep tube well (installed at the premise); consumed after filtration (commercial filter)
10-storied teacher dormitory	Deep tube well water (installed in front); consumed with or without after filtration (commercial filter)
5-storied officer dormitory	Deep tube well water (installed in front); consumed with or without after filtration (commercial filter)
Academic building	- Centrally supplied water; consumed after filtration (commercial filter) - Tube well water (installed at the back side); consumed directly
Library cum academic building	- Centrally supplied water; consumed after filtration (commercial filter) - Tube well water (installed at the west side of administrative building); consumed directly

Administrative building	- Centrally supplied water; consumed after filtration (commercial filter) - Tube well water (installed at the west side of administrative building); consumed directly
Medical centre cum academic building	- Centrally supplied water; consumed after filtration (commercial filter) - Tube well water (installed at the west side of administrative building); consumed directly
Sheikh Hasina Girls Hostel	Deep tube well (installed inside the hall); water supplied separately in every floor; consumed directly
SMR Boys Hostel	Deep tube well (installed inside the hall); water supplied separately in every floor; consumed directly
Central Mosque	Tube well (installed in front); consumed directly
Central Cafeteria	Tube well (installed in front); consumed directly



Figure IV-7: Sample collected from DTW and User level

e) Natural Hazards

(a) Flooding: The project area is considered low risk to natural disasters like cyclone, flood, and earthquake. However, during intense rainfall in the monsoon season, there is drainage congestion. Flooding that occurred in the Jashore area, based on the flood-prone area map, is considered Low River flooding.

(b) Seismicity: Bangladesh itself is divided into four (4) seismic zones, based on the ranges of the seismic coefficient (note: the seismic coefficient is a measure of how strong an earthquake has the potential to be based on a combination of the mass of the plate and the seismic forces acting on it, as well as how frequently these quakes are likely to occur). As per the seismic zone classifications in Figure IV-8 project site (JUST) lies in the **Seismic Zone I** which is also called lowest possible intensity seismic zone with basic seismic coefficient of 0.12g. Having location in **Zone-I**, land-based structures for this project should be designed according to BNBC, 2020. Where the probable imposed loads (mass) at the time of earthquake are more correctly assessed, the designer may go for higher percentage of live load.

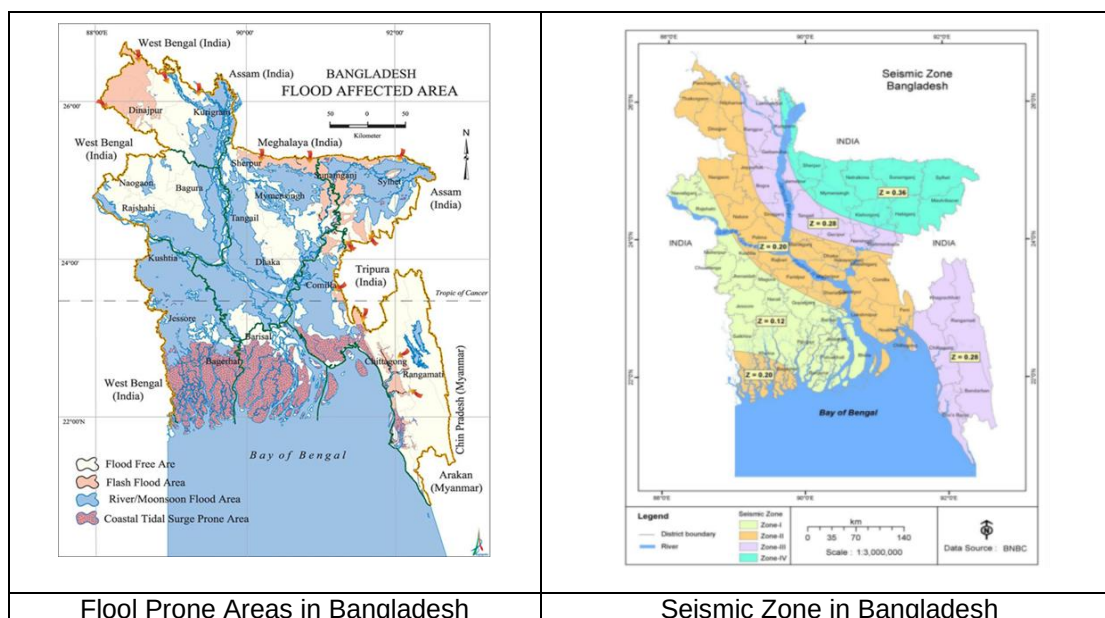


Figure IV-8: Seismic Zone and Flood-Prone Areas in Bangladesh

C. Biological Environment

93. The JUST campus is rich in plant biodiversity. Around 5,000 plants from 75 different species have been planted within the campus to improve its landscape and to provide shade to students during summer. Table IV-7 gives the list of the plant species while Figure IV-9 shows the location of plants within the JUST campus.

Table IV-7: Plant Species within the JUST Campus

Common Name	Scientific Name
Mango	Mangifera indica
Jambul (Berry)	Syzygium cumini
Jackfruit	Artocarpus heterophyllus
Litchi	Litchi chinensis
Sapodilla	Manilkara zapota
Chinese date	Ziziphus zizyphus
Coconut	Cocos nucifera
Guavas	Psidium guajava
Stone apple	Aegle marmelos
Wood apple	Feronia Limonia Swingle
Olive	Olea europaea
Elephant apple	Dillenia indica
Java apple	Syzygium samarangense
Custard-apple	Annona reticulata
Orange	Citrus reticulata
Apple	Malus domestica
Grape	Vitis vinifera
Aamla (Gooseberry)	Phyllanthus emblica
Cherries	Prunus avium
Phalsa	Grewia asiatica
Tamarind	Tamarindus indica
Persimmon	Diospyros kaki
Dragon	Hylocereus undatus
Pomegranate	Punica granatum
Pomelo	Citrus maxima

Lemon	Citrus limon
Hog Plum	Spondias mombin
Nut	Arachis hypogea
Hartaki	Terminalia chebula
Bahera, Bellirica	Terminalia bellirica
Carambola	Averrhoa carambola L.
Neem	Azadirachta indica
Nishinda	Vitex negundo L.
Arjun	Terminalia arjuna
Silk cotton	Bombax
Rose apple	Syzygium jambos
Monkey jack	Artocarpus lakoocha
Rambai	Baccaurea motleyana
Aloe wood	Aquilaria malaccensis
Hing	Ferula assafoetida
Malabar leaf (tegapatta)	Cinnamomum tamala
Cinnamon	Cinnamomus zeylanicum
Mandarin orange	Citrus X sinensis
Date palm	Phoenix dactylifera
Lucky bamboo	Dracaena braunii
Royal poinciana	Delonix regia
Dwarf poinciana	Caesalpinia pulcherrima
Pride of India	Lagerstroemia speciosa
Snowy orchid-tree	Bauhinia acuminata
Night-flowering jasmine	Nyctanthes arbor-tristis
Cherry	Prunus avium
Flame of the woods	Ixora coccinea
Pinwheel flower	Tabernaemontana
Ashanti blood	Mussaenda
Rose	Rosa
Oleander	Nerium indicum L.
Velvet	Miconia calvenscens
Cape jasmine	Gardenia jasminoides
Arabian jasmine	Jasminum sambac
Shoeblack plant	Hibiscus rosa-sinensis
Silver queen	Aglaonema
Cannonball tree	Couroupita guianensis
Jacaranda	Jacaranda mimosifolia
Beli-phul	Jasminum sambac
Orange jessamine	Murraya paniculata
Night-blooming jasmine	Cestrum nocturnum
Allamanda	Allamanda L.
Mahogany	Swietenia mahagoni
Albizia tree	Albizia lebbek
Shidhu	Dalbergia Sissoo Roxb
Panika, Mexican heather	Cuphea hyssopifolia
Green coconut	Cocos nucifera
Debdaru	Polyalthia longifolia
Golden shower tree	Cassia fistula

94. **Homestead and roadside vegetation:** Vegetation around the households in the study area consists mostly of commonly cultivated tree species and wild shrubs and herbs. Common planted tree species are raintree (*Albizia saman*), mango (*Mangifera indica*), coconut (*Cocos nucifera*), mahogany (*Swietenia mahagoni*), banana (*Musa sp*), Gogon Siris

(*Albizia richardiana*), and Betel palm (*Areca catechu*). Among the weeds are sessile joy weed (*Alternanthera sessilis*), thorny Amaranth (*Amaranthus spinosus*), Bermuda grass (*Cynodon dactylon*), Smartweed (*Polygonum* sp), and creeping oxalis (*Oxalis corniculata*).

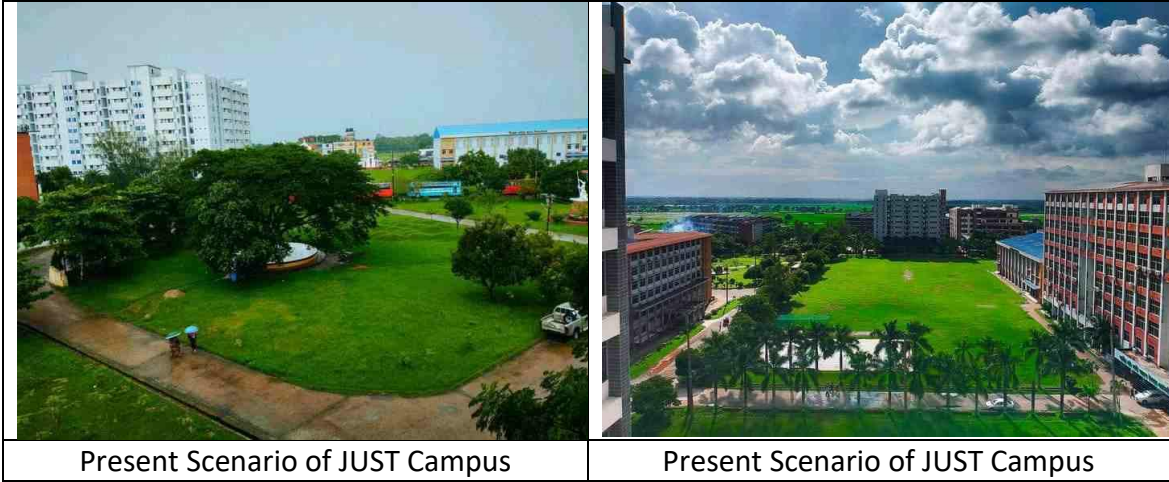


Figure IV-9:Location of plants and vegetation within the JUST Campus

95. The quality of top soil in the JUST Campus is adequately suitable for vegetation and plantation. The proposed project site should be maintained same quality of soil after completion of the building. Soil quality of the completed ground should be as the quality of soil as existing campus area. Soil sample from the existing campus has been collected with maintaining standard procedures and tested in the laboratory and shown in the following table. The results show the test quality of existing top soil are within the DoE Standard and suitable for adequate vegetation and plantation in the JUST campus.

Table IV-8:Test Result of the Soil sample the JUST Campus

Parameter	Unit	Testing Place	Test Result	DoE Standard
pH		Onsite	6.94	NYS
EC	ppt	Onsite	0.53	NYS
Nitrogen	%	Laboratory	0.056	0.04-0.19%
Phosphorous	ppm	Laboratory	631.02	100-881
Organic Matter	%	Laboratory	0.612	◁1-2.5%



Figure IV-10: Soil Sample Collection Photos

D. Socioeconomic Environment

96. The proposed site is in Jashore district under Sajiali Mouza, Churamankati Union, Kotwali (Jashore Sadar) Upazila.

- i) **Population:** Based on the Census 2011 by the Bangladesh Bureau of Statistics (BBS), Jashore Sadar upazilla has 656,413 households, with a total population of 2,764,547 and a household size of 4.17. Population density of the upazilla is 1,060 persons per square kilometers. The population of Jashore sadar upazilla is growing at a much higher rate compared to the overall growth rate for Jashore district.
- ii) **Education:** The literacy rate in Jashore Sadar upazilla is 56.52% (7 years old and above). Literacy among the male population (59.38%) is higher than that among females (53.65%). For ages 5 to 29 years old, 47.45% of the population in the upazilla attend school.
- iii) **Poverty:** Jashore sadar upazilla has 35.3% incidence of poverty and 16.4% incidence of extreme poverty (BBS 2010).
- iv) **Land use.** The campus is built on 14. 2 hectares or 142,000 m² of land acquired by the government starting from 2006. The campus area is a low-lying agricultural land that used to be cultivated biannually.
- v) **Agriculture:** The agricultural land occupies about 20%. According to local people, their produce includes rice paddy, jute, potato, onion, pulse, and vegetables. Available fruits include mango, jackfruit, etc.
- vi) **Housing:** About 26% of the households live in pucca house, 35% in semi pucca, 34% in kutcha house, and the remaining 5% live in Jhupri (made of straw).
- vii) **Sources of drinking water:** About 97% of the household population get their drinking water from tube wells, 1.2% from tap, and the remaining 1.8% households get water from other sources.
- viii) **Sanitation:** About 60.35% of the household population use sanitary latrine, 35.2% non-sanitary latrine, while the remaining 4.45% have no toilet facilities.
- ix) **Access to electricity:** All the unions of upazilla (15 in all) have been brought under the Rural Electrification Program. A total of about 75% of the general households reported to have electricity connection in the entire upazilla in 2011 as against about 55% in 2001.
- x) **Physical cultural resources:** There are no known sites of historical and archaeological value. Within the study area, there are three mosques, two schools, and one medical centre located within the premises of JUST.

97. **COVID-19 Pandemic:** On 30 January 2020, the World Health Organization (WHO) declared the coronavirus disease (COVID-19) as a Public Health Emergency of International Concern under the International Health Regulations 2005. The COVID-19 is a new disease with similar symptoms as influenza but different in terms of severity and community transmission. On 11 March 2020, the WHO recognized COVID-19 as a pandemic, “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people”.

98. In Bangladesh, the first COVID-19 case was identified on 8 March 2020 and the first

death reported on 18 March 2020. Following this incident, the government declared a nationwide lockdown on 26 March 2020 implementing an area-based zoning system. Prior to the nationwide lockdown, educational institutions were temporarily closed on 17 March 2020 affecting about 39 million learners from pre-primary to tertiary education. During the closure, educational institutions opted to use remote learning, but the lack of digital infrastructure affected most of the students.

99. Some of the initiatives taken by the government in response to the challenges facing the education sector due to COVID-19 pandemic include the following:

- Preparation of the COVID-19 Response and Recovery Plan May 2020
- Preparation of the School Re-opening Framework for primary sub-sector
- Arrangement of distance learning through television and radio
- Introducing a television channel named Education TV, dedicated to education and educational issues during COVID-19 and even after COVID-19
- Institution level arrangement for online class through Zoom and other social media
- Evaluation of students based on school performance.

100. At present, the COVID-19 situation is observed in all over the country almost minimum, threat of COVID-19 in JUST campus is also negative. However minimum awareness should be continued the project implementation period to avoid any similar risks.

V. Anticipated Environmental Impacts and Mitigation Measures

General Consideration

101. This section identifies and predicts the probable impacts on different environmental parameters due to construction and operation of the proposed project. After studying the existing baseline environmental scenario, environmental monitoring parameters, reviewing the process and related statutory norms, detailing the waste management measures, the major impacts can be identified during construction and operational phases. Relevant important aspects of environment are therefore selected which may have significant impacts due to project activities.

102. For most development projects, potential negative impacts sometime could be far more numerous than beneficial impacts. The regional and national benefits associated with the implementation of any development project are considered to fall outside the scope of IEE, and therefore not considered here. However, it is generally expected that these long-term benefits will ultimately trickle down to the local pollution and will contribute to an improvement in the quality of life. Likewise, the indirect benefits of strengthening technical capabilities of local persons through association with experts and other training elements which may form part of a project, have been considered to fall outside the scope of IEE.

103. The associated potential environmental impacts will be mainly during the construction phase of the new building, which are temporary, of short duration, localized, and can be easily mitigated through the implementation of the environmental management plan (EMP). Aside from the EMP, these impacts can be avoided and/or mitigated through compliance with relevant provisions of the Bangladesh National Building Code (BNBC) 2020 and adherence to the best practices in construction engineering. The environmental monitoring plan (EMOP) will provide the key elements to be monitored to ensure compliance by the Contractors to the approved building design, and relevant regulations on building construction, and environmental and occupational health, and safety.

104. The possible cause and effect relationship between the different project activities on each of the major environmental components has been presented on Environmental Impact Matrix is given below.

Table V-1: Environmental Impact Identification Matrix

Project Activities	Sources of Impact	Environmental/Social Receptors	Nature and Significance of Impact
Construction			
Construction Management Plan	Contractor's unplanned activities	• Disturbance of Temporary pedestrian and traffic movement • Unnecessary delay of Construction works • Unplanned Waste management	Temporary and Medium
Orientation of Workers and Staffs	Awareness and Responsibility	Identify the areas to be monitored and required mitigation measures	Temporary and Medium

GBV/SEA/-SH	Health Risks of Labors	Identify hotspots for SEA/SH within the project site	Temporary and Minimum
Worker's Health and Safety	Health of Workers and Physical injury	Bangladesh Labor Law and International best practice	Temporary and Medium
Topography, Land forms, Geology and Soil	Use of Sand, Crushed stone/Bricks chips and Cement	- Utilize readily available sources with environmental clearance and license - Collection of Materials from Licensed supplier - Store of materials in safe place - Restore sites after complete the construction work	Temporary and Medium
Hiring of Staffs and Workers	Dispute over transparency in hiring	- Hiring of Local labor is preferable - Record keeping of Labor	Temporary and Medium
Engagement of Child Labor	Restriction of engagement of Child Labor	Government's existing labor Law	Temporary and Medium
Site Preparation	- Disturbance of the people due to traffic, increased noise, dust and disposal of waste - Emissions from heavy equipment machinery and construction vehicles	- Use of proper safety clothes/equipment - Provide temporary enclosures	Temporary and Medium
Construction of Super Structure	- Potential accidents due to working at heights - Occupational and community safety risks - Generation of waste	- Adequate PPEs to workers - First aid kits and fire-fighting system - Toolbox meeting - Enclosures around the construction site - Implement and comply with the approved H&SP; using IFC WB EHS Guidelines	Temporary and Medium
Cleaning the Construction site after completion	Improper disposal of construction debris	Restore/reinstate all the areas potentially damaged during construction works	Temporary and Medium
Operation			
Occupy new Building	- Improper use of new building - Generation of Waste	- Orientation and awareness to staff and students on proper care of the facility - Waste collection and final disposal of the waste	Temporary and Medium

A. Pre-construction and Design Phase

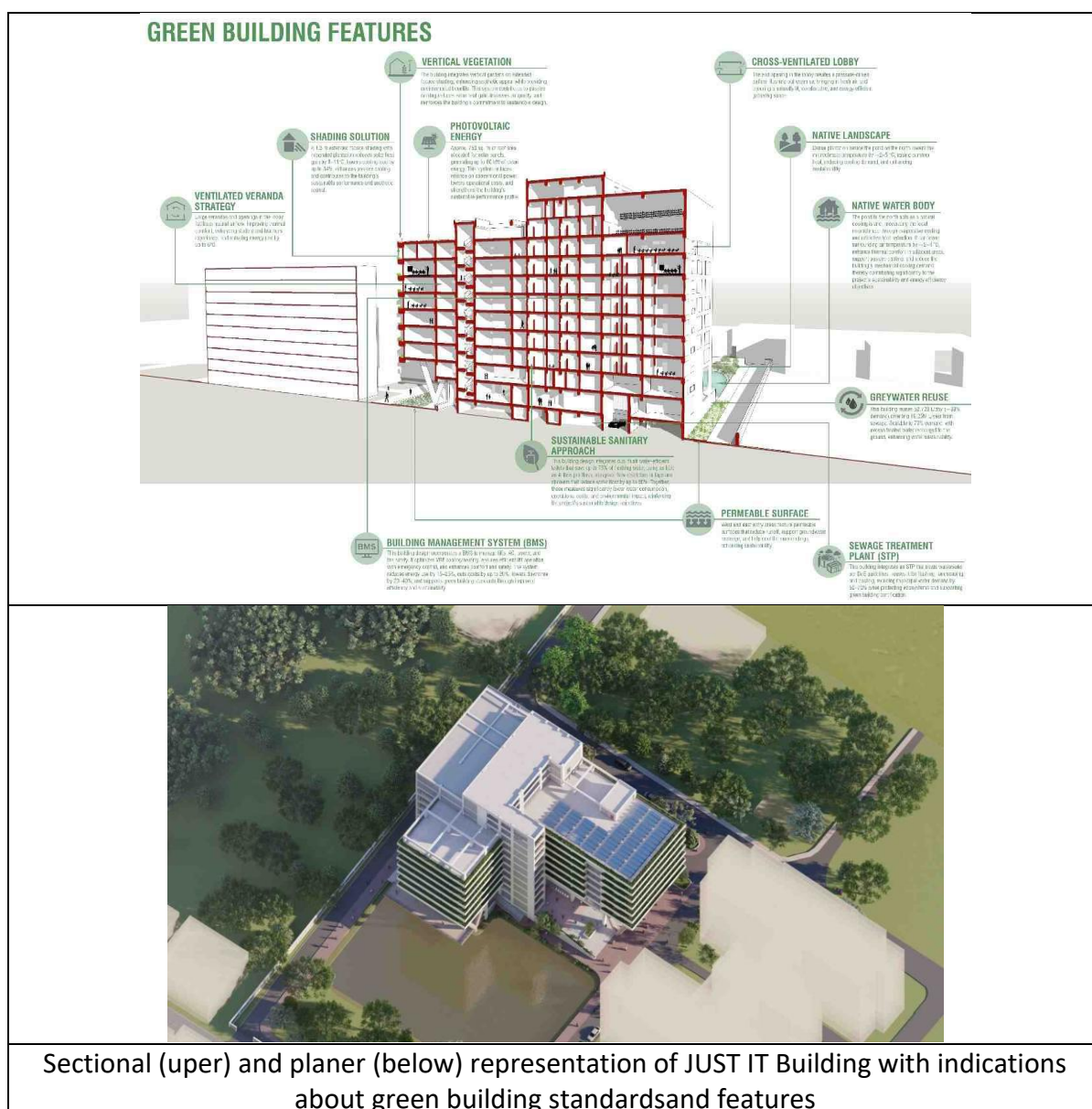
105. At this stage, activities include the preparation of project proposal, detailed design of the new building, desktop and ground surveys of the proposed site, preliminary consultations, and drafting of the development project proforma. These activities are not expected to have no significant environmental impacts are minimal and manageable as they will have minimal physical disturbances to the environment.

