Environmental and Social Management Plan
of

Construction of Container Yard in Existing Birgunj ICD (Contract ID No.: Not yet procured)

(Birgunj Metropolitan City, Ward No 25, Parsa District, Madhesh Province)

Nepal Intermodal Transport Development Board

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July, 2025

ACRONYMS

BES	Brief Environmental Study
BMC	Birgunj Metropolitan City
BoQ	Bill of Quantity
CBH	Circumference at Breast Height
CHESMP	Contractor's Health, Environmnetal and Social Management Plan
CSC	Construction Supervision Consultant
DFO	Division Forest Office
DIA	Direct Impact Area
DoI	Department of Industry
DoR	Department of Roads
DPR	Detail Project Report
EHS	Environment, Health and Safety
EPA	Environment Protection Act
EPR	Environment Protection Rule
ESF	Environment and Social Framework
ESMF	Environmental and Social Management Framewotk
ESSR	Environmnetal and Social Screening Report
ESMP	Environmental and Social Management Plan
ESSs	Environmental and Social Standards
GBV	Gender Based Violence
GoN	Government of Nepal
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HH	Household
ICD	Inland Container Depot
ICP	Integrated Check Post
IIA	Indirect Impact Area
LMP	Labour Management Procedure
LPG	Liquid Petroleum Gas
MoICS	Ministry of Industry Commerce and Supplies
MSDS	Material Safety Data Sheets
NAAQS	National Ambient Air Quality Standard
NITDB	Nepal Intermodal Transport Development Board
NPHC	National Population and Housing Census
OHS	Occupational Healtha and Safety
PCO	Project Coordination Office
PPE	Personal Protective Equipment
SEA/SH	Sexual Exploitation and Abuse/Sexual Harrashment
SEP	Stakeholder Engagement Plan
SRCTIP	Strategic Road Connectivity and Trade Improveent Project
STD/ STI	Sexually Transmitted Disease/ Sexually Transmitted Infection
WB	World Bank

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1 INTRODUCTION

1.1 Project Background

The World Bank will be supporting the Ministry of Physical Infrastructure and Transport (MOPIT) and the Ministry of Industry, Commerce and Supplies (MoICS) implementing agency in implementing the Strategic Road Connectivity and Trade Improvement Project (SRCTIP). The objective of the project is to improve the efficiency and safety of select transport infrastructure, improve the efficiency of cross-border trade, and strengthen capacity for Strategic Road Network management in Nepal.

The Government of Nepal has established Nepal Intermodal Transport Development Board (NITDB) under the Development Board Act 1956 A.D. under Ministry of Industry, Commerce and Supplies (MoICS) to regulate and manage the cross-border infrastructures such as Inland Clearance Depots (ICDs), Dry Ports, Container Freight Stations (CFSs), Integrated Check Posts (ICPs), Collection and Distribution Centers. The Birgunj ICD had been constructed over 38 hectares of land, with a capacity to store up to 1,568 Twenty-Foot Equivalent Unit (TEU). The ICD was constructed and handed over NITDB on 16 March, 2001 AD. The port also has six full-rake railway sidings. There are Rail based ICD, Broad Gauge Railway yard with 6 full length lines, Boundary Wall, Administrative block, Container stacking yard, Covered Container Freight Station, High-Level goods platform, Covered Goods Shed, Covered Customs litigation shed, High mast lighting with boundary lights; Electric substation of 630 KVA, 11/0.4 KVA with one 380 KVA D. G. SET, Fire detection and alarm system in the existing ICD of Birgunj. As for the capacity of the dry port, the existing infrastructure was insufficient to facilitate the ever-increasing trade activities. Lack of adequate container yard was a huge issue that increased cargo clearance time in ICD. Thus, the NITDB has proposed to extend the container yard inside the ICD premises of Birgunj availed through SRCTIP. The construction of the container yard (hereafter referred to as "the project") will ease the operation of ICD.

1.2 Rational and Scope of the ESMP

The Environmental and Social Management Plan (ESMP) sets out how the environmental and social risks and impacts will be managed for the construction of the additional facilities through the different phases of construction i.e., planning and design, construction, operations and decommissioning in response to the construction of container yard in existing ICD. The ESMP includes several matrices identifying key risks and setting out E&S mitigation measures. It also includes key elements relevant to the delivery of the E&S management measures, such as institutional/ implementation arrangements, plans for capacity building and training and budget. The ESMP follows the World Bank Environmental and Social Framework (ESF) as well as the national laws and regulations of Nepal. The issues and risks identified in the matrix are based on current detailed design information of the site. The WBG EHS Guidelines and stakeholder consultation further informed the choice of mitigation measures. The ESMP identifies other specific Environmental and Social management tools/instruments, such as the Stakeholder

Engagement Plan (SEP), Labor management procedures (LMP), SEA/SH Action Plan, that should be referenced in conjunction.