106. Green building features were incorporated into the design of the new building, which aims to be a climate change-resilient building with reduced energy and water consumption. These features are included in the budget and estimated to be about 10% of the total project cost for civil works. The use of energy-efficient lighting and cooling systems will result to CO₂ emissions reduction estimated to be about 220.85 tCO₂ per year. The proposed building is designed by the energy star-certified engineers and architects those working in other similar building project in Bangladesh. Table V-2 presents a summary of the green building features that will be incorporated in the design of the new building, while Figure V-1 shows the diagrammatic view of all the features to be applied.

Table V-2: Green Building Features of New ICT Centre for Excellence, JUST Campus

Green Building features	Description
Energy Efficiency	• Use of renewable energy through rooftop solar panels with power storage capacity 80 kWp (as per tender BoQ) • About 20% reduction of power consumption is expected through natural lighting and passive cooling, achieved through innovative massing that uses a south-facing internal courtyard covered with a lightweight operable tensile canopy; narrow structural bays; and use of buffer and insulated spaces (shading devices, verandas, terraces, screen walls, surface and roof plantations) between indoor spaces and external environment • Use of energy star-certified products • Use of building materials with “low thermal conductivity”, which may include bright reflective ultraviolet ray-proof weather coatings for exterior walls on the south and western part of the building
Temperature	• A building envelope will be created on the west side using bio-based treated wooden screens, while reflective bright exterior paints will be used for exterior walls; photovoltaic cells on rooftop will act as insulation from heat • Tensile canopy will provide shade from the sun but will allow airflow and light, keeping the atrium temperature low
Rainfall	• During heavy rainfall, rainwater harvesting with capacity 5,000 litres from the roof will be directed to the rainwater storage beneath the ground floor; water retention pond and bio-swales beside the building will help collect excess water • Design will include maximizing plants and green surfaces in surrounding areas; as per tender BoQ 250 sqm area will be developed as green area with close grass and suitable plantation with nursing as per approval of the JUST Authority

	before handover the building.
Humidity	• Orientation of the atrium to the south will ensure ample wind flow to the different spaces of the building, as the atrium would serve as a “wind catcher” driving away excess humidity. The narrower structural bays will also help cross ventilation through strategically located windows or openings in each space. • Energy star-certified air conditioning will be provided based on requirements of building users
Flooding	• The building will be designed to have a surrounding apron area and an open drainage network that will end up in a body of water or bio-swale pond on the southwest corner of the site • In terms of fluvial flooding and possible inundation (predicted flood level for 2050), the building’s plinth level will be built 1.25 meters above the present ground level, which according to existing other building in the campus, those are in operation now and has never experienced flooding in the recent past.
Drainage	• Capacity of artificial drainage will be calculated based on intensity, duration and frequency (IDF) parameters of rainfall. • Drainage will be provided all around the building along the building’s apron area, while the discharge area is designated to be the body of water adjacent to the building on its southwest corner
Cyclone	• Jashore is designated as a non-coastal zone according to the Bangladesh National Building Code 2020 with no real cyclone vulnerability but for additional precaution, structural design will consider a maximum wind load of 230 kms per hour. • To withstand cyclonic wind loads, anchoring and proper bolting of all cladded building materials including rooftop photovoltaic panels and exterior wall screens will be undertaken.
Earthquake	• Seismic zoning and seismic requirements based on the Bangladesh National Building Code 2020 will be considered • From subsoil investigation, a deep foundation system with cast in situ pile down to 30-meter depth has been considered in the design



Sectional (upper) and planer (lower) representation of JUST IT Building with indications about green building standards and features

Figure V-1: Diagrammatic view of Green Building Features

107. Aside from incorporating green building features, the relevant provisions set forth in BNBC 2020 (the latest approved version) will be adhered to during design and construction. The design features and function are given in the following table.

Table V-3: Design Feature and Function of the "IT EXCELLENCY CENTER", JUST

Floor	Function	Area (Sqm)
Semi-Basement	Parking, Driver waiting zone, Generator room, Pump room, Water reservoir, Day care, Waste Management Station, Water Treatment Room	23 Car Parking in 1880 Sqm
Ground Floor	Reception, Lobby, Lounge, Entrepreneurs Lounge, Café, Kitchen, Plaza, Teachers Café, Security Office BMS, Fire Control Room, STP, Male Toilet, Female Toilet, Fire Stair, Electrical Substation	2280 Sqm
First Floor	Prayer Space, Teachers' Lounge, Women Faculty Lounge, Admin Room, Jury Deliverable Room, Meeting POD,	1566 Sqm

	Incubation Hub, Male Toilet, Female Toilet	
Second Floor	LAB, LAB Equipment Room, Classroom, Professor Room, Assoc. Professor Room, Meeting Room, Office, Headroom, Male Toilet, Female Toilet, Male Faculty Toilet, Female Faculty Toilet	2241 Sqm
Third Floor	LAB, LAB Equipment Room, Classroom, Professor Room, Assoc. Professor Room, Meeting Room, Office, Headroom, Male Toilet, Female Toilet, Male Faculty Toilet, Female Faculty Toilet	2241 Sqm
Fourth Floor	LAB, LAB Equipment Room, Classroom, Professor Room, Assoc. Professor Room, Meeting Room, Office, Headroom, Male Toilet, Female Toilet, Male Faculty Toilet, Female Faculty Toilet	2241 Sqm
Fifth Floor	LAB, LAB Equipment Room, Classroom, Professor Room, Assoc. Professor Room, Meeting Room, Office, Headroom, Male Toilet, Female Toilet, Male Faculty Toilet, Female Faculty Toilet	2241 Sqm
Sixth Floor	LAB, LAB Equipment Room, Classroom, Data Centre Room, Dean Office with Rest Room, Female Common Room, Seminar Class Room, VIP Waiting, Conference Room, Directors Room with Rest Room and Toilet, PS Room with Pantry, Male Toilet, Female Toilet, Male Faculty Toilet, Female Faculty Toilet	2241 Sqm
Seventh Floor	Post Graduate Research LAB, ICT Office, LAB Equipment Room, Data Centre, Seminar Class Room, VIP Waiting, Auditorium, Locker, Machine Room	2241 Sqm
Eighth Floor	Solar Panel, Mezzanine, Storage, Male Toilet, Female Toilet, Rehearsal Room	766 Sqm
Roof	Overhead Water Tank, Lobby, Lift Machine Room, Solar Panel	510 Sqm
	Total Area =	20,448 Sqm

108. As the design (detailed layout of space distribution and floor distribution), has been changed from previous consideration during feasibility study stage but keeping the total floor area is almost same. The locational shifting of project site from on corner to the other corner in the same plot of JUST campus, this IEE has been updated as per direction of ADB Environmental Safeguard Team and updated IEE will be reviewed by PMU and submitted to ADB for disclosure on ADB website and project (PMU/PIU) website.

109. As the COVID-19 impact in the construction site is minimum, however site specific occupational and community health risks considering to construction activities, the Contractors will be required to prepare a health and safety plan (H&SP) mainly consideration of work at height, traffic movement to the construction site, fire safety and accidental risk during construction; which will be an integral component of the EMP as pre-mobilization requirement. The H&SP will be approved by the PIU and PMU to avoid the unfortunate event of an incidence in the workplace that may affect the workers, students and staff of JUST.

B. Construction Phase

110. This phase will involve the recruitment of workers and staff; securing relevant permits from the government; mobilization of contractors, equipment, and machineries; site preparation; delivery and storage of construction materials; civil, mechanical, and electrical works; landscaping and clean-up of construction debris; and occupancy of the new building.

111. Prior to construction works, the PMU in UGC and the PIU in JUST will ensure that Contractors will include the responsibility in compensating for any temporary damage, loss, or inconvenience resulting from accident or failure to comply with regulations in implementing the project. The Contractor will be required to conduct baseline environmental quality measurements for air, noise, and source of drinking water to be provided to construction workers before the start of construction. Results of measurements will be included in the environmental monitoring report that will be submitted by the PIU semi-annually to ADB through the MOE. Sampling protocol and results will be reviewed by the Environmental Consultant of PIU. The Department of Environmental Science and Technology of JUST will provide technical support, if needed.

112. Three numbers of Deep Tube Wells were installed in the JUST campus with adequate capacity and they in operation smoothly. Required quantity of construction water will be fulfilled from the available water supply from existing DTW. Surrounding area are lower than the JUST campus and well sloped, there is no chance of water logging during rains in the campus. Temporary protection bundh around the research pond will be constructed during construction works.

113. Construction of site office and workers construction camp will be constructed with adequate sanitation facilities, solid waste management waste water management, traffic and pedestrian safety within the active campus. As the proposed project site one isolated corner of the JUST campus adequate height of security fencing will be constructed during construction period, so impact of above cause inside the campus will be minimum.

114. Environmental Codes of Practice (ECoPs) relevant during construction phase are given in **Annex-1**. ECoPs are general non-site-specific guidance from best construction practices that can be implemented for this project to ensure that potential associated construction environmental impacts will be minimized. Contractors will be required to refer to these ECoPs as well as comply with the EMP. The contractor will prepare site specific ESMP/CEMP as per the actual site condition and their construction methodology as appropriate following the ADB SPS 2009 and existing GoB laws and Guidelines. The document should contain with labour influx management, probable GBV/SEA/SH risks associated with the presence of external workers. To minimize the above impact engagement of local labour is suggested.

C. Prepare Construction Management Plan

115. Before any construction works, the Contractors will be required to prepare a construction management plan to guide the implementation of earth-moving works, construction of the building, civil, mechanical, and electrical works including restoration of the site and the existing access roads. The plan will cover work scheduling, occupational and community health and safety, temporary pedestrian, and traffic management; spoils disposal and construction waste; noise and dust control; drainage and storm water

management; materials storage and management; protocol in dealing with students, faculty and occupants of staff housing and administrative staff of JUST, and emergency/disaster preparedness. Critical information to know during emergency will be included in an emergency kit such as evacuation or assembly point, as well as do's and don'ts. Emergency contact details will be posted on easily visible billboards at the construction site.

D. Hiring of Staff and Workers

116. There will be potential job opportunities for both skilled and unskilled workers during the construction phase. These opportunities, however, may cause conflict over lack of transparency in recruitment. Hiring of local labour will be given priority. The Contractors will be required to comply with the relevant provisions in the Bangladesh Labour Act 2006 (amended 2013) and Bangladesh Labour Rules 2015 on recruitment and working conditions.

117. Due to construction works, there will be workers present within the premises of JUST particularly in the construction site. The Contractors will be required to ensure that their workers will strictly observe the rules and regulations of JUST including occupational health and safety rules that will be imposed on them by the Contractors.

118. Before arrival of workers and staff, Contractors and PIU will ensure that they will not pose occupational and community health risks. Contractors and PIU will keep a record of their contact details such as mobile telephone number, alternate telephone, email (if any), and the address of where they are staying. Aside from the workers, the Contractors will similarly provide the PIU regarding health conditions of all the workers.

E. Orientation of Workers and Staff

119. Before any construction works begin, the PIU in JUST and PMU together with the environmental safeguard consultant will conduct an orientation for the workers and staff of Contractor on occupational health and safety, applicable rules, and regulations of JUST as well as the environmental requirements of the government and ADB. The orientation aims to create awareness on their responsibility for implementing and compliance to the EMP, effective record keeping, and environmental reporting. The orientation will also include awareness on communicable disease like tuberculosis, HIV/AIDS, and others to prevent potential incidence in the workplace. Workers will be given training and/or orientation on disaster and emergency procedures, occupational health, and safety (OHS); any symptoms, mode of transmission, mandatory use of PPEs, and general precautionary measures that will be implemented based on the approved H&SP such as hand washing, physical distancing, enhanced cleaning and disinfection of surfaces and objects frequently touched in the workplace, posting of signs to create awareness of health and safety.

120. The Contractor will be required to designate an Emergency and Disaster Coordinator who will also function as OHS Officer to guide the workers in case of an emergency, disaster, or any incidence, and oversee compliance to H&SP on prevention of any transmission of disease in the workplace. Workers will be informed that mock drills will be conducted regularly, and participation will be mandatory. The Contractor will be required also to invite resource persons from relevant government agency or private sector to conduct training on proper emergency response at least once a year throughout

construction phase.

121. All the workers are expected to be fit to work. The Contractor will ensure that daily temperature checks are done to the workers before entry to the work sites. Any person that shows signs of cough and colds will not be allowed entry to the work sites and will be advised to stay at home and isolate.

F. Site Preparation and Construction Works

122. The Contractor will coordinate with respective government agencies before any site preparation to determine the connections of utilities such as natural gas pipeline, water pipes, sewers, telecommunications, and other services that may be affected.

123. If the Contractor decides to operate a quarry to meet the requirements of the construction works, the necessary permits and clearances from relevant agencies of the government will be obtained prior start of operation. The Contractor will ensure that the quarry providing materials to the construction of the new building is maintained in stable condition; is appropriately and adequately landscaped; and when taken from the river, it should not disrupt river flow or damage the riverbanks causing erosion. Bhairab River is located about 3 km east from the site. The stockyard and construction site will be temporarily and properly enclosed, with designated security personnel to prevent entry of unauthorized persons.

124. The area within the premises of JUST is not known to have sites of archaeological and historical value. Nonetheless, ECoP 1.0 provide measures in case of encounter with physical cultural resources.

125. **Site of the New Building:** The area within the vicinity of the project is not known to have sites of archaeological and historical value.



Figure V-2: Alternate Access Route to Site, JUST

G. Impacts on Air Quality

126. Impacts of construction activities on air quality are cause for concern mainly in the dry months due to dust particles. The main sources of emission during the construction period are the movement of equipment at the construction site and dust emitted during construction related activities. The dust emitted during the above-mentioned activities depends upon the ambient humidity levels. The impact will be for short duration and

confined locally to the construction site. The composition of dust in this kind of operation is, however, inorganic and non-toxic in nature.

127. Particulate matter would be the predominant pollutant affecting the air quality during the construction phase. Undesirable gases such as SO₂, NO_x and CO would be generated mostly by the automobile traffic and construction machineries; however, this is not expected to lead to any tangible effects, particularly, if the traffic is scheduled to avoid unnecessary congestion in the area. The impact of such activities would be temporary and restricted to the construction phase only. It is recommended that access roads be given suitable surface treatment to curb dust generation; sprinkling of water from trucks or other suitable means should be undertaken at the sites for suppression of fugitive dust. Suitable Port area actions should be initiated around the construction sites for arresting of air borne dust, which would also contribute in improving the aesthetic quality of the area. All the proposed measures that would greatly reduce the impact on the air quality during the construction phase of the project. The impact of such activities would be temporary and restricted to the construction phase only and will be confined within the project premises.

128. Site preparation will involve land and minimal vegetation clearing. Potential increase in dust level may be expected as a result of these activities. This impact may cause inconvenience to the occupants of the Vice Chancellor's residence and may be experienced up to the staff housing/dormitory depending on the wind direction and wind speed. To contain the potential increase in generation of dust, the Contractor will be required to do the following:

- Provide temporary fencing and enclosures of the construction site (at least 2 m high);
- Spray water to any opened area and work sites, as and when needed particularly during the summer season;
- All excavated soil and stockyard will be covered with tarpaulin or other appropriate cover material during non-working time, and excess soil will be removed from the worksite to the designated disposal site;
- Provide a space on-site to accommodate the required materials so that transport and delivery of construction materials will be minimized including vehicular emissions;
- Alternate access route to the site will be used (see Figure V-2) to minimize safety risks to the university students, faculty members, and other people using the main roads of the university;
- Provide workers assigned to dusty areas with safety masks or goggles or other appropriate personal protective equipment (PPE);
- Vehicles that will deliver construction materials to the site that generate dust will be covered with suitable material to contain dust;
- Regularly maintain construction vehicles, generators (if required), and heavy equipment to avoid smoke belching;
- Prohibit burning of garbage, liquid waste and other combustible materials within the construction site; and,
- Follow or refer to ECoP 2.0 for other measures on managing air quality.

129. The PIU ensure that ambient air quality limits set mainly by the DoE and IFC-WB

EHS as General Guidelines 2007 will not be exceeded during the construction phase. The limits from the Ambient Air Pollution Control Rules (APCR) 2022 are the main stringent and the IFC-WB EHS will be the General Guidelines 2007. SPS 2009 requires that should host country regulations differ from the levels and measures set by the IFC-WB EHS General Guidelines 2007, the host country will achieve whichever is more stringent. In this case, Ambient Air Pollution Control Rules (APCR) 2022 executed by DoE will be the relevant limits that the Contractors needs to comply.

H. Impacts on Noise

130. The major sources of noise generation during the construction phase are movement of construction vehicles, construction equipment like concrete mixers, cranes, generators, pumps, compressors etc. work associated land clearing, and from the construction of the new building. These activities, together with daily university activities, in some occasions, may exceed the limits provided for in the Noise (Pollution) Control Rules 2006. This intermittent increase in noise levels will be temporary, of short duration and can be mitigated. However, PPE will be provided to workers at site and construction machinery will be maintained properly to check on noise and emission levels within prescribed limits. The nearby people of the settlements which are within 1 km from the university campus may feel disturbance created by the construction noise. Careful planning of the operation of the high-noise machines therefore is required during this period so that minimum disturbances are caused.

131. Exposure of workers to increased noise levels is an occupational as well as a public health hazard. Table V-3 presents the typical noise levels of tools and equipment. As a comparison,

132. Table v-4 presents the common sources of noise and decibel levels that people are generally exposed to daily. To mitigate the temporary negative impacts on noise, the Contractor will be required to:

- Orient, prior to construction works, and inform workers about noise level requirements;
- Provide workers assigned to high-level noise-generating activities with PPEs such as earmuffs and earplugs, and will be rotated every two hours to minimize exposure;
- Provide temporary enclosure of the work site particularly those area generating noise;
- Undertake activities that generate noise during daytime only (but will be adjusted contingent to weather and season);
- Require drivers of construction vehicles to observe low speed and blowing of horns or whistle will not be allowed unless absolutely necessary;
- Assign staff to maintain the flow of traffic to avoid inconvenience to students, faculty members, and administrative staff;
- Require regular tune-up of construction vehicles and proper maintenance of machinery; and,
- Refer to ECoP 3.0 on measures to manage noise and vibration.

Table V-4: Typical Noise Levels of Tools and Equipment

Equipment	Noise Level, dB(A)
Cranes	78 - 103
Backhoes	85 - 104
Loaders	77 - 106
Dozers	86 - 106
Scrapers	97 - 112
Trenchers	95 - 99
Pile drivers	119 - 125
Compactors	90 - 112
Grinders	106 - 110
Chainsaws	100 - 115
Concrete saw	97 - 103
Sandblasting nozzle	111 - 117
Jackhammers	100 - 115
Compressors	85 - 104
Note: These noise levels are measures at the operator's position	

dB(A) = A-weighted decibel

Note: These noise levels are measured at the operator's position.

Source: Infrastructure Health & Safety Association. Chapter 14.

Hearing Protection, Table 14-4. <http://www.ihsa.ca/About.aspx>

Table V-5: Common Sources of Noise and Decibel Levels

Everyday Sounds and Noises	Average Sound Level (dBA)	Typical Response (After routine or repeated exposure)
Softest sound that can be heard	0	Sounds at these dB levels typically don't cause any hearing damage.
Normal breathing	10	
Ticking watch	20	
Soft whisper, quiet library	30	
Refrigerator hum	40	
Moderate rainfall	50	
Normal conversation, air conditioner	60	
Washing machine, dishwasher	70	You may feel annoyed by the noise
City traffic (inside the car)	80 - 85	You may feel very annoyed
Gas-powered lawnmowers and leaf blowers	80 - 85	Damage to hearing possible after 2 hours of exposure
Subway, passing motorcycle, gas mower	91	Dangerous to hearing; wear earplugs or earmuffs
Hair dryer, kitchen blender, food processor	94	Dangerous to hearing; wear earplugs or earmuffs
Motorcycle	95	Damage to hearing possible after about 50 minutes of exposure
Approaching subway train, car horn at 16 feet (5 meters), and sporting events (such as hockey playoffs and football games)	100	Hearing loss possible after 15 minutes
The maximum volume level for personal listening devices; a very loud radio, stereo, or television; and loud entertainment	105 - 110	Hearing loss possible in less than 5 minutes

venues (such as nightclubs, bars, and rock concerts)		
Shouting or barking in the ear	110	Hearing loss possible in less than 2 minutes
Standing beside or near sirens	120	Pain and ear injury
Jet plane take-off, siren, pneumatic drill	120	Not safe for any period of time
Jackhammer	130	Not safe for any period of time
Firecrackers	140 - 150	Pain and ear injury

dB(A) = A-weighted decibel.

Source: US Department of Health & Human Services. Centres for Disease Control and Prevention. Centres What Noises Cause Hearing Loss?

https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html.

American Speech-Language-Hearing Association. Loud Noise Dangers.

<https://www.asha.org/public/hearing/Loud-Noise-Dangers/#signs>.

I. Generation of Waste

133. There is no available data on the volume of solid waste generated in JUST. Based on an undergraduate thesis in 2017, solid waste management in JUST is done using three methods: (i) recyclable wastes like papers, reports, PET bottles, metals, glass, e-waste, household items, etc. are being sold or donated to hawkers, who take or haul the waste out of the campus; (ii) printed materials with confidential information and those not recyclables (e.g., office files and letters, reports, exam scripts, etc.) are burned on-campus; and (iii) non-recyclable household waste (e.g., kitchen waste from the dormitories and hostels, etc.), building scrap, and waste from sweeping and yard trimmings are deposited either into the temporary waste collection bins next to the 10 story teacher dormitory (see Figure V-3) or earth filling site next to the girl's hostel. Once the temporary waste bins are full, municipal waste carrier vehicles are hired to transfer the wastes to the Chougachha Pourashava/Jashore Municipal waste dumping site or in the Integrated Landfill and Resource Recovery Centre.

Figure V-3: Waste Collection in JUST Campus Area





Vehicle using to Carry Waste from Buildings



Container Using Waste Collection from Buildings



Waste Collection From JUST Campus



Waste Collection From JUST Campus

134. **Solid Waste Management:** Non-recyclable household waste collected, carrying and waiting removal to the Chowgacha Pourashava Waste Dumping site or integrated Landfill and Resource Recovery Centre. An Understanding of Memorandum (MoU) has been signed between JUST Authority and Chawgacha Pourashava Representatives on 17.09.2025. (**Annex-4**) Contract Agreement will be signed as soon as possible. Waste collected from Official and Academic Building burnt in the Incinerator inside JUST Campus. Medical waste and University Laboratory will be transferred to the central Jashore Pourashava Waste Treatment and Disposal centre.

135. Construction works are expected to generate waste such as spoils, construction materials, wood, cleared vegetation, waste food, cement container, used PPEs such as facial masks, gloves, and other similar debris. If not managed properly, this waste will be unsightly and may pose health and safety risks to workers and the community within JUST. To mitigate this impact, the Contractor will be expected to implement the following measures:

- Implement the waste management plan that is part of the overall Construction Management Plan submitted to PIU before the start of construction;
- Provide adequate garbage bins and require workers to separate waste for easier collection and management (i.e., residual oil and lubricants, paints, thinners will not be mixed with other waste);
- Always observe good housekeeping at the construction site and monitor compliance;
- Prohibit burning of solid waste at the construction site;
- Provide separate bins for collection of used facial masks and gloves as part of hazardous prevention measure, and;
- Refer to ECoP 4.0 for further measures on waste management.

J. Impact on People

136. Associated works during site preparation and construction of the new building may pose health and safety risks to workers and the community, such as working at heights or constrained spaces, and risk of exposure to and transmission of contagious disease. Noncompliance to the approved H&SP, relevant regulations on codes and standards on civil, mechanical, and electrical works may also trigger accidents and occupational health risks to workers. Given the site, construction camps will not be located within JUST premises. To minimize the occupational and community health and safety risks, the Contractors will be required to implement the following measures:

- (a) **Occupational health and safety risks:** To prevent accidents, provide workers and staff with appropriate PPE and safety clothes such as hard hats, steel-toed boots, earmuffs, or plugs, etc., and will train and/or orient workers on safe building construction practices and other issues on safety. Wearing of safety gear will be mandatory, and the statutory age requirements for employment as provided for in Bangladesh Labour Act 2013 will be strictly enforced. Consider providing group insurance to construction workers for accidents resulting to disabilities or death. The provisions on occupational health and safety in the IFC-WB EHS General Guidelines 2007 will be followed as internationally recognized standards and best

practice.

Sanitary facilities and safe drinking water will be provided to the workers and appropriate scaffoldings will be installed. Clear and visible warning signs and lighting will be installed. In case of medical emergency, first aid kits will be provided at the construction site. The JUST medical centre can provide medical support, if required. The medical centre is within the 1st and 2nd floor of the academic building; has a 25-bed capacity; and is equipped with an ambulance, three medical officers (one night shift and three daytime shift), and a pharmacy model (see Figure 5.4). The Medical Centre will coordinate with the Directorate General of Health Services (DGHS) on the appropriate protocol for handling of persons in the construction site that show symptoms of any type of primary treatment. Fire-fighting equipment will be provided on-site.

At the start of each day, toolbox meetings that last for a few minutes will be held to remind workers on the importance of compliance to the health and safety rules and procedures, and the consequence of non-compliance.

The Contractor will comply with the approved H&SP and workers, at the minimum, will always observe enhanced cleaning procedures in the construction site and temporary rest areas, physical distancing of at least 2 meters apart from each other, use appropriate PPEs such as masks, gloves, and eye cover if physical distancing is not possible, and will practice frequent hand washing. Contractors will provide wash stations with adequate soap and water within the work sites. Use of hand sanitizers (with at least 60% alcohol) will be provided if water and soap are not available. Separate bins for disposal of PPEs to prevent any type contagious disease will be provided by the Contractor.

(b) Community safety risks: Prior to start of construction works, conduct awareness orientation and/or briefing about health and safety to key stakeholders in JUST (i.e., faculty staying in housing or dormitory, students, etc.). Inform PIU and key stakeholders (if required) on the schedule of construction activities that may pose risks to public safety. Proper fencing and enclosure (at least 2 m high) will be installed at the site to prevent unauthorized access. Security personnel will be posted to discourage pilferage and vandalism. Clear and visible warning and danger signs at and around the site will be installed. Posters promoting awareness of COVID-19, its transmission, proper use of PPEs, etc. will be placed in strategic locations within the project site to create an increased awareness.

Set boundary line between construction site and areas accessible to JUST community. Provide proper identification of workers and staff at the construction site. The Contractor will monitor the overall health and safety situation of the workers and staff at the project site to ensure that workers report to the sites healthy and fit. ECP 5.0 gives additional measures on occupational health and community safety. Section 3 of the IFC-WB EHS General Guidelines 2007 provides guidance on community health and safety which is considered as international best practice. Photo of Medical Centre at JUST is shown below.



Figure V-4: Medical Centre, JUST

K. Completion of Construction Works

137. Improper clean-up and disposal of construction debris may cause safety and health risks and reduced aesthetics value. To ensure clean-up and restoration of construction sites, the Contractors will be required to restore or reinstate all the areas potentially damaged during construction works. Workers who may be assigned to clean-up and restoration works will be provided with proper safety gear and equipment.

L. Post Construction Phase

138. Upon completion of construction phase, the potential impacts will be mainly beneficial since the students, faculty members, and academic staff of the CSE Department will now have a new and fully furnished ICT building. At this stage, they will enjoy the comfort of a new building and new computing equipment.

M. Occupancy of the New Building

139. Occupancy of the new building may give rise to improper use and inadequate maintenance. Absence of a proper building management plan may lead to premature wear and tear. The use of the new building may result to generation of waste from occupants. As well, the use of the new building may result to generation of waste from occupants that if improperly managed will cause deterioration of its aesthetic value and may pose health and safety risks.

140. To mitigate these potential impacts, the management of JUST, through the CSE Department, will prepare a building maintenance and management plan that will include management of waste, emergency and disaster preparedness, and any other risk management. The Chief Engineering Section will designate a waste management coordinator who can also act as the OHS officer. The CSE Department can consult the Department of Environmental Science and Technology in developing a building waste management program that will incorporate the 3R principles of reduce, reuse, and recycle as well as segregation at source.

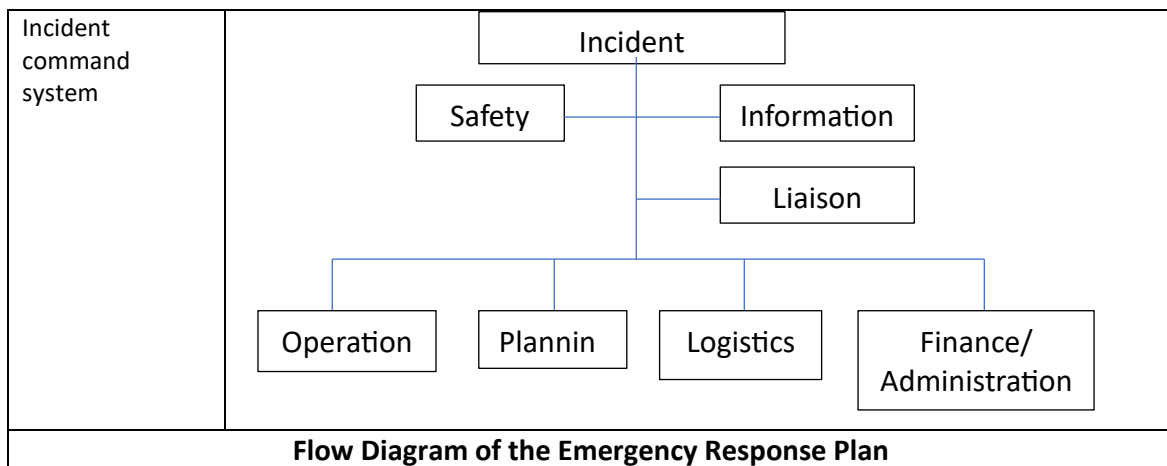
141. The CSE Department will conduct yearly orientation and briefing to staff, students, and other building users on the proper management, cares, and sustainable use of the new ICT building.

N. Emergency Response Plan

142. Fire-fighting systems will be strategically located in the newly proposed building. There will be a security team to ensure safety and security of all building users. As part of emergency preparedness, a draft building emergency response plan will be finalized in consultation with students, faculty, and administrative staff. The emergency response plan will include precautions to any kind of risks. A team will be formed headed by the Climate and Disaster Management Department of JUST who will responsible for monitoring the installation of alarming system, distribute responsibility to each member, coordination with the external agencies and take appropriate actions as and when require. Regular drills and awareness program will be done by the team. Table V-6 presents the key elements of the draft emergency response plan.

Table V-6:Key Elements of Draft Emergency Response Plan

Elements	Description
Approach	The aim of this emergency response plan is to guide personnel in an accident or emergency to prevent or minimize injury, damage, and material loss and to prevent or mitigate environmental impact from the accident or emergency.
Types of emergency	• Earthquakes • Cyclones • Energy/utility outages • Fire hazards • Hazardous materials releases • Terrorism
Planning	• Identify hazards and assess risk • Assess capabilities and resources • Develop an emergency plan and procedures • Conduct training • Public relations • Conduct drills and exercises • Develop audit procedures
Emergency preparedness requirements	• Identified assembly points and/or evacuation points • A well-defined escape routes • Fire-fighting system will be supplied in strategic locations • Proper security arrangements functioning at all times • Efficient transport and communications system • Smoking will be prohibited within areas with flammable substances (if any) • Water will be kept available for fire-fighting • Availability of sufficient number of trained staff to deal with any emergency • Clear and audible emergency alarm/whistles and public address system • Conduct drills to familiarize students, faculty, and administrative on the evacuation routes and use of the fire-fighting system • Emergency contact number of the medical Centre (and nearest hospital), ambulance and fire service and police station) • Main electrical equipment is switched off when not in use • Physical distancing is important but in the event of an emergency evacuation, the priority is to execute a safe and expeditious evacuation. Once safely evacuated from the building, physical distancing will be observed.



O. Effects of Climate Change

143. Building design features accommodating future effects of climate change are summarized in Table V.1 and Table V.2. Based on the climate change assessment conducted for the project, with business-as-usual scenario, temperature will continue to rise and is expected to be around 1.8°C from baseline (1986–2005) by 2050. To address this likely temperature change in the future, the building envelope and windows will be designed to consider natural light, ventilation, and wind speed.

144. Bangladesh is a flood-prone country with about 80% of its surface forming a giant floodplain. Flooding types are flash flood (due to heavy or excessive rainfall), river/sea flooding (or monsoon flooding) and waterlogging (due to poor drainage). Jashore in Khulna has a higher exposure to riverine and monsoonal floods. While Jashore is considered flood-prone due to monsoon season, JUST is located about 24 km from the Bhairab River, and thus, riverine flooding will be considered very low. No other river or stream is close to JUST. During development of the JUST campus with construction of several buildings, the whole campus area has been developed and filled up than the surrounding area. Even any extreme rainfall there is no chance of flooding inside the campus. The surrounding area also well sloped to the existing beel and the river Bhairab for drain out run-off during rain.

145. Jashore is in earthquake Zone I which is called lowest possible intensity seismic zone. Design of the new CSE/IT building will comply with the Bangladesh National Building Code (BNBC-2020), Chapter 2 (Loads on Buildings and Structures). The Design Consultant Team further ensure that the structural engineering design and architectural design of the new building is considered sufficient to address disaster risks and the future effects of climate change. They also ensured that the national building codes incorporate relevant international standards from ASME, ASTM, ASHRAE, ASCE, IEC and others are considered in the design procedures.

VI. Analysis Of Alternatives

146. Given the limited space within the government-owned area in JUST, there were no alternatives considered that may require land acquisition. The proposed building site is located beside the existing road of Jashore-Chawgachha and also located at the north-east corner of the JUST campus and far from others faculty buildings. During the construction period; movement of construction equipment, construction manpower and carrying of materials will not create any disturbances to the other faculties and students in the campus. This is the best option to select building location in the JUST campus. However, a “no project” option was considered and compared to the “with project” option.

147. The “no project” option will mean that the open green space within JUST will not have its best and highest usage of land. In addition, the undergraduate and graduate students, faculty, and staff of CSE Department will not have the opportunity to benefit from an innovative IT learning environment that the new building will provide. Table VI-1 Table VI-1 presents a comparison of the “no project” and “with project” options.

Table VI-1: Comparison of “With Project” and “No Project” Options

Description	“With Project” Option	“No Project” Option
Producing students equipped with state-of-the-art training and education fit to the requirements of the IT industry	There will be demand for IT graduates to meet the requirements of the IT industry	Limited or no possibility of producing better graduates due to poor IT facilities
Inconvenience and disruption to daily activities during construction	There will be temporary disruption to university community	Potential traffic congestion may also occur due to increased population and vehicle owners
Ecological impacts	Site has some small trees as part of university landscaping that will be cleared. These can be replaced or replanted.	Existing environmental condition will be the same
Creation of temporary employment	There will be temporary jobs for skilled and non-skilled workers during construction	No temporary jobs will be created
Opportunities for students to have more options for IT training	There will be more options for R&D and training, and link to the private sector expected to improve chances of employability	No opportunities
Contribution to accelerate in development of IT sector	Will contribute to the goals and objectives	No contribution
Existing faculties have no adequate space/accommodation in the JUST	Will fulfil the required demand with use of the space/floor in this building	Number of students will be deprived from higher education
There is no modern Auditorium in the JUST campus	Will fulfill the long days demand of the Students, Teachers and others	Students and teachers will be deprived from their need
Cyber Security system of JUST campus will be provided in the proposed building design	Protection of Students, Teachers and others will be established from cyber crime	No opportunities
Green building concept, gender balanced useable area, balanced higher temperature control, use of controlled power supply have been considered in the design.	Environment friendly and gender balanced study area will be developed	No new example will be created in the JUST campus

IT = Information Technology

VII. Information Disclosure, Consultation and Participation

A. Introduction

148. Consultations aim to engage key stakeholders throughout the project implementation and to know their concerns and perceptions, if any about the project. These events give the opportunities for the public to share their views to JUST about the proposed construction of the new multi-storied ICT building and for JUST to present to the stakeholder's relevant information on the project. Consultation will not be limited during the preparation of IEE but will be carried out during project implementation.

B. Methodology

- I) **Identification of stakeholders:** Stakeholders are primary if they will be directly affected during construction and post-construction, namely, students, faculty members, administrative staff, and support services staff. Secondary stakeholders are persons, organizations, or businesses that may not be directly affected but may have interests on the project, such as relevant government agencies, nongovernment organizations, transport cooperatives, and the general public. Stakeholders were invited by the JUST project team focal person through phone calls, letter, and personal visits.
- II) **Approach:** Participants were informed of the proposed project and the potential environmental impacts due to the project. After the presentations, participants were given the time for questions and answers to raise their concerns. Discussions were done in Bangla and English.
- III) **Record of the meeting:** General information of the participants such as name, gender, occupation, and signature were collected and shown in the attendance list.

C. Results of Consultation

149. A total of 10 consecutive discussions meeting with design consultant teams, PIU Officials, PMU Officials with PMU Consultant Team and UGC Authority regarding design concepts of different floors with useable area and capacity with functions. The discussion meeting has been arranged in UGC conference room, PMU conference room and JUST conference room though out the month of April to August 2025 in different dates. The participated officials and consultants input their expertise knowledge regarding consideration of green building concept, workable and utilization of workable space and will make the proposed building effective use. Participants included some residents from the staff housing within the JUST premises, a representative from the central mosque, a representative from the student council, the Chief Engineer and the Executive Engineer of the Engineering Section, Chair of CSE, Faculty members from different departments, and students from the CSE Department.

150. The focal person from the CSE Department made a presentation about the project (Outputs 1–4) and details on the proposed new ICT building. The consultants briefly discussed the requirements for environmental due diligence and measures to be implemented to ensure that the temporary adverse impacts of construction will be mitigated including the grievance redress mechanism. Creation of noise pollution during construction of new building will be measured and minimized by the construction contractor which is included in the EMP. Building

plinth level has been fixed above the highest flood level in this area. Access of persons with disability and movement to the building has been incorporated by ramp, elevator, wheelchair and easy risers in stairs. Contractor will use alternate access route to the construction site for carrying of construction materials and equipment to avoid disruption to the students; adjacent to the Churamonkathi-Chaugachha road. Solid waste management during construction and operation period, contractor will provide bins in different colours to separate biodegradable and non-biodegradable wastes. Fire detection with alarm and for any emergency response preparedness; identification of an emergency evacuation points in the building included in design to warn the student. Green buffer zone and easy access of pedestrian to the building entrance has been provided in the design. AC vents are fixed outside each room to prevent internal heat build-up. Separate prayer, common space, lounge and wash room are considered for male and female both students and staff. **Annex-2** presents the summary of consultation during design review with times and **Annex-3** presents the list of participants and photographs.

D. Consultations and Information during Implementation

151. **Consultations:** As the COVID-19 situation is minimum throughout the country, the PIU together with the PMU have been reviewed that the COVID-19 situation in Jashore district and the restrictions imposed by the government is also released from previous restrictions. At present, people may continue to exercise physical distancing, wearing of facial masks in public, government offices, businesses, and public transport minimizing any unhygienic transmission of airborne germs. At present, the general public has become increasingly aware of the transmission risks, and the consequence of not behaving responsibly and in following the advice from DGHS.

152. Topics during consultations may cover GRM, construction practices, building management, emergency preparedness and the measures to be enforced in preventing an outbreak in the workplace and the community, resources to be provided, and the general health and safety measures that will be and are being implemented to ensure the wellbeing of workers, students, faculty, staff, and the immediate community. The medical clinic in JUST will provide technical support to the Contractors and the PIU during the information campaign on other transmitted diseases.

153. **Information Disclosure:** To meet disclosure requirements of ADB, the PIU will create a project webpage in the website of JUST and will provide a link to project information (e.g., project brief both in Bangla and English, GRM flowchart or flyer, etc.). Only the essential information such as GRM flyer and project brief will be made available as printed materials (both English and Bangla) to stakeholders. The one-page project brief will be made available from the project site, in the Department of CSE, and in UGC. The one-page flyer on questions & answers (Q&A) or a frequently ask questions (FAQ) will include information on the GRM and the contact details of the designated person. Any changes in project design will require an update or revision to the IEE which will be re-posted to ADB website. The IEE provides more information on the project. Table VII-1 resents the information disclosure program.

Table VII-1: Information Disclosure Program

Project Phase	Information to be Disclosed	Method of Disclosure	Type of Stakeholders	Responsible Unit
Design and Pre-Construction	• Project brief and status of implementation • Q&A or FAQ flyer • IEE	• Project webpage, CSE Department • Project office • JUST and UGC	• Local population that may be affected • Other interested individuals (e.g., NGOs)	PIU, Project Environmental consultant
Construction	• Health and safety measures • GRM, designated staff and contact details • Traffic management • Emergency procedures	• Posters or signboards, flyer • Project webpage, CSE Department • Local traffic authority • Meeting	• Workers and staff • Local population that may be affected • JUST students, faculty and staff	PIU, Project Environmental consultant, contractors (and subcontractors)
Post construction	• Emergency preparedness and procedures • Health and safety measures • Building management	• CSE Department website • Posters or signboards • Social media • Meeting	• Building occupants (i.e., students, faculty, and staff) • Immediate local population	PIU, Project Environmental consultant.

VIII. Grievance Redress Mechanism

154. To ensure that complaint(s) will be addressed properly during project implementation the PMU, through the PIU, will establish a grievance redress mechanism (GRM) as soon as the ADB loan becomes effective. The GRM is a process of handling complaints from affected people on the environmental performance of the project, in reviewing, and in facilitating the resolution.

A. Objectives of the Grievance Redress Mechanism

155. This ensures a process of receiving and resolving complaint(s) promptly from persons that may be affected by the new ICT building. Following the requirements of SPS 2009, the GRM will involve a process that is understandable, transparent, gender-responsive, culturally appropriate, and easily accessible to affected persons without cost and retribution.

B. Structure

156. A grievance redress committee (GRC) will be created and may consist of: (i) PMU Head, (ii) representative from the local government, (iii) representative of Contractor, and (iv) witness of the complainant. The environmental safeguard consultant at the PMU will act as the secretary of the GRC. Ideally, the GRC will continue to function from construction until post-construction. However, given the nature of the project, where environmental issues including GBV/SEA-SH may be of concern during construction phase, the GRC should be continued up to initial post-construction period. UGC should monitor these issues including all other component to the universities. MOE and UGC will ensure the representation of women in GRC.

157. The GRC will be responsible for resolving complaint(s) and will convene once a month to review the complaint(s) received, if any. GRC will resolve complaint(s) within 15 days from the date of receipt and will keep a record indicating the name of complainant and nature of complaint, status of resolving the complaint, decisions or actions undertaken, and the date the decision was effective.

158. The PMU will review the implementation of the GRM regularly to assess the effectiveness of the process and to examine their ability to address grievances. Cost of implementing the GRM will be part of the administration cost borne by the PMU.

- i) **Information disclosure:** PIU will disclose details on GRM through the project website of JUST as well as in the billboards at the construction site. Details will include the contact person, a hotline phone number, and a simplified flowchart on how to file a complaint.
- ii). **Record-keeping:** A record of all complaints received including contact details of the complainant, date the complaint was received, nature of grievance, decisions and date, and date the complainant was informed of the decision. Grievances filed and resolved will be summarized and included in the semi-annual monitoring reports submitted to ADB during construction stage and annually during post construction/operation stage.
- iii). **Procedure:** Complaint can be lodged either by approaching the Site Engineer of the Contractor, in writing or by phone. Filing of complaints will be made online or

physically. Transparency will be maintained on the grievances received and their resolution. The environmental safeguard consultant will provide support to the complainant in filing the complaint. Affected persons can seek redress to their complaints in three levels (Figure VIII.1): (i) through the PIU or through the Site Engineer of the Contractor, (ii) through the GRC, and (iii) the DOE under provisions set forth by the Environment Court Act 2000 (amended in 2002 and 2010) or the appropriate courts of law. The complainant is not restricted to seek redress through the legal system at any point in the GRM process. The three-tier entry points include:

- a). **First level** – Contractor Site Engineer/PIU Head. Complaint will be resolved at the PIU level within seven days and advise the Complainant accordingly.
- b). **Second level** – If complaint is not resolved at the first level, the Complainant can submit the complaint to the GRC chaired by the PMU Head. The GRC will review the submission and decide within 15 days. The Complainant will be informed of the decision in person, by mail or by phone.
- c). **Third level** – Appropriate Courts of Law. If the complaint remains unresolved, this will be referred by the GRC to the DOE or the appropriate courts of law.

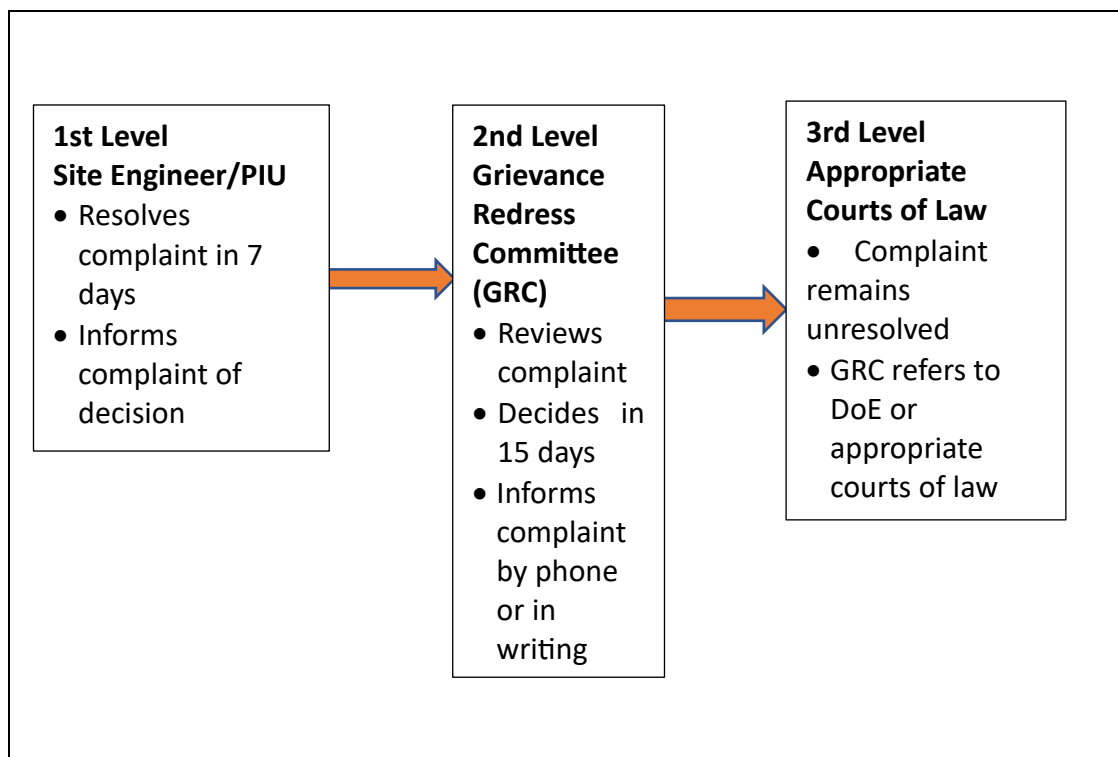


Figure VIII-1: Three-tier Grievance Redress Mechanism

IX. Environmental Management Plan and Monitoring Plan

159. Environmental Management Plan (EMP) is a site-specific plan developed to ensure that all necessary measures including mitigation and monitoring activities are identified and implemented to preserve and protect the environment and to avoid and manage the negative impacts of the project and comply with environmental legislation. The primary objective of the EMP is to provide a guideline for proper management and monitoring of the identified environmental and other impacts due to the project and to offer document to the implementer for accomplishing the institutional requirements of the authority. It will identify the residual impacts and unavoidable impact and its management. As GoB is committed to ensure sound environmental condition, preparation, and execution of EMP is mandatory for preparation, implementation, and monitoring of environmental protection measures during and after commissioning of the project. EMP indicates how various measures are proposed to be undertaken during different stage of works of the project including cost components.

160. The purpose of the Environmental Management Plan (EMP) is to ensure that the activities are undertaken in a responsible, non-detrimental manner with the objectives of:

- (i) Providing a proactive, feasible and practical working tool to enable the measurement and monitoring of environmental and social performance on-site;
- (ii) Guiding and controlling the implementation of findings and recommendations of the environmental and social assessment conducted for the project;
- (iii) Detailing specific actions deemed necessary to assist in mitigating the environmental and social impact of the project; and
- (iv) Ensuring that safety recommendations are complied with.

161. A copy of the EMP must be kept on work sites at all times. This EMP will be included in the bid documents and will be further reviewed and updated during implementation. The EMP will be made binding on all Contractors operating on the site and will be included in the Contractual clauses. The EMP includes a monitoring program to measure the environmental condition and effectiveness of implementation the mitigation measures. It will include observations on and off-site, document checks and interviews with workers and beneficiaries.

162. The contractor will submit a site-specific construction environmental management plan (SCEMP) to PMU, for review and approval, including (i) proposed sites/locations for construction work camps, storage areas, hauling roads, lay down areas, disposal areas for solid and hazardous wastes; (ii) specific mitigation measures following the approved EMP; (iii) monitoring program as per EMP; (iv) traffic management plan; (v) labour management plan; and (vi) budget for SCEMP implementation. No works are allowed to commence prior to approval of SCEMP.

163. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.

164. For civil works, the Contractor will be required to

- (i) Establish an operational system for managing environmental and social impacts
- (ii) Carry out all of the monitoring and mitigation measures set forth in the EMP; and
- (iii) Implement any corrective or preventative actions set out in safeguards monitoring reports that the employer will prepare from time to time to monitor implementation of the updated IEE and EMP.

165. The Contractor shall allocate a budget for compliance with these EMP measures, requirements and actions. Contractor will provide Temporary Safety Canopy around construction work place where public safety is likely to be endangered due to construction activities; which shall be made of system of steel sections (main frame) at 1800 mm c/c with purlins @ 750 mm c/c making flooring system by corrugated galvanized iron sheets of thickness 0.45 mm, laying wire mesh net on iron sheets, providing continuous gutter along the edges of the building with downpipe @ 6000 mm c/c, including fitting and fixing in position providing necessary anchors, cables, wires, ties etc. by standard anchoring and welding, nut-bolts etc.

166. Safety Net with G.I. Wire will be provided with fabrication, installation and taking out temporary horizontal safety net around construction work place where public safety is likely to be endangered due to construction activities; which shall be made of Chain link net with 24 BWG wire fitted at 4.6 meters height horizontally of the outer periphery of the building with 75mmX 40mmX5mm MS Chanel post and purlin, 20mm MS Rod and 40mmX40mmX6mm MS Angle as ties etc. by standard anchoring and welding, nut-bolts etc. including PWD specified scaffolding materials.

167. Construction Supervision Lift will be provided with fitting, fixing, operating and maintenance with capacity 1000kg for supervision of building construction work during the entire construction period including all necessary components like, steel frame, car, guide rails, push button, driving motor, gear box, car door, travelling cable, RCC base for steel frame, necessary connections with the building, electric supply & electricity bill and dismantling the same after completion of the building construction. The contractor must submit detail structural drawing of supporting frame with foundation and lift specification prior to supply on site.

168. A Hydraulic static pile driver of approx. 500 m. ton capacity will be provided for driving of precast RCC pile; arranged with necessary cranes, power source, maintaining driving log and record of pressure exerted on piles driven in to designed RL or capacity level; complete in all respect including handling of piles etc.

169. 250 sqm area is proposed for gardening with close grasses and suitable plants approved by the JUSY Authority with nursing for 2 months in tender BoQ as per masterplan of the proposed building. The works will be done at the completion of the building and cost will be provided from

provisional sum amount in BoQ.

170. The following tables summarize the potential environmental impacts, proposed mitigation measures and responsible agencies for implementation and monitoring that will be conducted to mitigate the adverse impacts are presented in the environmental management plan (EMP). The EMP covers the H&SP, environmental monitoring plan (EMOP), and the institutional arrangements required. This EMP tables shall be updated from time to time to ensure all other potential impacts identified after the preparation of the IEE report are included and mitigation measures are identified. The contractor shall comply with these updated EMPs and implementation of all measures contained therein. Table IX-1 presents the EMP.

A. Monitoring

171. The environmental monitoring is a time-bound process to ensure that non-compliance of the Contractor will be avoided or will be immediately addressed. Environmental monitoring reports will be submitted to ADB twice a year during construction and annually post-construction. The environmental monitoring reports submitted to ADB will be publicly disclosed in their website as required by SPS 2009 and AIP 2019. Table IX.2 presents the EMOP.

B. Implementation Arrangements

- i). **Project Management Unit (PMU):** PMU will be set-up at UGC who will be responsible for the overall management of the project. Supported by an environmental safeguard consultant, the PMU will be also responsible in ensuring that the EMP and EMOP are properly implemented and complied with by the Contractor, submitting the environmental monitoring report to ADB, and in handling complaints following the GRM.
- ii). **Project Implementation Unit (PIU):** JUST will set-up a PIU who will be responsible for day-to-day managing of the project. The PIU will ensure that the EMP and EMOP are properly implemented, timely reporting to PMU of the environmental monitoring report required by ADB (see **Annex-5** and **Annex-6** for proposed format), public consultations, information disclosure (as appropriate), and in handling of complaints according to the GRM. Key responsibilities of PIU are as follows:
 - a) Confirm that existing IEE/EMP is updated in accordance with ADB's Safeguard Policy Statement (SPS, 2009) and based on detailed designs submitted to ADB for review and approval prior to contract award;
 - b) Confirm whether the EMP prepared at the detailed design stage are included in the bidding documents and civil works contracts;
 - c) Provide oversight on environmental management aspects on the project and ensure the EMP being implemented by the contractor;
 - d) Establish a system to monitor environmental safeguards of the project, including monitoring the indicators set out in the monitoring plan of the EMP;

- e) Facilitate and confirm overall compliance with all government rules, such as the Environmental Conservation Rules 2023, and obtain all required location and environmental clearances (if required) as well as any other environmental permits prior to contract award;
- f) Review, monitor, and evaluate the effectiveness with which the site-specific EMP (SEMP) are implemented, and recommend necessary corrective actions to be taken as necessary;
- g) Designate a staff to oversee the implementation of EMP, H&SP and EMOP;
- h) Ensure compliance of contractor to EMP, H&SP and EMOP;
- i) Engage stakeholders, as appropriate;
- j) Conduct on-site spot-checks to monitor compliance of contractor (see Environmental Inspection and Monitoring Checklist in **Annex-7**);
- k) In the event of non-compliance by the Contractor or any unanticipated environmental impacts, coordinate with the PMU environmental safeguard consultant in preparing a corrective action plan (CAP) to address the issue with time-bound actions; CAP will be submitted to ADB for review and will be disclosed to the ADB website;
- l) Ensure that any grievance/complaint received are addressed in a timely manner;
- m) Maintain a record of grievance/complaint received, resolution or action taken, and include the details in the environmental monitoring report;
- n) Keep a list of relevant permits issued by the government for the project, if any; and
- o) Prepare the respective environmental monitoring report and submit to the PMU for consolidation and finalization by the environmental safeguard consultant.

172. In the event there is locational change in the design of the new ICT Centre for Excellence building, this IEE has been updated/revised and submitted ADB prior to any construction works. The updated/revised IEE will be also disclosed to ADB website and EMP will be updated and will be included in the contract document with the contractor.

iii). Contractor of civil works. The EMP which includes the H&SP and the EMOP will be an integral part of the Bid and Contract documents. This will be verified by the PIU and the PMU. The Contractor will designate their environmental staff who will be responsible in overseeing the implementation and compliance to EMP, H&SP, and the EMOP during the construction phase. Maintain a record of complaint/grievance submitted at the project level through the Contractor including the action taken to address the issue.

iv). Construction Supervision Consultant (CSC): The Construction Supervision Consultant (CSC) will be engaged by the JUST Authority. The CSC will supervise the day to day works during implementation of all works following the approved design, drawing, tender BoQ and tender specification. They will certify the quantity of completed works and payment certificate to the contractor. The CSC will have Environmental Consultant

who will supervise the implementation of EMP during construction works. He also supports the contractor to prepare CEMP including worker's health safety plan, traffic management plan and labor management plan. He will support to prepare environment monitoring report monthly, quarterly and semi-annually.

173. The contractor shall allocate budget for compliance with these EMP and SEMP measures, requirements and actions.

174. The designated environmental staff will submit a monthly compliance and monitoring report to the PIU-designated environmental staff. The compliance and monitoring report will cover the EMP, H&SP, EMOP, and the specific environmental clause(s) in their contract document.

Table IX-1: Environmental Management Plan

Project Activity	Environmental and Social Impacts	Present Mitigation Measures	Estimated Cost	Implementation Responsibility	Supervision/ Monitoring Responsibility
Design and Pre-construction Stage					
Site survey and design of the new building	• Failure of the building to withstand climate change and natural hazards • Potential safety and health risks to students and building users due to poor building design	• Green building features were incorporated • Design will comply with the requirements of BNBC 2020	Included in project cost	PIU, Design consultant	PMU and Environmental Safeguard Consultant
Site survey and appropriate planning of the implementation of works	• Failure of the proper planning implementation works will be delayed and increase of cost involvement • Potential safety and health risks to the workers during construction period	• Skilled and responsible project manager, safety officer, specialist should be engaged • Follow the existing Government Law and ADB SPS 2009 and relevant labor law	Included in project cost	PIU, CSC, Contractor	PMU and Environmental Safeguard Consultant
	Lack of technical capacity on safeguards at JUST	• PIU will designate staff to coordinate with the environmental safeguard consultant in PMU • PIU team will undergo orientation training on safeguard's requirements and compliance with SPS 2009 • PIU may consider engaging intermittent consultant on safeguards	PIU Budget	PIU, Environmental Safeguard consultant	PMU and ADB
Updating of IEE and Preparation of Site Specific EMP	Expecting probable impacts during construction period and mitigation measures are addressed.	• Update IEE and EMP based on detailed design and submitted to ADB for review, approval and disclosure prior to commencement of work. • Ensure updated ESMP is provided by the Contractors and approval from the PMU.	Project Cost	Contractors in collaboration with PIU, CSC and approval of PMU	PMU and ADB

		• Relevant information disclosed at PIU/PMU/ADB website			
Existing Utilities	Impact on electric underground cables, water supply line, gas line within the proposed project area.	• Identify and include locations and operators of these utilities in the detailed design documents to prevent unnecessary disruption of services during construction activities • Require construction Contractors to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. • Utilities shall be relocated and reconnected well ahead of commencement of construction works, and contractor shall coordinate with utility company for relocation and reconnection before work begins. • Surrounding users shall be properly informed in advance. • Reconnection of utilities shall be completed at the shortest practicable time before commence of construction.	Project Cost	Contractors in collaboration with PIU, CSC and approval of PMU	PMU and ADB
Tree Removal	Damage to trees and clearance of vegetation at the project locations.	• After the finalization of the designs and layout of the project components, the trees within proposed construction sites will be marked. • Only trees that will require removal within the proposed construction sites will be cut. • For trees not proposed to be cut, taking all precautions to protect them from any damage from construction activities.	Project Cost	Contractors in collaboration with PIU, CSC and approval of PMU	PMU and ADB

		• Trees within the area required for construction will be felled after prior approval			
Construction work camps, stockpile areas, storage areas, and disposal areas.	Conflicts with students and staff in the university;	• Determine locations prior to award of construction Contracts.	Project Cost	Contractors in collaboration with PIU, CSC and approval of PMU	PMU and ADB
Sources of Materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.	• Prepare list of approved quarry sites and sources of materials • Materials will be collected from the Government's licensed supplier	Project Cost	Contractors in collaboration with PIU, CSC and approval of PMU	PMU and ADB
EMP Implementation Training	Irreversible impact to the environment, workers, student and staff of the university	• Project manager and all the key workers will be required to undergo EMP implementation including spoils management, Environmental Code of Practice (ECoP) for construction works; health and safety (H&S), core labour laws, traffic management plan, applicable environmental laws, etc.	Project Cost	Contractors in collaboration with PIU and CSC	PMU and ADB
Construction Stage					
Complete construction management work plan	• Avoid impacts of Contractor unplanned activities • Smooth work implementation	• Temporary pedestrian and traffic management plan to minimize disturbance from vehicular traffic and workers • Spoils disposal and construction waste management plan • Noise and dust control plan	Included in the project cost	Contractor, CSC and PIU	PMU, Environmental Safeguard Consultant

		• Drainage and storm water management plan • Materials management plan • Emergency/disaster preparedness plan • Provide list of contact details during emergency to workers or post in billboards at construction site			
Orientation of workers and staff	• Awareness to environmental requirements and their responsibility • Understanding the responsibility of Contractor in implementing the EMP, compliance to ADB requirements and the government	• Conduct briefing on EMP, records management, compliance and reporting • Identify areas to be monitored and the required mitigation measures • Explain the H&SP (Annex-8) as necessary	Included in the Contractor cost	PIU, CSC and Environmental Safeguard consultant	PMU and ADB
GBV/SEA-SH	• SEA/SH at work site • Health risks of labor relating to HIV/AIDs and other sexually transmitted diseases	• Integrate SEA/SH into existing SES/SH Plan, GRM, safety talks/orientations and regular training. • Training of laborers on SEA/SH and HIV/AIDs and other sexually transmitted diseases issues. • Enforce a ECoP for all the workers/ officials including the security personnel. • Identify hotspots for SEA/SH within the project, including construction work and labor camps alongside local communities and migrant laborers residing in rented accommodations within the village. • Awareness raising campaigns on human trafficking and SEA/SH.	Included in the Contractor cost	PIU, CSC and Gender Specialist of PMU	PMU and ADB

Worker's Health and Safety	Impact on health of workers, including risk of diseases (malaria, dengue fever, HIV Aids) and physical injury from any form of force majeure	• Comply with requirements of Government of Bangladesh Labor Law of 2006 and all applicable laws and standards on workers H&S. • Follow international best practices on occupational health and safety such as those in Section 4.2 of World Bank EHS Guidelines on Construction and Decommissioning Activities. • Produce and implement a site health and safety (H&S) plan which include measures as: (i) excluding the public from worksites; (ii) ensuring all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at all times; (iii) providing (H&S) training for all site personnel; (iv) documenting procedures to be followed for all site activities; and (v) maintaining accident reports and records. • Arrange for readily available first aid unit including an adequate supply of sterilized dressing materials and appliances • Maintain necessary living accommodation and ancillary facilities in functional and hygienic manner in work camps. Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious	Project Cost	PIU, CSC and Environmental Safeguard Consultant	PMU, and ADB
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		substances; and (iii) sanitation facilities are available at all times. • Provide medical insurance coverage for workers; • Provide H&S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers; • Provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted; • Ensure moving equipment is outfitted with audible back-up alarms; Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate;			
Topography, landforms, geology and soils	Sand, crushed stone/bricks chips and cement will be required for this project. Extraction of construction materials may cause localized changes in topography and landforms. The impacts are negligible also short-term, site-	• Utilize readily available sources with environmental clearance and license. • Collection of construction materials like stone chips or brick chips and sand from licensed supplier only. • Store stripped materials as not to disrupt natural drainage and protect	Included in the Contractor cost	Contractor, CSC and PIU	PMU, Environmental Safeguard Consultant

	specific within a relatively small area and reversible by mitigation measures.	them to prevent erosion and mitigation of soil particles into surface waters. • Provide temporary ditches and/or settling basins to collect runoff water and to prevent erosion and contamination of surface water. • Plant exposed areas with suitable vegetation at the earliest opportunity and prevent ponding of water through temporary drains to existing natural drainage network. • Restore sites after construction activities by stabilizing contours and slopes, spreading stripped materials to promote percolation and re-growth of vegetation and draining any standing water. Construction sites access roads will also be restored.			
Hiring of project staff and workers	• Dispute over transparency in hiring	• Contractor will be required to give priority to local labor • Contractors will keep a record of contact details of staff and workers such as mobile telephone number, alternate telephone, email (if any), and address of where they are staying	Included in the costs of Contractor	Contractor, CSC and PIU	PMU, Environmental Safeguard consultant
Engagement of female labor	• To follow the ADB's Gender Action Plan as per SPS 2009	• Engage female labor at least 20% of the total (if available and interested) • Maintain register daily in the register book and keep in the site office • Engage in the work items as appropriate • Pay equal wages to the female labor • Maintain pay register and keep at the site office	Included in the Contractor cost	Contractor, CSC and PIU	PMU, Environmental Safeguard Consultant and ADB

		• Construct separate sanitary toilet and washing for female labor • Do not engage pregnant female worker • If engage female labor with kids, arrange separate breast-feeding zone			
Engagement of child labor	• Engagement of child labor (age below 18 years) should be restricted	• Do not engage child labor below 18 years old • Follow the existing government's labor Act 2006	Included in the costs of Contractor	Contractor, CSC and PIU	PMU, Environmental Safeguard Consultant and ADB
Site preparation and construction works	• Disturbance and inconvenience to people due to traffic, increased noise and dust levels, and disposal of waste • Emissions from heavy equipment machinery and construction vehicles	• CMP will be strictly implemented • Use of proper safety clothes/equipment • Provide temporary enclosures (at least 2 m high) to contain dust and minimize noise	Included in the costs of Contractor	Contractor, CSC and PIU	PMU, Environmental Safeguard consultant
	Potential chance finds during site excavation	• Chance find will be included in the orientation training of workers prior to construction works • Chance find procedures in ECoP 1.0 will be followed	Included in the costs of Contractor	Contractor, CSC and PIU	PMU, Environmental Safeguard Consultant and ADB
	Potential safety risks to community	• Provide fence or barricade, sufficient lights, clear warning signs and danger signals, and take all precautions identified in the community and safety plan of CMP • Assign security staff prevent accidents, trespassing, and pilferage • Contractor to direct drivers to strictly follow road regulations	Included in the costs of Contractor	Contractor, CSC and PIU	PMU, Environmental Safeguard Consultant and ADB

		• Provide information on health and safety measures to be implemented during consultations			
	Potential occupational health and safety risks to workers	• Provide workers with hard hat, safety shoes and belts • Set up first aid at construction site • Comply with relevant safety measures required by law and best engineering practices • Provide safety measures to ensure workers are aware and understand the consequences of non-compliance • Workers to always observe physical distancing • Provide PPEs such as non-medical masks and gloves if physical distancing is not possible • Daily temperature checks before workers enter/exit the work sites • Provide first aid box with emergency medicine (tablets, bandage, gauge, Dettol, thermometer etc.) • Contract nearest clinic/JUST Medical Centre, hospital, ambulance service in case of any accidental injury of the workers, staff etc. • Any worker that shows cough and cold symptoms will not be allowed entry to work sites, and will be advised to stay home and quarantine • Install hand washing and sanitation stations at designated places • Implement H&SP and monitor compliance	Project cost	Contractor, CSC and PIU	PMU, Environmental Safeguard consultant

	• Heavy equipment and construction vehicles may increase vehicular emissions • Transport of materials to construction site may increase dust level • Earthmoving works and opened land areas increase dust levels • Increase in noise level and vibration from excavation and heavy equipment and construction vehicles	• Construction vehicles will be maintained to minimize vehicular emissions • Provision of temporary enclosures • Provide space on-site for construction materials to reduce trips of material delivery • Contractor will be required to maintain construction vehicles, equipment and machineries regularly to reduce emissions, avoid smoke belching, and reduce noise • Noise control must explicitly comply with the NPCR 2025 (DoE) and air quality measures should align with DoE/APCR 2022 • Spray water in opened land areas or in sources of dust generation • Transport of dust generating materials will be covered • Observance of low speed by vehicles to reduce noise • Noise-generating works will be done between 6 a.m. and 11 p. m. only. • No blowing of horns will be allowed • Comply with traffic management plan	Included in the costs of Contractor	Contractor, CSC and PIU	PMU, Environmental Safeguard Consultant and ADB
Construction of ICT Centre for Excellence Building	• Noncompliance to relevant regulations • Potential accidents due to working at heights • Occupational and community safety risks • Generation of waste	• Monitor compliance to regulations • Provide adequate PPEs to workers • Provide first aid kits and fire-fighting system • Conduct daily toolbox meeting prior to start of work • Conduct work only from 6 a.m.to 11 p.m. Provide enclosures to noise	Included in Contractor costs	Contractor, CSC and PIU	PMU, Environmental safeguard consultant and ADB

		generating works and equipment, and areas generating dust • Implement and comply with the approved H&SP; using IFC WB EHS Guidelines			
Clean up of construction sites after completion of construction works	Improper disposal of construction debris	• Restore/reinstate all the areas potentially damaged during construction works • Workers will be provided with proper safety gear and equipment • Dispose remaining waste and debris at designated sites	Included in Contractor costs	Contractor, PIU	PMU, Environmental safeguard consultant
Post Construction Stage					
Occupy new Building	Improper use and lack of care to the new building	JUST to conduct orientation and awareness to staff and students on proper care of the facility	Include in the operation cost	PIU, CSE Department	PMU
	Generation of waste	• Designate waste management coordinator • Prepare waste management plan with time-bound targets • Conduct yearly training/orientation to trainees on waste management, proper collected, and disposal • Explore measures to implement the principles of reduce, reuse and recycle effectively including segregation at source. • Contract Chougachha Pourashava for final disposal of waste to designated disposal place	Include in the operation cost	PIU, CSE Department	PMU

	Potential incidence of emergency and natural disaster	• Prepare emergency/disaster preparedness plan and procedures • Designate a Disaster Coordinator who will also act as the OHS officer • Conduct training/orientation/drills on health and safety issue and emergency awareness • Provide clear and visible emergency warning signs, and posters that promote awareness of health and safety (e.g., refer to WHO Bangladesh prepared materials)	Include in the operation cost	PIU, CSE Department	PMU
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ADB = Asian Development Bank, BNBC = Bangladesh National Building Code, EMP = Environmental Management Plan, N/A = Not applicable, PIU = Project Implementation Unit, PMU = Project Management Unit. WHO=World Health Organization, OHS=Occupational Health and Safety, JUST=Jashore University of Science & Technology

C. Institutional Capacity Development Program

175. The PMU's Environmental Specialist is responsible for trainings on environmental awareness and management in accordance with both ADB and government requirements. Specific modules customized for the available skill set will be devised after assessing the capabilities of the target participants and the requirements of the project. Typical modules would be as follows: (i) sensitization; (ii) introduction to environment and community considerations in use the proposed building project during construction stage; (iii) review of IEEs and integration into the project detailed design; (iv) improved coordination within nodal departments; and (v) monitoring and reporting system. The Contractors will be required to conduct environmental and social awareness and orientation of workers prior to deployment to work sites. The proposed training project along with the frequency of sessions is presented in Table IX-2.

Table IX-2: Training Program for Environmental Management

Items	Pre-construction/prior to Construction	Construction	
Training Title	Orientation workshop	Orientation program/ workshop for Contractors and supervisory staffs	Experiences and best practices sharing
Purpose	To aware the participants of the environmental safeguard requirements of ADB and GOB and how the project will meet these requirements	To build the capacity of the staffs for effective implementation of the designed EMPs aimed at meeting the environmental safeguard compliance of ADB and GOB	To share the experiences and best practices aimed at learning lessons and improving implementation of EMP
Contents	Module 1: Orientation ADB Safeguards Policy Statement Government of Bangladesh Environmental Laws and Regulations Module 2: Environmental Assessment Process ADB environmental process, identification of impacts and mitigation measures, formulation of an EMP, implementation, and monitoring requirements Review of environmental assessment report to comply with ADB requirements	Roles and responsibilities of officials/Contractors/ consultants towards protection of environment Environmental issues during construction Implementation of EMP Monitoring of EMP implementation Reporting requirements	Experiences on EMP implementation – issues and challenges Best practices followed

Items	Pre-construction/prior to Construction	Construction	
	Incorporation of EMP into the project design and Contracts		
Duration	1 day	1 day	1 day on a regular period to be determined by PMU and ICs
Participants	PMU staffs (technical and environmental) involved in the project implementation	PU and Contractors	PIU and Contractors

D. Staffing Requirement and Budget

176. Costs required for implementing the EMP will cover the following activities:

- i. Updating IEE, preparing and submitting reports and public consultation and disclosure;
- ii. Implementation of EMP, environmental monitoring program and long-term surveys.

177. The proposed infrastructure is generally straightforward and will take two to three years to build. Environmental monitoring during construction will also be straightforward and will involve periodic site observations and interviews with workers and others, plus checks of reports and other documents. This will be conducted by CSC environmental expert assisted by the PMU environment specialist. The environmental specialist will use the IEE as necessary and perform tasks as specified in the TOR.

178. The cost of mitigation measures and surveys during construction stage will be incorporated into the Contractor's costs, which will be binding on him for implementation. The surveys will be conducted by the Contractors.

179. The operation phase mitigation measures are again of good operating practices, which will be the responsibility of PIU/PMU. All monitoring during the operation and maintenance phase will be conducted by JUST, therefore, there are no additional costs.

180. The indicative costs of EMP implementation are shown in Tables IX-3 (by source of funds).

Table IX-3: Indicative Cost of EMP Implementation

	Particulars	Stages	Unit	Total Number	Rate (Taka)	Cost (Taka)	Cost covered by
A. Mitigation Measures							
1.	Compensatory plantation measures	Construction	Per tree	As per Layout plan	Contractor's Quated price		Civil works Contract
B. Monitoring Measures							
1.	Drinking Water quality monitoring	Construction	Per package	24	20,000	4,80,000	Civil works Contract
C Capacity Building							
1.	((i) Orientation workshop for officials involved in the project implementation on ADB Safeguards Policy Statement, Government of Bangladesh environmental laws and regulations, and environmental assessment process; (ii) linduction course Contractors, preparing them on EMP implementation and environmental monitoring requirements related to mitigation measures; and taking immediate action to remedy unexpected adverse impacts or ineffective mitigation measures found during the course of implementation; (iii) GBV/SEA-SH risks with prevention awareness and (iv) Lessons learned information sharing	Module 1 – immediately upon engagement of the IC environmental expert/NGO Module 2 – prior to award of civil works Contracts (twice a year years) Module 3 – prior to start of work and upon completion of the project	lump sum		Module 1 – 160000 Module 2 – 160000 Module 3 – 160000	480,000	Civil works Contract

Table IX-4: Environmental Monitoring Plan

Project Stage	Parameter	Location	Method of Measurement	Frequency	Responsibility	
					Implementation	Supervision
Construction	Generation of waste and other construction debris	Construction Site	Volume of waste or number of trips	Twice a Week	Contractor	PIU
	Increase of Dust Level	Construction Site	• Frequency of water spraying • Ocular inspection	Daily	Contractor	PIU, Environmental safeguard consultant
	Increase in noise level	Construction Site	• Enclosure of noise generating activities or machinery • Check blowing of horns	Daily		
	Ambient Air Quality	Sampling stations in Table IV.2	PM ₁₀ and PM _{2.5}	Quarterly		
	Ambient Noise Level	Sampling stations in Table IV.3	Sound level meter (dBA)	Quarterly		
	Availability of Project Information	PIU and Construction Site	• One-page flyer, project brief or Project Q&A • Poster and flyer on Health Safety	Quarterly	Contractor, PIU	Environmental Safeguard Consultant, PMU
	Recruitment from local labor	PIU Office	Number of local workers and Staff recruited	Monthly	Contractor, PIU	PMU
	Orientation of workers on health and safety	Construction site	Number of Participants	Monthly	Environmental Safeguard Consultant, Contractor, PIU	PMU
	Orientation of Contractor and workers on issues like HIV/AIDS, GBV/SEA-SH risks, compliance to EMP and ADB requirements, etc.	Construction site	Number of participants	• Once before construction • Quarterly as refresher to make sure	Environmental safeguard consultant, PIU	PMU

				knowledge is up to date		
	Solid waste management	Construction site	Volume of waste disposed Ocular inspection/spot checks	Every week	Contractor	PIU, Environmental Safeguard Consultant
	Clear and visible warning signs for safety of workers and JUST community	Construction site and access roads	Ocular inspection/spot checks	Once a month	Contractor	PIU, Environmental Safeguard Consultant
	Health & Safety awareness - Clear and visible posters promoting hand washing, physical distancing, use of masks, and respiratory etiquette	Construction sites, workers temporary shelter or rest area	Ocular inspection/spot checks	Weekly	Contractor	PIU, Environmental Safeguard Consultant
	Announcement to the public of works schedule	JUST Community	Work schedule log sheet	As needed	Contractor	PIU, Environmental Safeguard Consultant
	Smoke belching construction vehicles	Construction site and access roads	Ocular inspection/spot checking	Weekly	Contractor	PIU, Environmental Safeguard Consultant
	Proper storage and management of construction materials and wastes	Construction site	• Number of vehicles • Ocular inspection/spot checking	Weekly	Contractor	PIU, Environmental Safeguard Consultant
	Hand washing stations with adequate soap and water, or hand sanitizers with at least 60% alcohol	Construction site and temporary workers' shelter	• Ocular inspection/spot checks • Number of available working hand washing stations	Daily	Contractor	PIU, Environmental Safeguard Consultant

			• Number of working hand sanitizing stations (if water and soap are not available) • Available stock of gloves and facial masks to workers and staff			
	Use of Personal Protective Equipment (PPE) and Safety Gear	Construction site	Ocular inspection/spot checks	Daily	Contractor	PIU, Environmental Safeguard Consultant
	Condition of sanitary facilities and safe drinking water	Construction site	Ocular inspection/spot checks	Daily	Contractor	PIU
	Good housekeeping	Construction site and temporary workers' shelter or rest areas	Ocular inspection/spot checks	Daily	Contractor	PIU
Post construction	Orientation of students, faculty, and administrative staff on care and maintenance of the building	JUST	Number of trainees	Annually (at start of each term)	• Office of Chief Engineer • Office of Director of Planning, Development and Works	PIU
	Good housekeeping (also garbage collection and disposal)	JUST	Ocular inspection/spot checks	Monthly	Office of Chief Engineer	PIU
	Condition/maintenance of fire extinguishers/fire- fighting units/fire alarms	JUST	Ocular inspection/spot checks	Annually	Office of Chief Engineer	PIU

	• Orientation on the safety/emergency/disaster manual and procedures • Orientation/awareness drive on health and safety	JUST	• Check manuals • Check log sheet	Quarterly (to consider monthly)	Office of Chief Engineer	PIU
	Emergency mock drills	JUST	Number of trainees	Semi-annual (or every start of school term)	Office of Chief Engineer	PIU
	Greening program/grounds maintenance	JUST	Types of plants, area planted	Annually	Office of Chief Engineer	PIU
	Condition of safety gears and emergency equipment	JUST	Ocular inspection/spot checks	Annually	Office of Chief Engineer	PIU
	Building condition • Roof • Electrical panel and wiring • Door handles, windows, hinges and closures • Walls and ceilings • Stairways and fire • Storm water drains • Elevators	JUST	Ocular inspection/spot checks for cracks, signs of water leaks, damage, fire hazards, etc.	Semi-annual	Office of Chief Engineer	PIU

Only until the loan is being implemented. ADB = Asian Development Bank, BNBC = Bangladesh National Building Code, EMP = Environmental Management Plan, N/A = Not Applicable, PIU = Project Implementation Unit, PMU = Project Management Unit, JUST = Jashore University of Science and Technology, PIU = Project Implementation Unit, PM_{2.5} = Particulate Matter 2.5, PM₁₀ = Particulate Matter 10, SPM=Suspended Particulate Matter

X. Monitoring Indicators

181. Due to establishment of the proposed project several environmental components have potential risk of disruption either during construction or operational phases that needs to be monitored for detection and management of any damage of the environment. Following are the plausible indicators with major significance that should be monitored and evaluated for the potential risks that could be beneficial for carried out proper mitigation measures:

- Drinking water
- Air quality
- Noise level
- Water quality (groundwater and surface water)
- Health & safety issues of staff and workers
- Stack air emissions concentrations
- Solid wastes left on the soil
- Worker's health and safety
- Traffic safety
- Safety measures during any outbreak of pandemic such as COVID-19 or contagious diseases

182. Besides, the following matters are to be monitored for health and safety regularly.

- Whether workers are using Laboratory apron, gloves, mask, shoe and spectacles, etc.
- As there is well equipped Medical Centre at JUST campus, a contract between the Medical Authority of JUST and the contractor should be signed for any emergency and regular treatment facilities if required with ambulance service
- Whether there is separate washroom for women
- Is there any GRM for protecting from sexual harassment of woman and unequal wages.

A. Environment Management Cell

183. The PIU will formulate the Environment Management Cell with vision to operate the EMP requirements as suggested in the chapter. Environmental Management Cell must be formulated for efficient & easy operation of environment management system & operations. JUST Engineering section will prepare EMC and distributed the responsibility to the respective persons to manage the cleanliness, environmental problems, health and safety problems, waste management arise due to activities in the JUST campus.

184. The EMC members should be well trained on Environmental Management and they are also responsible to provide emergency backup in any unwanted condition. Beside this they will arrange training for workers for emergency and assign some employee as emergency response team.

B. Role of Environment Management Cell

185. The role of environment cell is of different nature during (1) construction and (2) operational phases.

During Construction phase:

- Responsible for monitoring the contractor's activities and to ensure adequate implementation of the ESMP by the contractor.
- Providing guidance to the PIU and CSC regarding any environmental and social issues which may arise during pre-construction and construction phase.
- Keep track of contractor's day to day activities, their commitment for implementation of EMP, quality of work, adherence to safety guidelines and method statements.
- Review the Environment Management Action Plan (EMAP) submitted by contractor and should check adequacy as per the EMP for this project. This EMAP should be amendable and can be updated time to time by PIU/CSC
- Evaluate Safety, Health and Environmental (SHE) plan covering various construction activities, health of workers/labourers to be submitted by contractor for each activity. This plan should include evacuation plan, emergency management & response plan.
- As preventive measures of infectious diseases, closely monitor the sanitation and hygiene at the construction labour camp, construction site, first aid facilities at sites and labour camps, accident monitoring at the site, safety aspects, PPE usage, first aid box etc.
- Ensure that all construction and site vehicles should abide by the latest emission norms of the country.
- Monitor that all workers & labour of contractor should have valid ID cards to access the site through specific entrance.
- Monitor that adequate safety trainings are being given to the workers, adequate mock drills are conducted at site by contractor, availability of emergency evacuation plan, emergency assembly area, availability of certified first aid trainer at all the construction sites.
- Submit monthly performance report on the level of compliance & non-compliance by the contractor.

Role during Operation phase:

186. The cell will be given the responsibility to independently monitor the overall performance of environmental management of the project, including compliance with relevant GoB and ADB Guidelines and the provision of the Environmental Management Framework (EMF) developed for the project. As a part of the monitoring, they will prepare a comparison of monitoring outcomes carried out, so that lessons learned, and best practices could be replicated. They will prepare the Compliance Report and submit to the Project Management.

C. Capacity Building

187. Capacity building for effective implementation of the environmental safeguard requirements is a key element of the EMP. Capacity building for environmental safeguard management will need to be carried out at all tiers of the project, including JUST, E&S Cell, CSC, and the contractor. At the construction site, CSC will take the lead in implementing the capacity building plan, though the contractors will also be responsible to conduct trainings for their own staff and workers. The various aspects that are covered under the capacity building will include general environmental and social awareness, key environmental and social sensitivities of the JUST campus area and key environmental and social impacts of the project, EMP requirements, OHS aspects and waste disposal. Table X-1 provides a summary of various aspects of the environmental and social trainings to be conducted at the construction site. E&S Cell may revise the plan during the project implementation as required.

188. During the O&M phase of the project, these trainings will continue to be conducted by BLPA staff for all relevant O&M personnel and community.

Table X-1: Environmental and Social Trainings

Contents	Participants	Responsibility	Schedule
- General environmental and socioeconomic awareness. - Environmental and social sensitivity of the project influence the area. - Mitigation measures. - Community issues and workers' Environmental Code of Practice. - Grievance Mechanism. - ESMP; Awareness of transmissible diseases; Social and cultural values.	- PIU - CSC - Selected contractor's crew	CSC	Prior to the start of the field activities. (To be repeated as needed.)
- ESMP. - Waste disposal. - OHS	Construction crew	Contractors	Prior to the start of the construction activities.(To be repeated as needed.)
- Road safety. - Defensive driving - Waste disposal. - Cultural values and social sensitivity.	Drivers.	Contractors	Before and during field operations. (To be repeated as needed.)
- Camp operation. - Waste disposal. - OHS. - Natural resource conservation. - Housekeeping.	Camp staff	Contractors	Before and during field operations. (To be repeated as needed.)
- Restoration requirements. - Waste disposal.	Restoration teams	Contractors	Before the start of the restoration activities.

D. Documentation and Reporting

189. Project Management and Supervision Consultants will collect all data and information related to the implementation of EMP on behalf of PIU and submits monthly, half yearly and yearly reports to the PIU during construction. During operational phase, the responsible person for environmental safeguard designated by JUST will collect related data and information regularly and prepare reports as desired by authority.

190. **Environmental Monitoring Reports:** The environmental monitoring reports will include:

- Environmental mitigation measures undertaken,
- Environmental monitoring activities undertaken,
- Details of monitoring data collected,
- Analysis of monitoring results particularly the non-compliances,
- Recommended mitigation and corrective measures,
- Environmental training conducted, and
- Environmental regulatory violations observed.

191. **Project Completion Environmental Monitoring Report:** One year after completion of construction, the responsible person environmental safeguard officer will submit a Project Completion Environmental Monitoring Report which will summarize the overall environmental impacts from the project.

XI. Cost Estimation for Environmental Mitigation Measures and Monitoring

192. This section describes the budget plans for the environmental management and environmental monitoring by the project proponent. Proponent will take necessary environmental mitigation measures and its expenses for the environmental management not only at the construction and operation phases but also at the closing, termination, and after termination phases in accordance with their IEE study. The costs are approximate and need calibration at the time of detailed design and estimation stage. Total cost for environmental management and monitoring will be BDT 10,756,000.00.

A. Budget Plan for Environmental Management

193. Most of the mitigation measures such as, dust management, construction of labour shed, waste management, PPE, first aid facilities and trainings etc. are already included in the project cost. Main costs for mitigation measures are shown in the Table below. Detailed costs for each mitigation measure are to be calculated at the detailed design stage.

Table XI-1: Environmental impact mitigation cost for Construction period

Sl. No.	Description of Item	Unit	Quantity	Unit Rate (BDT)	Item Total Cost (BDT)
1	For dust management, water sprinkling for dust management during construction period to the satisfaction of the Engineer.	month	12	50,000.00	600,000.00
2	Making/ construction and maintenance temporary construction/ labor campsite with facilities including drinking water supply/DTW installation and sanitation facilities.	month	24	100,000.00	2,400,000.00
3	Construction stage Solid Waste Management including waste collection, treatment, reuse, transportation and disposal soil, rubbish and liquid wastes at authorized disposal areas, minimization of volume and recycling as directed by the engineer.	month	24	25,000.00	600,000.00
4	Preparation of Traffic Management Plan, adequate lightings, separate entrance and exit gates and warning signs and deployment of flag men to guide the construction materials carrying vehicle to the site and satisfaction of the engineer	month	24	30,000.00	720,000.00

Sl. No.	Description of Item	Unit	Quantity	Unit Rate (BDT)	Item Total Cost (BDT)
5	Striping topsoil from borrowed agricultural lands, stockpiling and replacing the same to rehabilitate the land to the entire satisfaction of the engineer	LS	1	100,000.00	100,000.00
6	Provision of facilities for safe transportation and storage of fuels and other hazardous materials, as per satisfaction of the engineer.	month	24	25,000.00	600,000.00
7	Tree plantation and green area development plan in the project area maintenance until defect liability period of the contractor	month	18	30,000.00	540,000.00
8	Construction of temporary earthen drain and its maintenance during rains for drain out the surface water from the construction site and workers campsite during rains and to be the entire satisfaction of Engineer.	month	24	6,500.00	156,000.00
9	Providing and maintaining safe drinking water to Contractor's staff and workers at site and in all worker's camp, including installation of tube-well and water treatment facilities to the satisfaction of the engineer.	month	24	50,000.00	1,200,000.00
10	Providing and maintaining toilets, showers, and washing areas for Contractor's staff and all workers, with separate facilities for male and female, within a reasonable distance from work site and worker's camp with waste water treatment and disposal system as per EMP and to the satisfaction of the engineer.	month	24	15,000.00	360,000.00
11	Training and orientation on daily, weekly and monthly basis to Contractor's staff and workers on compliance of EMP in general and key issues and requirements of EMP, OHS and emergency response, health issues including malaria and	month	24	25,000.00	600,000.00

Sl. No.	Description of Item	Unit	Quantity	Unit Rate (BDT)	Item Total Cost (BDT)
	STIs/HIV/AIDs in particular, including ESHS monitoring and GBV/SEA-SH risks control to the satisfaction of the Engineer.				
12	Water quality protection measures: soil erosion and sedimentation control at the construction site and prevention of spillages, leakages of polluting materials, etc. to be at the satisfaction of the engineer.	month	24	5,000.00	120,000.00
13	Rehabilitation of ancillary sites including stockpile sites, brick crushing sites, borrow areas, work force camps/site office, and these are to be the entire satisfaction of Engineer.	Sqm	1,000.00	500.00	500,000.00
14	Provision of First Aid facility, including supply and replenishing first-aid boxes at site office and construction camp as well as deployment of a full-time designated first aider/nurse, stretcher and ambulance as well as arrangement with the nearest health facility to take in site injuries.	month	24	15,000.00	360,000.00
15	Providing appropriate Personal Protective Equipment (PPE) for Contractor's staff and all workers during their presence at site, including e.g. safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, ear protection, harness for working at height etc.	month	24	30,000.00	720,000.00
Total in Taka Ninety-Five lac Seventy Six thousand only					9,576,000.00

B. Budget Plan for Environmental Monitoring

194. In terms of budget for environmental monitoring before/during construction and operation phases, main monitoring cost related with field measurements such as air, water, and noise quality. Total costs for field measurements in the construction phase by contractor and annual costs in the operation phase by the proponent are estimated, respectively, as shown in the Table below.

Table XI-2: Environmental monitoring cost during construction

Sl. No.	Description of Item	Unit	Quantity	Unit Rate (BDT)	Item Total (BDT)
1	Air Pollution monitoring measurement of SPM, PM ₁₀ , PM _{2.5} , NO _x , SO _x , CO, O ₃ and Pb at 2 locations and 4 times (before, during and after construction) as directed by the engineer and submission of monitoring result.	each	8	35,000.00	280,000.00
2	Noise level (dBA) monitoring at 2 locations and 4 times (before, during and after construction) as directed by the engineer and submission of monitoring result.	each	8	15,000.00	120,000.00
3	Ground water pollution monitoring: measurement of pH, DO, COD, EC, TDS, Iron, Arsenic, 4 times (before, during and after construction) as directed by the engineer and submission of monitoring result.	Each	4	25,000.00	100,000.00
4	Surface water pollution monitoring: measurement of pH, DO, BOD ₅ , COD, EC, TDS, TSS 4 times (before, during and after construction) as directed by the engineer and submission of monitoring result.	each	4	25,000.00	100,000.00
5	Soil sampling from 4 locations and test (Pb, Hg, Organic matter, pH, Fe, Ca, Zn, Sulfur, and Nitrogen) from recognized laboratory including collection of samples, transportation, tests fees etc. as requirement of EMP, as directed by the engineer and submission of monitoring result.	each	4	25,000.00	100,000.00
6	Quality monitoring of drinking water: Test (Chemical test) of water quality parameters (Conductivity, Iron, Manganese, pH, Arsenic, Coliform, Chloride, Hardness, Alkalinity, Boron & Barium) at nearest DPHE or Govt. Authorized Laboratory including supply of glass, bottles, collection of water, transportation, test fees etc. as requirement of EMP once every month as directed by the engineer and submission of monitoring result.	each	24	20,000.00	480,000.00
Total in Taka Eleven lac Eighty thousand only					1,180,000.00

Table XI-3: Estimated total costs for environmental impact management and monitoring

Items	Cost (in BDT)
Environmental impact mitigation and management during construction period	9,576,000.00
Environmental monitoring cost during construction period	1,180,000.00
Grand Total in Taka One crore Seven lac Fifty Six thousand only	10,756,000.00

XII. Conclusion and Recommendation

195. The potential environmental impacts associated with the construction of the new building in JUST to be known as the “ICT Center for Excellence” are assessed as appearing mainly during the construction phase, are of short duration, temporary, reversible, and can be easily mitigated by good and best practices in engineering construction. The potential impacts can be mitigated also by adhering to the design provisions set forth in the BNBC 2020. The mitigation measures are outlined in the EMP and the parameters to be monitored are listed in the EMOP. Appropriate Occupational Health and Safety preparedness measures have been incorporated both during the construction and post-construction phase to ensure the safety and wellbeing of workers, students, faculty, staff, and the community. The Contractor will be required to prepare a health and safety plan, labour management plan, traffic management plan to the project site without hampering the main entrance of the students and other university vehicles which will be part of the EMP, and will be approved by the PIU and PMU.

196. Consecutive design review meetings have been held through the month of April to August 2025 and finally conclude the design to comply with Green and Energy saving building as per recommendation of ADB. As the location of the proposed building has been changed within the previously demarked area and baseline condition of the surrounding area has been changed from feasibility study period, ADB suggested that previous IEE should be updated considering the above changed. As per suggestion from ADB the previous IEE has been updated with present condition and revised design of the building. Stakeholders were consulted and a GRM to deal with potential complaints on the project is included. Public consultations will continue in varying degrees throughout project implementation. Reliable information provided by the government and agencies like WHO will be incorporated during consultations. Appropriate consultation methods based on WHO guidance notes and suggested EMP will be used during construction of the proposed building.

197. An environmental safeguard consultant has been engaged in the PMU throughout construction phase to ensure capacity and technical support in complying with the requirements of ADB. Environmental monitoring reports will be submitted by the PMU to ADB semi-annually during construction and annually post-construction. These monitoring reports will be similarly disclosed on the ADB website. Given these measures, UGC and JUST are committed to comply with the requirements of ADB.

Annex 1: Environmental Code of Practice (ECoP)

The Environmental Code of Practice (ECoP) will provide guidelines for environmental impact management during construction phase under the Improving Computer and Software Engineering Tertiary Education Project (ICSETEP) in Bangladesh. The ECOP provides operating practices and environmental management measures to be followed by the contractor for sustainable management of all project related environmental issues and potential impacts. It promotes awareness and use of best practices in environmental management. The recommended ECOP developed for the project are:

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
ECOP 1: Waste Management		
General Waste	Soil, water and air pollution from the improper management of wastes and excess materials from the construction sites.	The Contractor should •Ensure proper collection and disposal of solid wastes within the construction camps •Insist waste separation by source means organic wastes in one bin/pot and inorganic wastes in another bin/pot at household level. •Store inorganic wastes in one chamber and inorganic waste in other chamber of the covered three chambered small concrete pit in the suitable location of the construction camp. When fill the chamber, inorganic wastes can be sold to the vender and organic wastes can be covered with earth for converting fertilizer. The local farmers can use fertilizer for their agricultural lands free of cost. •Do not burn/throw in to the waterbodies any general wastes
Construction Wastes	Construction waste and environmental impacts due to improper waste management practices	The Contractor shall: Collect construction wastes (such as piece of rod, wood, bamboo, tin sheet, brick etc.) separately from the sources and store in a designated area in the construction camp for re use and avoiding potential environmental pollution. •Collect and store all hazardous wastes appropriately in container/bunded area and make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. Do not dispose hazardous liquid waste on soils. •Do not burn/throw in to the waterbodies any construction wastes.
ECOP 2: Surface/Ground/Drinking Water Management		
Drinking/Ground Water	Ground/Drinking water at shallow depths is contaminated with arsenic and other parameters and hence not suitable for	The Contractor Shall •Select aquifers for drinking water free from arsenic and other contaminants. •Tube wells will be installed with due regard for the surface environment, protection of groundwater from surface contaminants, and protection of aquifer cross contamination.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
Discharge from construction sites	During construction both surface and ground water quality may be deteriorated due to construction activities, disposal of wastes into the nearby waterbodies (if any), connection of toilets with the water bodies and accidental spillage of liquid waste.	The Contractor shall Install temporary drainage works (drains) in areas required for around storage areas for construction materials. Divert runoff from undisturbed areas around the construction site. Stockpile materials away from drainage lines. Prevent disposal of all solid and liquid wastes into the nearby waterbodies and on the areas other than designated waste dumping sites.
ECOP 3: Drainage Management		
Excavation and earth work, and construction yards	Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms environment in terms of water and soil contamination, and mosquito growth.	The Contractor shall • Prepare a program for prevent/avoid standing waters, which JUST Engineering Section will verify in advance and confirm during implementation. • Rehabilitate internal road side drains immediately if damaged by any construction activities. • Construct wide drains instead of deep drains to avoid earth deposition in the drains that require frequent cleaning. • Protect natural slopes of drainage channels to ensure adequate storm water drains. • Regularly inspect and maintain all drains to assess and alleviate any drainage congestion problem.
Ponding of water	Health hazards due to mosquito breeding	• Do not allow ponding of water especially in the drains and in the construction camps. • Discard all the storage containers that are capable of storing of water, after use or store them in inverted position.
ECOP 4: Topsoil Management		
Land clearing and earth works	Loss of topsoil from excavation activities	The Contractor shall • Strip the top soil to a depth of min 0.50m and stock piles of height not exceeding 2m. • Remove unwanted materials from top soil like grass, roots of trees and similar others. • Locate topsoil stockpiles in areas outside drainage lines and protect from erosion. • Construct silt fences around the topsoil stockpiles to prevent loss of topsoil. • Spread the topsoil to maintain the physico-chemical and biological activity of the soil. The stored top soil will be utilized for covering all disturbed area and along the proposed plantation sites. • Prior to the re-spreading of topsoil over the subproject filling areas, the ground surface will be ripped to assist the bonding of the soil layers, water penetration and re- vegetation.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
ECOP 5: Dust/Air Quality Management		
Construction vehicles	Air quality can be affected by dust, generated due to movement of vehicles and combustion of fuels.	The Contractor shall •Fit vehicles with appropriate exhaust systems and emission control devices. •Operate the vehicles in a fuel- efficient manner. •Cover haul vehicles carrying dusty materials moving outside the construction site. •Impose speed limits on all vehicle movement at the worksite to reduce dust emissions. •Control the movement of construction traffic. •Service all vehicles regularly to minimize emissions. •Watering filling sandy earth surface and cover asap by top soils.
Construction equipment	Air quality can be affected by emissions from equipment and combustion of fuels.	The Contractor shall •Fit machinery with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition in accordance with the specifications defined by their manufacturers to maximize combustion efficiency and minimize the contaminant emissions. Proof or maintenance register shall be required by the equipment suppliers and contractors/subcontractors. •Machinery causing excess pollution (e.g. visible smoke) will be banned immediately from construction sites. •Service all equipment regularly to minimize emissions.
Construction activities	Dust generation from construction sites, material stockpiles specially dredged material stockpiles and access roads is a nuisance in the environment and can be a health hazard.	•Water the material stockpiles, access roads and bare soils on an as required basis to minimize the potential for environmental nuisance due to dust. Increase the watering frequency during periods of high risk (e.g. dry period and high winds). Stored materials such as sand shall be covered by vegetation/grass-turfing. •Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations.
ECOP 6: Noise Management		
Construction vehicles	Noise quality will be deteriorated due to vehicular traffic	The Contractor shall Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures. Make sure all drivers will comply with the traffic codes concerning maximum speed limit, driving hours, use of cell phone during driving etc. Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the work site.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
Construction equipment	Noise may have an impact on workers, local residents, wildlife, livestock etc.	The Contractor shall Appropriately site all noise generating activities to avoid noise pollution to local residents. Use the quietest available plant and equipment. Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures. Equipment suppliers and contractors shall present proof of maintenance register of their equipment. Install temporary noise barriers by screen, tin, wood around generators to reduce noise levels. Avoid the unnecessary use of alarms, horns and sirens. Use ear plugs in noisy areas of the construction activities.
Construction activities	Noise and vibration may have an impact on workers, local residents, wildlife, livestock	The Contractor shall •Train the operators of construction equipment on potential noise problems. •Employ best available work practices on-site to minimize occupational noise levels. •Install temporary noise control barriers by tin sheets, screen etc. where appropriate. •Avoid undertaking the noisiest activities, where possible, when working at night near the residential areas.
ECOP 7: Topography		
Earthworks	Change in topography and local landscape and disturbance to the natural rainwater/flood water drainage	The Contractor shall •Ensure the topography of the final surface of the all raised subproject land areas are conducive to enhance natural draining of rainwater/flood water. •Keep the finished surface of all the raised lands free from any kind of depression that insists water logging. •Undertake mitigation measures for prevention by grass-turfing and tree plantation, where there is a possibility of rain-cut that will change the shape of topography. •Cover immediately the uncovered open surface that has no use of construction activities with grass—cover and tree plantation to prevent soil erosion and bring improved landscaping.
ECOP 8: Protection of Flora		

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
Vegetation clearance	Increase in deforestation caused by land clearing for the construction of new subprojects	The Contractor shall • Reduce disturbance to vegetation. • Use appropriate and minimum size of machine to avoid disturbance to adjacent vegetation's. • Clear only the vegetation that needs to be cleared in accordance with the plans. These measures are applicable to both the construction areas as well as to any associated activities such as sites for stockpiles, disposal of fill etc. • Do not burn off cleared vegetation- where feasible, chip or mulch and reuse it for the rehabilitation of affected areas, temporary access tracks or landscaping. • Return topsoil and mulched vegetation (in areas of native vegetation) to approximately the same area of the roadside it came from. • Ensure excavation works occur progressively and revegetation done at the earliest. • Provide adequate knowledge to the workers regarding nature protection and the need of avoid felling trees during construction.
ECOP 9: Construction Camp Management		
Siting and Location of construction camps	Campsites for construction workers are the important locations that have significant impacts such as health and safety hazards on local resources and infrastructure of nearby communities.	The Contractor shall • Locate the construction camp at areas which are acceptable from environmental, cultural or social point of view. • Consider the location of construction camps away from communities in order to avoid social conflict in using the natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities. • Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters.
Construction Camp Facilities	Lack of proper infrastructure facilities such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	Contractor shall provide the following facilities in the camp sites. • Adequate accommodation for all workers. • Safe and reliable water supply. Water supply from tube wells that meets the national standards. • Hygienic sanitary facilities for all labors. According to BNBC, the minimum number of toilet facilities required is one toilet for every ten persons.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
Disposal of wastes	Management of wastes is crucial to minimize impacts on the environment	The Contractor should • Ensure proper collection and disposal of solid wastes within the construction camps • Insist waste separation by source; organic wastes in one bin/pot and inorganic wastes in another bin/pot at household level. • Store inorganic wastes in one chamber and inorganic waste in other chamber of the covered three chambered small concrete pit in the suitable location of the construction camp. When fill the chamber, inorganic wastes can be sold to the vender and organic wastes can be covered with earth for converting fertilizer. The local can use fertilizer for their agricultural lands free of cost.
Health and safety	There will be a potential for diseases to be transmitted including measles, diphtheria, exacerbated by inadequate health and safety practices.	The Contractor shall • Provide first aid facility round the clock. Maintain stock of medicines in the facility and appoint designated first aider or nurse. • Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies. Regular mosquito repellent sprays during monsoon. • Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers.
ECOP 10: Sensitive/Cultural Issues		
Construction activities near sensitive/cultural sites (such as mosque, mandir, pagoda, madrasa, permanent water body, eidgah, garden etc.)	Disturbance from construction works to the sensitive/cultural sites, and contractors lack of knowledge on cultural issues cause social disturbances.	The Contractor shall • Communicate to the public through community consultation and announcement regarding the scope and schedule of construction, as well as certain construction activities causing disruptions. • Do not block access to sensitive/cultural sites, wherever possible. • Stop construction works that produce noise (particularly during prayer time) should there be any mosque/religious institute close to the construction sites and users make objections. • Take special care when working next to a sensitive/cultural institution. • Show appropriate behavior with all construction workers especially women and elderly people. • Resolve cultural issues in consultation with local authority and JUST Administration. • Establish a mechanism that allows local people to raise grievances arising from the construction process.
ECOP 11: Occupational Health and Safety		

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
Best practices	Construction works may pose health and safety risks to the construction workers to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to several (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, vector transmitted diseases etc.), (ii) risk factors resulting from human behavior and (iii) road accidents from construction traffic.	The Contractor shall • Implement suitable safety standards for all workers and site visitors which should not be less than those laid down on the international standards (e.g. International Labor Office guideline on 'Safety and Health in Construction; World Bank Group's 'Environmental Health and Safety Guideline's) and contractor's own national standards or statutory regulations, in addition to complying with the national standards of the GOB (e.g. 'The Bangladesh Labor Code, 2006'). • Provide the workers with a safe and healthy work environment, considering inherent risks in its particular construction activity and specific classes of hazards in the work areas. • Provide personal protection equipment (PPE) for workers, such as safety shoes, safety helmets, face masks, hand gloves, protective clothing, goggles, full— face eye shields, and ear plugs. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. • Safety procedures include provision of information, training on use of hazardous materials etc. • Appoint a health and safety manager from CSC/JUST PIU to look after the health and safety of the workers. • Inform the JUST Authority responsible for health, religious and security duly informed before commencement of civil works and establishment of construction camps to maintain effective surveillance over public health, social and security matters.
	Child and pregnant women	The Contractor shall • Not hire children of less than 18 years old and pregnant women in accordance with the Bangladesh • Labour Code, 2006. • Labour law services rules 2015
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	• Provide health care facilities and first aid facilities are readily available. • Document and report occupational accidents, diseases, and incidents. • Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards. • Provide awareness to the construction drivers to strictly follow the driving rules. • Provide adequate lighting in the construction areas.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
Construction Camps	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ECoP-9: Construction Camp Management. •Adequate ventilation facilities. •Safe and reliable water supply. Water supply from tube wells that meets the national standards. •Hygienic sanitary facilities and sewerage system. •Storm water drainage facilities. •Safe storage facilities for chemicals. •Solid waste collection and disposal system in accordance with ECoP1. •Arrangement for trainings. •Security fence at least 2 m height. •Sick bay and first aid facilities.
Water and sanitation facilities at the construction sites	Lack of water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	The contractor will follow ECoP-2 and 9.
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor •shall Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of sexually transmitted infections (STI)). •Train all construction workers in general health and safety matters, and on the specific hazards of their work. Training should consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate.
ECOP 12: Ecologically Sensitive Areas		
Sensitive area	Lack of awareness of permitted activities in the Ecologically sensitive areas such Ramsar area etc. will result to irreversible to rare, vulnerable and critically endangered species.	The Contractor to ensure that while undertaking all ECOP1-11 prescribed actions in complete-ness, all flora, fauna must be protected in these areas any type of activity. All permissions, studies as required by law are undertaken and reported to concerned authorities on its own costs and resources.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/Management Guidelines
Cultivation and gardening	Usage of agrochemicals (pesticides and fertilizers) would rise along with agricultural activity, thereby worsening soil, water, and environmental pollution.	•Agriculture production may increase through technological improvements and high yielding varieties, however usually these high yielding varieties will lead to use of higher quantities of agrochemicals in the fields. It is strongly advised that public awareness of the risks posed by improper or excessive usage of agrochemicals be increased. The Integrated Pest Management (IPM) and Integrated Crop Management (ICM) practices will be encouraged and promoted among the farmers. •A complementary technique to composting is 'vermiculture' – the cultivation of worms to speed up the production of compost and improve its quality. Vermicompost is cheaper to produce than chemical fertilizers, is environment- friendly; and it promotes better root growth, and improves fertility, soil aeration and texture, and soil moisture retention. •Build drainage system so that the nutrient sources are not discharged or applied directly into a watercourse, across a property boundary.
Irrigation facility	•Damage to habitats and aquifer exhaustion by abstraction of irrigation water. •Soil erosion, arising both from intensive irrigation.	•Install fences, barriers, warning restrict access to the pumping station area which showing potential danger to the public; •Construct drainage control measures such as interceptor ditch should be applied where needed to slow or redirect runoff to prevent contaminated runoff, wastewater and solids from escaping.

Annex 2: Summary of Consultation during review of design

Issues Raised		Response from Project Team
Potential noise and air pollution during construction of the new building		Measures to minimize generation of dust and noise will be required from the Contractor and will be included in the environmental management plan
Access to the building of persons with disability on mobility and vision (e.g., wheelchair, ramp, or elevator)		Design of the building will include access for persons with disability and will explore incorporating features to help persons with impaired vision
Contractor's behavior and access for construction materials		Contractor will use alternate access route to site, to avoid disruption to students; use the gate presently used by the Vice Chancellor, which passes through Churamonkathi–Chaugachha road
Waste management at the university premises		For solid waste management during the operation phase, Contractor will provide bins in different colors to separate biodegradable and non-biodegradable wastes in every floor of the building. JUST officials have already completed a memorandum of understanding with Chaugachha Pourashava to use their landfill as a waste disposal area
Emergency response preparedness		Identification of an emergency evacuation point in the building and installation of an emergency alarm system in the building to warn the student population of emergencies. Regular emergency training and awareness program will be provided by the Chief Engineer's Office
Discussion points are summarized regarding in the design consideration are:		
April 04: Design Revision	Sidewalk on the east side removed and replaced with a green buffer zone. However, pedestrian access to the deck from the east is retained. A utility room added to every room. Two types of washrooms provided specifically for the day-care facility. AC vents relocated outside each room to prevent internal heat buildup. Direct access to the garden introduced from the interior zone of the day-care, allowing two entry points: one from the pedestrian pathway and another from the garden. Incubation hub repositioned and reoriented to better accommodate service requirements. Male prayer room added to the plan. A game room included within the incubation area, featuring billiards. Ablution basins installed in all common washrooms. Service lift orientation changed to open directly into the main circulation lobby. One additional floor added following the typical layout. Auditorium design updated: Stage height set at 1'6" Control room placed at the rear A mezzanine floor added for gallery seating Full wheelchair accessibility ensured Main staircase and ground floor entry stairs designed with 3-inch risers and 12-inch treads. Deck and kitchen areas expanded. Lab size increased, and storage space removed.	
April 13:	Introduction of a new building form Implementation of a new architectural design Adoption of a new spatial orientation	

May 20:	Reinstated the previous building form, repositioned to the southern part of the site Escalators introduced on all floors Classroom dimensions and capacity revised to accommodate 50 students per room Water reservoir relocated due to change in site positioning Generator room relocated Parking redesigned to facilitate teacher drop-off within the parking area Lift size increased to accommodate 21 persons per lift Introduction of a day-care facility Addition of separate male and female common rooms
May 27:	• Building form flipped eastward, enabling a shared entry point between Jogodish and IT buildings • Creation of a grand entrance with a wide staircase leading to the ground floor, requiring the basement height to be extended to 14 feet • Development of a new road from the west, maintaining a boundary for the residential road Dedicated staircase and lift for teachers introduced near the café Establishment of an Entrepreneurs' Lounge on the ground floor Addition of a Teachers' Café on the ground floor Electrical duct removed from the ground floor Teachers' Lounge added to the first floor Replacement of traditional fenestration with a glass curtain façade Elimination of internal voids, introducing a veranda for gathering and as access to washrooms Classrooms redesigned to a rectangular shape Conversion of 1 gallery classroom into 2 seminar rooms on both the 6th and 7th floors All partitions removed from the teachers' block, creating an open, flexible space for the university's administrative needs Drop-off road redesigned to avoid interference with the residential area No access allowed from the campus to the residential road
May 29:	Confirmed restriction on access to the residential road Inclusion of Y-columns in the structural design Added one more typical floor (Floors 2–6 now follow the same layout) Incorporated two accessible washrooms, one for each gender Eliminated shared male/female washroom lobbies Added a female faculty lounge Incubation hub revised Further classroom resizing and removal of specific classrooms and labs Each room now features two entry doors Framing structure extended to the 8th floor via column and beam additions Increased the number of toilet stalls on the 8th floor Added a separate access road from the east
June 4:	Add a single-staff washroom. Restrict research laboratories to the 1st and 2nd floors only. Install a low-height basin. Implement a rotation system for teachers' lifts. Provide two doors in the seminar room. Complete wall flush work for the network server room on the 7th floor. Position AC outdoor units on the west side. Add a control room to the auditorium. Ensure parking ramp width is 5 meters. Provide stairs with an 8-foot width for each flight. Increase deck width. Add a door and seating area to the 1st floor research lab.

	Remove ICT office. Incorporate continuous greenery on all floors. Install uniform green planters from the 2nd to 9th floors. Remove partitions from the teachers' block.
July 01:	Show the site layout in the ground floor plan. Display furniture layout in the Entrepreneurs' Lounge. Allocate space for a solar operating room.
July 23:	Remove the 1st floor meeting room from the incubation hub. Provide café entry from Level 0. On typical floors, position teachers' rooms in front of laboratories. Replace the male common room with a teachers' room. Omit the toilet in the female common room. Remove hand wash area from the multipurpose hall. Extend auditorium to grid line G. Install glass panels on the terrace. Maintain a uniform façade design. Omit washrooms from teachers' common rooms. Provide a glass façade for the seminar room. Extend column beams over the terrace. Relocate the female common room to the 2nd floor. Provide parking at Level 0 and eliminate semi-basement.
July 31:	Set plinth level to 2.5 feet. Extend porch at the entry point. Adjust stair riser height to 3 inches in the plaza. Convert teachers' rooms on the 3rd to 6th floors into classrooms, each with two doors. Chamfer the daycare boundary. Increase total area to 21,300 sq m.
Aug 7:	Add a semi-basement at -4 ft. Remove roof from the 9th floor. Conduct a tentative costing analysis for the Y column for the entire estimation to fit into the budget. Set area at 21,000 sq m.

Annex 3: List of Participant and Photographs during site visit, design review meeting

যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়

যশোর।

“ইমপ্রভিং কম্পিউটার এন্ড সফটওয়্যার ইঞ্জিনিয়ারিং টারশিয়ারী এডুকেশন প্রজেক্ট (ICSETEP)” এর অধীনে

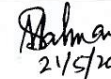
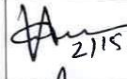
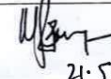
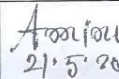
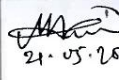
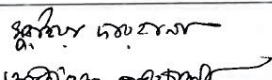
“JUST ICT Excellency Center Facility Discussion” শীর্ষক কর্মশালার উপস্থিতি পত্র

তারিখ: ২১/০৫/২০২৫ খ্রি.

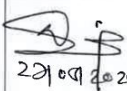
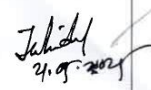
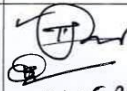
সময়: সকাল ১১:০০ ঘটিকা

ভেন্যু: বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশন, আগারগাঁও, ঢাকা।

(জ্যেষ্ঠতার ভিত্তিতে নয়)

ক্রমিকনং	নাম ও পদবী	মোবাইল ও ই-মেইল	স্বাক্ষর ও তারিখ
০১	অধ্যাপক ড. মোঃ সাইদুর রহমান সদস্য বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশন		 21/5/2021 ✓
০২	প্রফেসর ড. মোঃ আব্দুল মজিদ উপাচার্য যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়		 21/5/25 ✓
০৩	প্রফেসর ড. হোসেন আল মামুন ট্রেজারার যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়		 21/5/25 ✓
০৪	মোহাম্মদ মাকসুদুর রহমান ভূঁইয়া পরিচালক, পরিকল্পনা ও উন্নয়ন বিভাগ, বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশন		 21.5.25 ✓
০৫	প্রফেসর ড. মোঃ আমিনুল হক আকন্দ প্রকল্প পরিচালক, ICSETEP		 21.5.2025 ✓
০৬	অধ্যাপক ড. মোঃ আলম হোসেন পিআইইউ হেড যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়		 21.05.2025 ✓
০৭	মোহাম্মদ জাভেদ আলম মৃধা পরিচালক(প্রকল্প ও উন্নয়ন), ঢাকা বিশ্ববিদ্যালয়		 21.05.25 ✓
০৮	মোঃ যুবায়ের আল মামুন- মোঃ ডেপুটি পিআইইউ হেড, যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়		 21.05.25 ✓
০৯	অধ্যাপক ডঃ এইচ. এম. জাকির হোসেন প্রকল্প প্রকৌশলী যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়		_____
১০	ম্যানেজার শেলটেক কনসালট্যান্টস (প্রাঃ)		 21.05.25 ✓
১১	 উপসচিব, পরিচালক ২৩/৫/২৫, E		 21.05.25 ✓

ক্রমিক	নাম ও পদবী	মোবাইল ও ই-মেইল	স্বাক্ষর ও তারিখ
১০	Engz. Md. Harunor Rashid Environment Specialist ICSETEP	০১৭১১৪৪৫১৫৪ engz.harunorashid@gmail.com	Rashid 21.5.25
১৪	ANM Safiqul Islam Stipend Program Specialist	০১৭১২২৭৪০৫০ safiqulislam438@gmail.com	Safiqul Islam
১৫	Prof. Dr. Shaheena Subhana Women IT Leadership Specialist ICSETEP	০১৭১৪০০০৪১০ zareefas.subhana@gmail.com	Shaheena Subhana
১৬	MD. ABDUL AZIZ Sr. Procurement Specialist ICSETEP	০১৭১১-৩৭৪৪৪২	Aziz
১৭	Mr. Mahiraj Hossain Procurement Specialist ICSETEP	০১৭৩১৫৭০৭৫৪	Mahiraj
১৮	Sakina Afroz Noya Const. Architect Sheltech Consultants	০১৭৩৪৩৩৩৭৭৭	Sakina
১৯	MD. AMIRUL MILK Sheltech Consultant Ltd. Architect		Amirul
২০	Offat Tarannum Exe. Engz. Sheltech Consultant Pvt Ltd	০১৭১৭০০৭২৫০	Offat
২১	Tamveer Morshed Assistant Director UGC	০১৭০৩৫৬১০৭৪	Tamveer

ক্রমিক	নাম ও পদবী	মোবাইল ও ই-মেইল	স্বাক্ষর ও তারিখ
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২৩	Md. Jahidul Islam Industry Relations Expert ICSETEP	০১৫৩৫৭৫৩২০ ic-icsete@ugc.gov.bd	 21.05.2025
২৪	Humayun Kabir Administrative Officer ICSETEP	০১৭১৪ ৪৭৪৫৩৭ admo-icsete@ugc.gov.bd	 21.05.2025
২৫	Tusher Ahmed Project Officer ICSETEP	০১৭২৫৪৬২৪৭৫ po-icsete@ugc.gov.bd	 21.05.25
২৬	Md. Shabiqul Islam Accounts Officer ICSETEP	০১৭২৪১৪৪৪৪৬ ao-icsete@ugc.gov.bd	
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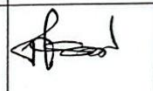
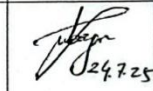
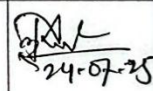
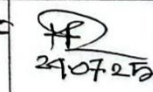
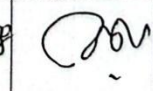
25/5/25

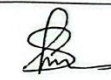
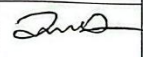
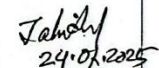
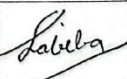
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশন (ইউজিসি)
ইমপ্রুভিং কম্পিউটার এন্ড সফটওয়্যার ইঞ্জিনিয়ারিং টারশিয়ারি এডুকেশন প্রজেক্ট (ICSETEP)
প্রজেক্ট ম্যানেজমেন্ট ইউনিট (PMU)
লেভেল-৯, বাংলাদেশ কপিরাইট ভবন, আগারগাঁও প্রশাসনিক এলাকা, শের-ই-বাংলা নগর, ঢাকা-১২০৭
www.icsetep.ugc.gov.bd

"Workshop on Aligning the GESI Action Plan with the JUST ICT Excellency Center Design"
শীর্ষক কর্মশালার উপস্থিতিপত্র

তারিখ: ২৪ জুলাই ২০২৫ খ্রি.

সভার স্থান: PMU সভাকক্ষ, বাংলাদেশ কপিরাইট ভবন, আগারগাঁও, ঢাকা।

ক্র: নং	নাম ও পদবী	মোবাইল নং	স্বাক্ষর
১.	প্রফেসর ড. মোঃ আব্দুল মজিদ উপাচার্য যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় (JUST)	০১৪৫৭৭০৪৭৪	
২.	প্রফেসর ড. মোঃ আলম হোসেন পিআইইউ হেড, যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় (JUST)	০১৭৭০৩২৫১১	
৩.	গাজী মোঃ নজরুল ইসলাম প্রকল্প পরিচালক (অতিরিক্ত দায়িত্ব), ICSETEP	০১৭৫৫০১৫৬৩	
৪.	ইঞ্জি. যুবায়ের আল মাহমুদ ডেপুটি পিআইইউ হেড যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় (JUST)	০১৬৪১৬৩৩৭৭	
৫.	ইঞ্জি. মোঃ নাজমুস সাকিব উপ প্রধান প্রকৌশলী যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় (JUST)	০১৭১১৭৫৩১১৭	
৬.	ইঞ্জি. মিজানুর রহমান নির্বাহী প্রকৌশলী যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় (JUST)	০১৭২৬০৫৬৪৭৫	
৭.	কুতুব উদ্দিন চিশতী সহকারী পরিচালক (পরিকল্পনা, উন্নয়ন ও পূর্ত) যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় (JUST)	০১৭২১৭৪৫০৬০	
৮.	মোঃ রেজাউল করিম প্রকিউরমেন্ট অফিসার	০১৭৫৫৫৫৭৬৪	
৯.	হুমায়ুন কবির অ্যাডমিনিস্ট্রেটিভ অফিসার	০১৭১৫৫৭৪৩৩৭	

ক্র: নং	নাম ও পদবী	মোবাইল নং	স্বাক্ষর
১০.	মোঃ তুষার আহমেদ প্রোজেক্ট অফিসার	০১৩১৫৪৬১৭২৫	
১১.	শফিকুল ইসলাম একাউন্টস অফিসার	০১৭২৪১৪৪৭৪৬	
১২.	এ. কে. এম. রহমত উল্লাহ ফিন্যান্সিয়াল ম্যানেজমেন্ট স্পেশালিস্ট	০১৭৪৭৬৪৪৭১১	
১৩.	এ এন এম সফিকুল ইসলাম স্টাইপেন্ড প্রোগ্রাম স্পেশালিস্ট	০১৭১২২৭৪০৫০	
১৪.	প্রফেসর ড. মোহাম্মদ শাহরিয়ার রহমান হায়ার এডুকেশন স্পেশালিস্ট	০১৭৪২০৭২১৭২	
১৫.	প্রফেসর ড. শাহীনা সুলতানা উইমেন আইটি লিডারশীপ প্রোগ্রাম স্পেশালিস্ট	০১৭১৭০০০৪১০	
১৬.	মোঃ আব্দুল আজিজ সিনিয়র প্রকিউরমেন্ট স্পেশালিস্ট	০১৭১১-৩৭০৬৪২	
১৭.	ইঞ্জি: মোঃ জাহিদুল ইসলাম ইন্ডাস্ট্রি রিলেশনস এক্সপার্ট	০১৫৩৫৭৫৩৭০	
১৮.	মোঃ মেহরাজ হোসেন প্রকিউরমেন্ট স্পেশালিস্ট	০১৭৩১৭৭০৭৫৪	
১৯.	মোহাম্মদ হাব্বুনুর রশিদ এনভায়রনমেন্ট স্পেশালিস্ট	০১৭১১৪৪৭১৭৪	
২০.	লাবিবা ইসলাম জেন্ডার স্পেশালিস্ট	০১৭৩৩৩৫৫৩৭২	
২১.	MD. AMIRUL MUZK Architect, Sheltech ৪১৭	০১৭৫৫৫৬৩৩৭৭	

ক্র: নং	নাম ও পদবী	মোবাইল নং	স্বাক্ষর
২২.	Shafat Taranmum Exe. Engr. SCPL	01719009240	Shafat
২৩.	Farayel Ahmed Structural Engineer, SCPL	01711-475672	Farayel
২৪.	Engr. Md. Touhid Iman NEN, JUST	01788502727	Touhid
২৫.	Prof. Md Moktesur Rahman Director, PhD, JUST	01632160889	Asha
২৬.	Shahman Sabat Resident Architect, SCPL	01674336474	Shahman
২৭.	Fabliha Afara Noor Architect, SCPL	01938333499	Fabliha
২৮.	Annab Banik Architect, SCPL	01732991958	Annab
২৯.	Rakib Hassan Soft. Engr. Penta Global Ltd.	01680069764	Rakib
৩০.	স্বাঃ প্রকৌশল, ডঃ আবিন মরিন, ICSETEP	01681538799	Abin
৩১.	স্বাঃ প্রকৌশল আবিন মরিন, ICSETEP	01728831079	Abin



Discussion with JUST PIU Head during Visit JUST



Design review meeting at PMU Office with Consultant

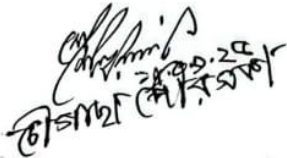
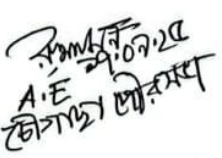
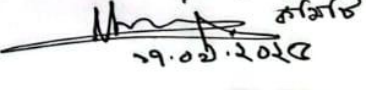
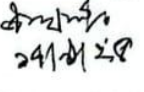
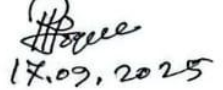


Design review meeting at UGC Office with Consultant



Design review meeting at JUST Office with Consultant

Annex 4: MoU Between JUST and Chougachha Pourashava for Solid Waste Collection and Disposal from JUST Campus

রেজিস্ট্রার দপ্তর যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয় যশোর-৭৪০৮, বাংলাদেশ।		Office of the Registrar Jashore University of Science & Technology Jashore - 7408, Bangladesh.
তারিখঃ ১৭/০৯/২০২৫খ্রি.		
সভার কার্যবিবরণী		
অদ্য ১৭/০৯/২০২৫খ্রি. তারিখে যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়ের পরিবেশ কমিটির আহ্বায়ক মহোদয়ের সভাপতিত্বে, সদস্য সচিব, নিরাপত্তা ও এস্টেট শাখার কর্মকর্তাগণ ও চৌগাছা পৌরসভার সহকারী প্রকৌশলী জনাব এস.এম রুহুল আমিন, ভারপ্রাপ্ত কন্সারভেপশন জনাব মেহবুব হুসাইন মধ্যে একটি দ্বিপাক্ষিক সভা নিরাপত্তা ও এস্টেট শাখায় অনুষ্ঠিত হয়। সভায় নিম্নলিখিত বিষয়ে আলোচনা ও সিদ্ধান্ত গৃহীত হয়।		
১. সপ্তাহের ০৩ (তিন দিন) চৌগাছা পৌরসভা বিশ্ববিদ্যালয়ের ময়লা আবর্জনা নিয়ে যাবে।		
২. ময়লার গাড়িতে ময়লা তুলে দিতে হবে।		
৩. প্রতিদিন গাড়ি ৩২ কি.মি দূরত্ব আপ ডাউন করবে হিসেবে ডিজেল, মবিল ও ইঞ্জিন ডেয়ারেজ বাবদ প্রতি ট্রিপে বিশ্ববিদ্যালয় কর্তৃপক্ষ ১২০০/- টাকা পরিশোধ করবেন মর্মে সিদ্ধান্ত গৃহীত হয়। তেলের দাম বৃদ্ধি হলে টাকা পরিবর্তন হতে পারে।		
৪. ০১ (একজন) লেবার বাবদ ৬০০ টাকা করে দিতে হবে। (প্রতিদিন)		
৫. মেডিকেল বর্জ্য, ল্যাবের ক্যামিকেল বর্জ্য ও স্যানিটারী ন্যাপকিন চৌগাছা পৌরসভার গ্রহণ করবে না।		
৬. সেফটি ট্যাংকি (মানব বর্জ্য) এর ক্ষেত্রে ১ম টিপে বাবদ ৩০০০ লিটার ধারণ ক্ষমতা গাড়িতে ৪০০০/- টাকা ও পরবর্তী টিপে ২০০০/- টাকা করে দিতে হবে।		
৭. পুরোন ডাম্পিং ময়লা চৌগাছা পৌরসভার নিবে না।		
আর কোন আলোচ্য সূচী না থাকায় সভাপতি মহোদয় সভা সমাপ্তি ঘোষণা করেন।		
 চৌগাছা পৌরসভা ২৭/০৯/২৫	 A.E. চৌগাছা ২৭/০৯/২৫	 A.R. চৌগাছা ২৭/০৯/২৫
 ২৭/০৯/২৫	 ১৭/০৯, ২০২৫	

Annex 5: Environmental Field Test Report at Project Site

জলবায়ু ও দুর্যোগ ব্যবস্থাপনা বিভাগ
যশোর বিজ্ঞান ও প্রযুক্তি বিশ্ববিদ্যালয়
যশোর-৭৪০৮



Department of Climate and Disaster Management
Jashore University of Science and Technology
Jashore -7408

Phone: +880-421-62030 Ext: 246; Mobile: +8801711-409511; E-mail : chairman.cdm@just.edu.bd

Date: November 22, 2025

Monitoring/Testing/Consultancy Report

Client name: The Improving Computer and Software Engineering Tertiary Education
Project (ICSETEP), UGC at JUST Campus.

Contact person and address: Engr. Md. Harunor Rashid, Environment Specialist, ICSETEP, UGC.

Work order reference: N/A

A. Sample type: Ambient air quality

Sampling date:	October 15, 2025				
Sampling duration:	12.30 hours;	Starting time: 9.00 AM	End time: 9.30 PM		
Sampling method:	Light scattering technique, Electrochemical sensor/Infrared sensor/PID sensor				
Instrument used:	Air Quality Monitor System (AQM)				
<u>Result</u>					
Parameter	Minimum	Maximum	Averaging time	Observed average	DoE threshold
SPM ($\mu\text{g}/\text{m}^3$)	19	144	24 h	34.83	100
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	11	124	24 h	19	65
PM ₁₀ ($\mu\text{g}/\text{m}^3$)	16	136	24 h	28	150

Page 1 of 8


Dr. M. Manuzur Rahman
Professor
Dept. of Climate & Disaster Management



CO (ppm)	0	1.8	8 h	0.31	9
SO ₂ (ppm)	0	0.182	24 h	0.048	0.14
NO ₂ (ppm)	0	0.068	Annual	0.005	0.053

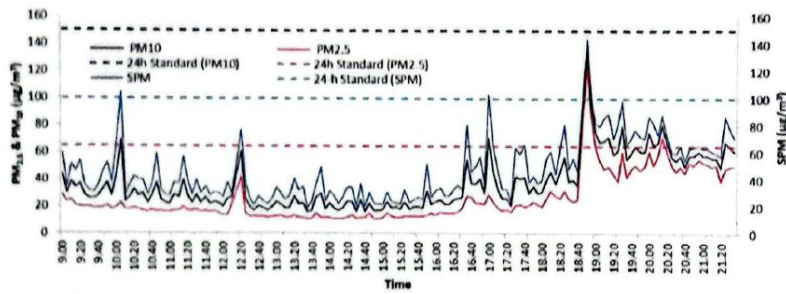


Figure 1: Time series PM_{2.5} and PM₁₀ concentration during the sampling time

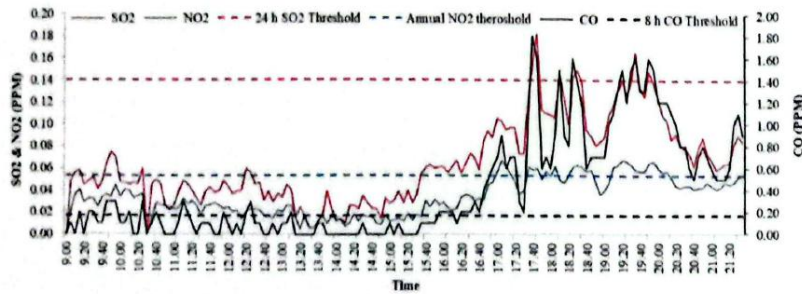


Figure 2: Time series SO₂, NO₂ and CO concentration during the sampling time

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Professor
Department of Climate and Disaster Management
Jashore University of Science and Technology



B. Sample type: Ambient noise

Sampling date:	October 15-16, 2025				
Sampling duration:	18 hours;	Starting time: 6.00 AM		End time: 00.00 AM	
Sampling method:	Microphone–electronic signal processing				
Instrument used:	Sound Level Meter				
<u>Result</u>					
Parameter	Minimum	Maximum	Averaging time	Observed average	DoE threshold
Leq Day (dBA)	39	80	12 h	70	60
Leq Night (dBA)	38	60	12 h	46	50

C. Sample type: Surface water

Sampling date:	October 15, 2025
No. of samples:	1
Sampling method:	Composite; Top 10 cm; 500 ml HDPE bottle
Storage and transportation	Stored in cooler box; transported following standard protocol

Page 3 of 8

Dr. M. Mahfuzur Rahman
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Dept. of Climate & Disaster Management
Jashore University of Science and Technology
Jashore-7408, Bangladesh



Result					
Parameter	Testing place	Instrument used	Method followed	Test result	DoE threshold
pH	Onsite	Hach HQ40d Multimeter	As per user manual	6.69	6.5-8.5
TDS (mg/L)	Onsite	Hach HQ40d Multimeter	As per user manual	200	
DO (mg/L)	Onsite	Hach HQ40d Multimeter	As per user manual	8.86	≥ 6.0
Turbidity (NTU)	Onsite	Hach 2100Q Turbidity meter	As per user manual	2.33	5.0
BOD ₅ (mg/L)	Laboratory	Hach BOD Trak II	Respirometric	3.10	≤ 2.0
TOC (mg/L)	Laboratory	Titrimetric	APHA standard method:2320B	117	
TP (mg/L)	Laboratory	SHIMADZU 1900i UV-Vis Spectrophotometer	APHA standard method:4500-P E	0.255	
TSS (g/L)	Laboratory	Filtration unit	Standard Methods 2540D	0.012	
COD (mg/L)	Laboratory	SHIMADZU 1900i UV-Vis Spectrophotometer	APHA standard method:5220B	197.6	10
Oil & Grease (mg/L)	Laboratory	Gravimetric	Standard protocol	2	

Page 4 of 8

Dr. M. Mahfuzur Rahman
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Jashore University of Science and Technology



D. Sample type: Ground water (at source)

Sampling date:	October 15, 2025				
No. of samples:	1				
Sampling method:	Composite; 500 ml HDPE bottle				
Storage and transportation	Stored in cooler box; transported following standard protocol				
<u>Result</u>					
Parameter	Testing place	Instrument used	Method followed	Test result	DoE threshold
pH	Onsite	Hach HQ40d Multimeter	As per user manual	6.53	6.5-8.5
Salinity (ppt)	Onsite	Hach HQ40d Multimeter	As per user manual	0.30	
DO (mg/L)	Onsite	Hach HQ40d Multimeter	As per user manual	8.74	≥ 6.0
TDS (mg/L)	Onsite	Hach HQ40d Multimeter	As per user manual	327	
Turbidity (NTU)	Onsite	Hach 2100Q Turbidity meter	As per user manual	0.07	5.0
Nitrate (mg/L)	Laboratory	SHIMADZU 1900i UV-Vis Spectrophotometer	APHA standard method:4500-N C	6.81	45

Page 5 of 8

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Fe (ppm)	Laboratory	ICP-OES	Standard protocol/ Axial method	0.04	0.3-1.0
As (ppm)	Laboratory	ICP-OES	Standard protocol/ Axial method	0.000	0.05
Mn (ppm)	Laboratory	ICP-OES	Standard protocol/ Axial method	0.55	0.40

E. Sample type: Drinking (ground) water (at use)

Sampling date:	October 15, 2025				
No. of samples:	1				
Sampling method:	Composite; 500 ml HDPE bottle				
Storage and transportation	Stored in cooler box; transported following standard protocol				
<u>Result</u>					
Parameter	Testing place	Instrument used	Method followed	Test result	DoE threshold
pH	Onsite	Hach HQ40d Multimeter	As per user manual	6.51	6.5-8.5
Salinity (ppt)	Onsite	Hach HQ40d Multimeter	As per user manual	0.30	

Page 6 of 8

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DO (mg/L)	Onsite	Hach HQ40d Multimeter	As per user manual	9.31	≥ 6.0
TDS (mg/L)	Onsite	Hach HQ40d Multimeter	As per user manual	372	
Fe (ppm)	Laboratory	ICP-OES	Standard protocol/ Axial method	0.02	0.3-1.0
As (ppm)	Laboratory	ICP-OES	Standard protocol/ Axial method	0.000	0.05
Mn (ppm)	Laboratory	ICP-OES	Standard protocol/ Axial method	0.12	0.40
TC (CFU)	Laboratory	Membrane Filtration	Colony counting	Nill	0
FC (CFU)	Laboratory	Membrane Filtration	Colony counting	Nill	0

F. Sample type: Soil

Sampling date:	October 15, 2025
No. of samples:	1
Sampling method:	Composite
Storage and transportation	Following standard protocol


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Result					
Parameter	Testing place	Instrument used	Method followed	Test result	DoE threshold
pH	Onsite	Hach HQ40d Multimeter	As per user manual	6.94	
EC (ppt)	Onsite	Hach HQ40d Multimeter	As per user manual	0.53	
Nitrogen (%)	Laboratory	Ammonia distillation setup	Alkaline Permanganate	0.056	0.04-0.19%
Phosphorus (ppm)	Laboratory	Spectrophotometer	Olsen's	631.02	100-881
Organic Matter (%)	Laboratory	Titrimetric	Walkley-Black Wet Oxidation	0.612	<1-2.5%


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Annex 6: Environmental Monitoring Checklist during Construction Period

OCCUPATIONAL HEALTH & SAFETY COMMITMENT

I, the undersignedas per terms and condition of the submitted bid document and signed contract between the PIU, and the Contractor.....fully aware regarding commitment to maintain the ESMP and the occupational health & safety for the workers and the surrounding communities as per **Reference:** General Condition of Contract (Amendments) Clause 14 & 2 (including additional sub-clause) of Contract document.

Summary of the terms and conditions to be maintained at the work place are given below:

1. Before starting the work activities, worker's attendance register is checked;
2. Pre-start Meeting and Toolbox Meeting (a short, regular meeting between workers and their supervisors to discuss safety issues at the workplace) done daily before commencement of any work;
3. Ensure all the workers will use PPE during work activities, otherwise will not allow to engage in the work;
4. Cleaning of the site is daily, 15 minutes before work and 15 minute after work;
5. Not complying with the safety rules and regulations on site by the workers will be dismissal from the site.

Name of the Site Manager:.....Date.....

Contractor's Focal Person/Responsible Person:.....

Company's H.S.E Representative:.....

Name of the Company:.....

Package No. & Name:.....

Project Title:	ICSETEP, UGC	
Package No:		
Package Name:		
Name of the Contractor:		
Name of Construction Site		
Site Contract Person with Phone no.:		
Description of Item	Comments (Enter N/A if not relevant)	
1. Introduction and Inspection		
Is there an accurate record of all persons on site? E.g. Register book	Yes/No	
Has a weekly health and safety briefing been held this week?	Yes/No	
2. Reporting and Records		
Site Specific ESMP report Submitted?	Yes/No	
EHS Plan Submitted?	Yes/No	
Labor Management Plan (LMP) Submitted?	Yes/No	
Commitment form submitting regularly?	Yes/No	
3. PPE		
Are all personnel on site wearing minimum mandatory PPE on site? i.e. Safety helmet, Safety footwear, Hi-vis Vest, Hand Globs, ear plug during MS Rod/tiles cutting, Hanging belt during work at higher place.	Yes/No	
Do workers have any issues with the PPE provided to them? (ask 2 or 3 workers)	Yes/No	
4. Welfare Facilities		
Is a supply of clean drinking water readily available for everyone on site?	Yes/No	
Are Toilet facilities well light, ventilated, clean and hygienic?	Yes/No	
Are sufficient hand washing facilities provided incl. soap and clean water?	Yes/No	
Are their separate toilet and Washing facilities for male and female?	Yes/No	
5. Site Security & Housekeeping		
Is the site compound adequately fenced to prevent unauthorized access, with warning and information signs?	Yes/No	
Are appropriate safety signs in place e.g. traffic routes, authorized personnel, PPE?	Yes/No	
Housekeeping - Is the site tidy and well laid out? E.g., pathways are clear, no rubbish, no tools/equipment lying about	Yes/No	

Are materials and equipment stored correctly and orderly?	Yes/No
6. Fire Safety Activities	
Are extinguishers in place and easily accessible?	Yes/No
Are Buckets are available at site filled with sand?	Yes/No
7. Excavation and Backfilling Work	
Are barriers in place a minimum 1m from the edge of the excavation?	Yes/No
Are materials/waste stored directly adjacent to the excavation, or existing structures is adjacent to the excavation?	Yes/No
8. To be Checked on a monthly basis only (first week of the month)	
Are records of their training available?	Yes/No
Is there any lacking of safety observations and incidents available on site?	Yes/No
Are sufficient toilet facilities available?	Yes/No
Are First-Aid facilities in place and do workers know they are?	Yes/No
Are the Contractor kept contract with nearby clinic or hospital to face if any accident happen during work at site?	Yes/No
Are trained first aiders available on site/nearby?	Yes/No
Are muster points clearly signposted?	Yes/No
Are pedestrian and entrance routes clearly marked?	Yes/No

Additional Comments

Signed:	Signed:	Signed:	Date of this Safety Review:
PIU Representative:	CSC Representative:	Contractor's Representative:	

Annex 7: Letter from DoE for Declaration of ECC for ICSETEP

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
পরিবেশ অধিদপ্তর
পরিবেশ ভবন, ই-১৬, আগারগাঁও
শেরে বাংলা নগর, ঢাকা-১২০৭
www.doe.gov.bd

স্মারক নং-২২.০২.০০০০.০১৮.৫২.০০০১.২৬. ২৬/৫

২১/০১/১৪৩৩ বঙ্গাব্দ
তারিখ: ০৪/০৫/২০২৬ খ্রিস্টাব্দ

বিষয়: পরিবেশ আইন, ২০২৩ এর তফসিল-১ এ বর্ণিত কমলা প্রেমির প্রকল্পের ক্রমিক নং ২৫ আবাসিক ও বাণিজ্যিক ভবন
(৫,০০০ থেকে ২০,০০০ বর্গমিটার পর্যন্ত বিল্ডআপ এরিয়া) এর সুস্পষ্ট খারনা প্রসঙ্গে।
সূত্র: বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশনের ০৬/০১/২০২৬ তারিখের পত্র।

উপর্যুক্ত বিষয়ে সূত্রোক্ত পত্রটি পর্যালোচনায় পরিলক্ষিত হয় যে, মাধ্যমিক ও উচ্চ শিক্ষা বিভাগের আওতায় এবং বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশন কর্তৃক Improving Computer and Software Engineering Tertiary Education Project (ICSETEP) শীর্ষক প্রকল্পের আওতায় ঢাকা শহরে BUET Campus area এর মধ্যে ৩,১৮০ বর্গমিটার জায়গায় ১০ তলা, DU Campus area এর মধ্যে ১,৮৫৮ বর্গমিটার জায়গায় ১৩ তলা, এবং যশোর জেলায় JUST Campus area এর মধ্যে ৩,২৫৩ বর্গমিটার জায়গায় ১০ তলা বিশিষ্ট বহুতল ভবন নির্মাণ কার্যক্রম পরিবেশ সংরক্ষণ বিধিমালা, ২০২৩ এ শিল্প প্রতিষ্ঠান বা প্রকল্পের ছাড়পত্র প্রদানের উদ্দেশ্যে প্রণীত তফসিল-১ এ তালিকা বহির্ভূত এবং তফসিল-১৪ এক্ষেত্রে প্রযোজ্য নয়। এমতাবস্থায় পরিবেশ সংরক্ষণ বিধিমালা, ২০২৩ অনুযায়ী আলোচ্য প্রকল্পের আওতাভুক্ত কার্যক্রম পরিচালনার ক্ষেত্রে ছাড়পত্র প্রযোজ্য নয়।

০৪/০৫/২৬
(মাসুদ ইকবাল মোঃ শামীম)
পরিচালক (পরিবেশগত ছাড়পত্র)
ফোন: ০২-২২২২১৮৩৪২

প্রকল্প পরিচালক (অতিরিক্ত দায়িত্ব)

Improving Computer and Software
Engineering Tertiary Education Project (ICSETEP)
বাংলাদেশ বিশ্ববিদ্যালয় মঞ্জুরী কমিশন (ইউজিসি)
লেভেল-৯, বাংলাদেশ কপিরাইট ভবন
আগারগাঁও প্রশাসনিক এলাকা
শেরে বাংলা নগর, ঢাকা-১২০৭।

অনুলিপি: সদয় অবগতির জন্য-

১) সহকারী পরিচালক, মহাপরিচালক মহোদয়ের দপ্তর, পরিবেশ অধিদপ্তর, ঢাকা।

Annex 8: GBV/SEA-SH Prevention and Response Action Plan

ANNEX A Minimum Good Practice Standards

Executing and implementing agencies should be able to ensure that contractors have the following in place as a minimum. Contractors should:

Area	Minimum Good Practice Standard for Contractors	
A. SEAH policy (Priority standard)	1.	Have a policy or combination of policies that address SEAH in the workplace and in the community.
B. Code of conduct (Priority standard)	2.	Have a clear employee code of conduct that prohibits all forms of SEAH and requires regular training for all personnel.
C. Reporting, handling of complaints, and whistleblowing (standards 4–9 may be outsourced to an appropriate specialized partner) (Priority standards)	3.	Have or be willing to develop a comprehensive and confidential SEAH reporting mechanism for escalating and managing concerns and complaints. This should include the option of anonymous reporting and whistleblowing. They must be accessible to workers and community members who come into contact with contractors' staff and workers.
	4.	Be able to work with communities and constituencies to analyze the most appropriate and accessible means to report concerns and complaints. Multiple reporting methods must be put in place.
	5.	Be able to promote the code of conduct and reporting mechanisms to the staff and the community or communities in the project area.
	6.	Have a clear internal handling framework (standard operating procedure) to respond appropriately to all concerns and support the survivor in a survivor-centered way.
	7.	Have identified and risk-assessed services available within the project context to ensure safe referrals of survivors can take place.
	8.	Have in-house trained investigators or have identified an appropriate external investigation resource.
	9.	Have a whistleblowing policy that includes SEAH.
D. Human resources	10.	Ensure all staff, contractors, volunteers, and other representatives have at least mandatory induction training when they commence employment and annual refresher training on the code of conduct and the organization's SEAH policy and whistleblowing policy, or a combination of relevant policies.
	11.	Have a recruitment approach that includes specific interview question(s) that draw out applicants' attitudes and values in relation to at-risk groups.

continued on next page

Table continued

Area	Minimum Good Practice Standard for Contractors
E. Risk management (Priority standards)	12. Have a comprehensive and effective risk management framework in place that includes reference to SEAH and the creation of a central register of SEAH reports. 13. Have requirements for maintaining and updating the central register of SEAH concerns, including information confidentiality requirements.
F. Working with subcontractors and suppliers	14. Include information on SEAH risks and expectations in contracts. 15. Review subcontractors' policies against these minimum standards or similar standards. Where subcontractors do not have policies, practices, and procedures in place, subcontractors and suppliers should adhere to the contracting agency's code of conduct. 16. Provide information to subcontractors and suppliers about project reporting mechanisms and the need to ensure these are in place.
G. Workplace design	17. Include SEAH in regular workplace safety assessments, including working accommodation, transportation, and site safety.
H. Leadership and accountability (Priority standards)	18. Communicate regularly regarding their zero tolerance to inaction on SEAH utilizing internal and external communication routes. 19. Have clear guidelines for monitoring and overseeing implementation of the policy or policies. 20. Have the capacity to be able to report allegations within 24 hours to the executing and implementing agencies.

SEAH = sexual exploitation, abuse, and harassment.

Source: Asian Development Bank.

ANNEX B

Checklist of Core Requirements for Reporting and Case Handling of Sexual Exploitation, Abuse, and Harassment

The checklist provides guidance for contractors on the core requirements for reporting and case handling of sexual exploitation, abuse, and harassment. The requirements reflect the key aspects of reporting and case handling.

Category and Questions	Y	N	Comments/Notes
A. Systems and procedures			
1. Is there a grievance mechanism policy and procedure in place for handling SEAH cases?			
(i) Is the grievance mechanism policy and procedure available to all staff, project workers, beneficiaries, and potential survivors?			
(ii) Is the grievance mechanism policy written and the procedure available in the local language and languages spoken by the project staff and workers?			
2. Does the SEAH grievance mechanism include			
(i) multiple entry points for people to submit grievances,			
(ii) clear responsibilities regarding who registers SEAH allegations,			
(iii) a system for recording SEAH allegations and outcomes,			
(iv) procedures for protecting the confidentiality of survivors,			
(v) procedures for investigating SEAH allegations, and			
(vi) adequate resources to enable the mechanism to function effectively?			
3. Are there grievance handling procedures in place for SEAH cases?			
(i) Do these include clear procedures to follow up on SEAH allegations received?			
(ii) Is there evidence that substantiated SEAH allegations have led to disciplinary actions or contractual consequences for the staff who perpetrated SEAH?			

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Table continued

Category and Questions	Y	N	Comments/Notes
(iii) Are clear guidelines in place to help determine when a case is considered closed?			
4. Are anonymized SEAH data being reported regularly? (Note: Only three basic indicators should be included: age of survivor, sex of survivor, and whether the incident is project related)			
B. Project staff and worker management and communications			
1. Is there an SEAH manual for project staff and workers?			
2. Do the grievance policy and/or procedures provide clear guidance on			
(i) types of SEAH cases and the different scenarios in which they could take place,			
(ii) what information to collect from survivors, and			
(iii) referral pathways to be used to provide support to survivors?			
3. Are the grievance mechanism's policy and procedures regarding SEAH well communicated to raise awareness and knowledge of all project staff and workers?			
4. Is training provided to staff members managing SEAH cases?			
C. Communication with project-affected people			
1. Are project-affected people informed on how to submit SEAH complaints?			
(i) Are communications materials about the grievance mechanism such as brochures and posters prominently displayed and readily accessible?			
(ii) Do the communication materials include clear explanations regarding			
(a) how to report an SEAH incident,			
(b) to whom to report and SEAH incident,			
(c) what to expect in terms of available support services, and			
(d) what to expect in terms of confidentiality?			
(iii) Is the information about the SEAH-responsive reporting mechanism or grievance redress mechanism available in the local language?			
2. Can survivors submit their grievance			
(i) in person,			
(ii) in writing,			

continued on next page

Table continued

Category and Questions	Y	N	Comments/Notes
(iii) by e-mail,			
(iv) by short messaging service,			
(v) at a dedicated website or online platform, and/or			
(vi) via a telephone hotline?			
3. Can the grievance mechanism be accessed free of charge?			
4. Are users promised confidentiality?			
D. Survivor-centered approach			
1. Are female staff members available to whom survivors (especially women and children) can report their allegations?			
2. Are special safeguards in place to allow survivors under the age of 18 to submit grievances?			
3. Is survivor consent over the use and sharing of data collected systematically?			
4. Is a survivor consent form readily available in the local languages?			
E. Recording of grievances			
1. Do you have clear guidelines about how to respond to a survivor disclosing an SEAH allegation?			
(i) Are these guidelines readily available?			
2. Are project staff and workers trained on how to receive, document and record, and respond to SEAH allegations?			
3. Are all SEAH allegations logged and documented?			
4. Are SEAH allegation report forms readily available?			
5. Are the outcomes and responses to all SEAH cases recorded?			
F. Data storage and confidentiality			
OFFLINE:			
1. Are cases received in a private setting or a dedicated safe space that maintains confidentiality?			
2. Are SEAH allegations recorded separately from other types of grievance?			
3. Are the survivor files and SEAH data stored with adequate precautions to protect anonymity and safety, such as in secure files and locked drawers or cabinets?			
4. Is there a coding system for paper files to anonymize the data such as identifying survivors via code instead of by name?			

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Table continued

Category and Questions	Y	N	Comments/Notes
5. Are there contingency plans for the destruction or relocation of paper files during an emergency evacuation?			
6. Are staff members aware that survivor files should not be discussed with anyone unrelated to the case?			
ONLINE:			
1. Is there an encryption system for online SEAH case filing?			
2. Is the software used to record allegations password protected?			
3. Are precautions in place to prevent the loss of stored electronic data, such as antivirus protection and database backup?			
G. Referrals to support services			
1. Is a referral protocol readily available with up-to-date information about where to refer survivors for care and support services?			
2. Do the support services offered to survivors match international quality standards? ^a			
3. Is an information sharing protocol readily available between the agencies and support service providers to which survivors can be referred?			
4. Are written standard operating procedures in place to facilitate joint action by different agencies and support services if required?			

SEAH = sexual exploitation, abuse, and harassment.

^a The full set of internationally recognized service standards, including that for medical care, can be found at UNFPA, 2019, *Minimum Standards for Prevention and Response to Gender-Based Violence in Emergencies*. Refer to Standard 5, *Healthcare for GBV Survivors*, for standards on medical care.

ANNEX C

Sexual Exploitation, Abuse, and Harassment Incident Reporting Form Template

This tool appears as an annex of ADB. 2023. *Good Practice Note on Addressing Sexual Exploitation, Abuse and Harassment in ADB-Financed Projects with Civil Works*. Manila.

This four-part form is recommended for reporting sexual exploitation, abuse, and harassment concerns.

Part 1: Initial Report Form

No.	Question	Response
1.	Name and number of the project this SEAH incident relates to	
2.	Reference number used with the executing or implementing agency	
3.	Date SEAH incident or issue first reported	
4.	SEAH incident details (summary)	
5.	Are there additional risks to the alleged survivor(s) health, safety, or well-being?	
6.	If yes, what are these risks, and in what way have you mitigated them? If no, or unknown, please elaborate if you can.	
7.	Does the incident or issue present a risk to the health, safety, or well-being of other people?	
8.	If yes, what are these risks and in what way have you mitigated them? If no, or unknown, please elaborate if you can.	
9.	If yes, who is at risk?	
10.	Is there a risk to the project or reputational risks for ADB?	
11.	If yes, what are the risks?	
12.	Name and position of person reporting	
13.	Date submitted	

Part 2: Further Details (to be submitted within 24 hours of initial report form)

No.	Question	Response
1.	Organization(s) involved and their relationship to ADB funding	
2.	Number of alleged survivors	
3.	Age of alleged survivor(s) (approximate age is acceptable)	
4.	Gender of alleged survivor(s)	
5.	Are the alleged survivor(s) people with disabilities?	
6.	Do the alleged survivor(s) identify as lesbian, gay, bisexual, transgender, queer, or intersex?	
7.	Do the alleged survivor(s) identify as an ethnic minority or indigenous person? If yes, specify.	
8.	Are the alleged survivor(s) being resettled as a part of the ADB project?	
9.	What is the role of the subject of concern in the project?	
10.	Are there any further details regarding subject of concern?	
11.	Country	
12.	Region, state, province	
13.	Location of incident	
14.	Date on which the incident took place (if known)	
15.	Who reported the concern?	
16.	How was the concern or incident reported?	
17.	Is the incident a crime according to local law?	
18.	Was the incident reported to the authorities?	
19.	If yes, confirm date of report and where and to whom report was made	
20.	If not, confirm why this was not reported (e.g., it was not illegal, the survivor did not wish to report to the authorities, it was not safe for the survivor to report)	
21.	Detailed description of incident	

continued on next page

Part 2 *continued*

No.	Question	Response
22.	Immediate actions taken by the project with regards to the alleged survivor(s)	
23.	Are the alleged survivor(s) now safe? (e.g., from retributive action from the perpetrator, their friends, and/or family; and from further traumatization resulting from incident)	
24.	Please provide details of survivor assistance provided	
25.	Immediate actions taken by the project with regards to the subject of concern	
26.	Name and position of person completing Part 2 of this form	
27.	Date submitted	

Part 3: Investigation Planning (to be completed within 1 week of report being made)

1.	Investigation terms of reference (attached)	
2.	Investigation team details, positions, and qualifications	
3.	Time frame for concluding the investigation	
4.	Name and position of person completing Part 3 of this form	
5.	Date submitted	

Part 4: Investigation and Closure Report

1.	Investigation process: describe the process used, why this methodology was chosen, and whether this was successful.	
2.	What is the outcome of the investigation?	
3.	Which individuals were involved in the final outcome?	
4.	What follow-up actions were taken by the project and relevant organization?	
5.	What is the status of the alleged survivor(s)?	

continued on next page

Part 4 continued

No.	Question	Response
6.	Has the project identified health, psychosocial, legal, protection, livelihoods, and other relevant services to refer survivor(s) to, and has the referral been made for longer-term support if needed?	
7.	What is the outcome regarding the subject of concern?	
8.	What are the lessons learned and project adaptations?	
9.	Name and position of person completing Part 4 of this form	
10.	Date submitted	

Name of project: _____

Location of project: _____

Name of executing or implementing agency: _____

Contact details: _____

Approved for submission by (name): _____

Designation: _____

Date submitted: _____