1.3 Salient features of the Proposal

Table 1-1: Salient Features of the proposed enhancement of existing ICD

General	Description
Proponent	Nepal Intermodal Transport Development Board
Proposal Name	Infrastructures Development at Birgunj ICP and ICD under SRCTIP
Province	Madhesh Province
District	Parsa
Municipality	Birgunj Metropolitan City
Project Affected Wards	Ward 25 of Birgunj Metropolitan City
Elevation Range	81 m AMSL to 84 m AMSL
Coordinates	$27^0$01'04"N & $84^0$50'31" E
Nature of Project	Additional Facilities in existing ICD
Type of Project	Civil Infrastructure, (container yard)
Developmental Modality	International Development Association Credit/Grant No: IDA-66730, IDA-6674
Infrastructures Construction	
Type	Interlocking concrete block, M50
Thickness	100mm
size	133.67 m x 73.88m
Area covered	9875.90 m^2
Proposed land ownership	Government
Financial Indicators	
Project Cost	NPR. 214,018,434.53
Construction Period	1.5 years after preparatory works

Source: Detail Project Report, 2081

1.3.1 Location, Type and Scale of Facilities

The proposed construction area within the existing ICD is located in ward 25 of Birgunj Metropolitan City of Parsa District in Madhesh Province. The core Birgunj city is at a distance of 8 km from the site and the nearest Simara airport is 23.4 km away. The ICD is located just next to the ICP at the Nepal-India border.

The roads surrounding the ICD areas have been upgraded over the past two years, significantly impacting industrialists, traders, transport entrepreneurs, and the public positively. The constructed six-lane Birgunj-Pathlaiya road accommodates the majority of the country's imports and exports connecting Birgunj customs, ICP, ICD and Parsa-Bara industrial corridor with other countries.

The Location of the Project Area is provided below.

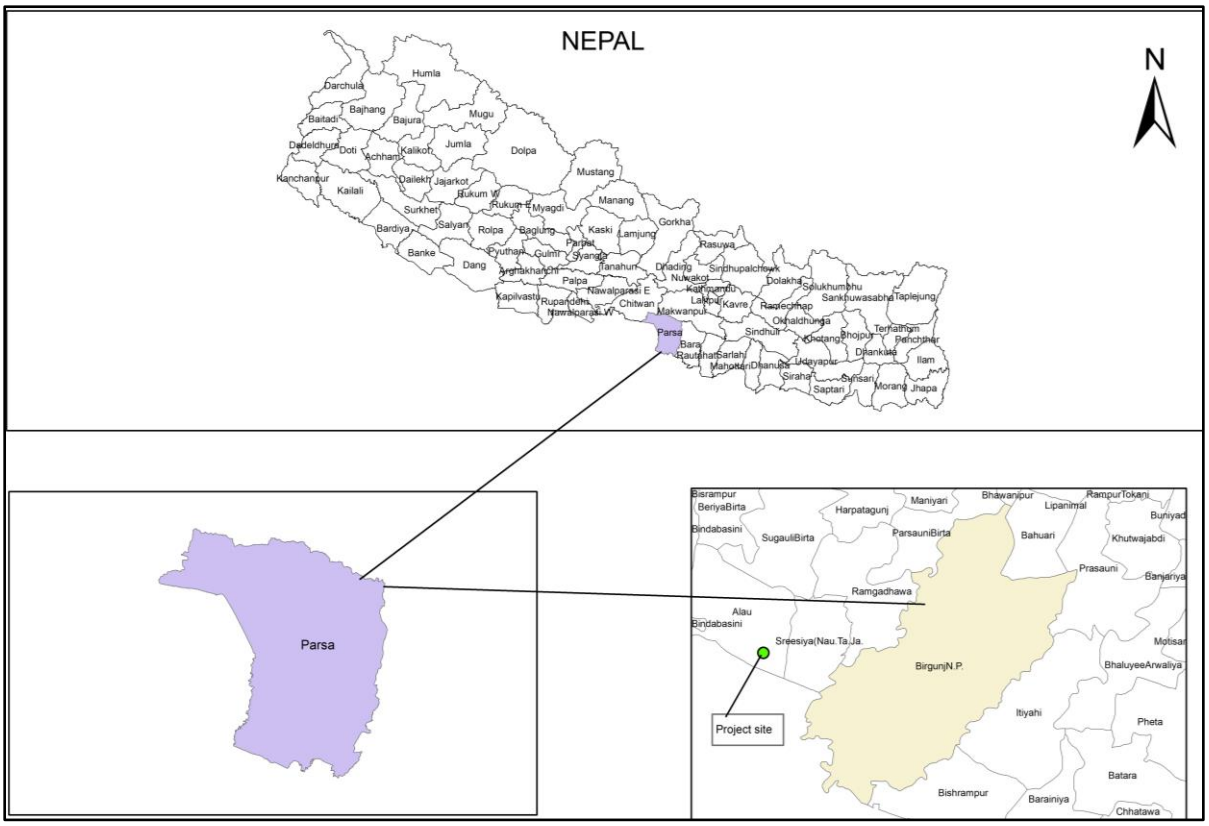


Figure 1.1: Project Location in Nepal (Source: Department of Survey)

Figure 1.2: Project Google Image (Source: Google Earth)

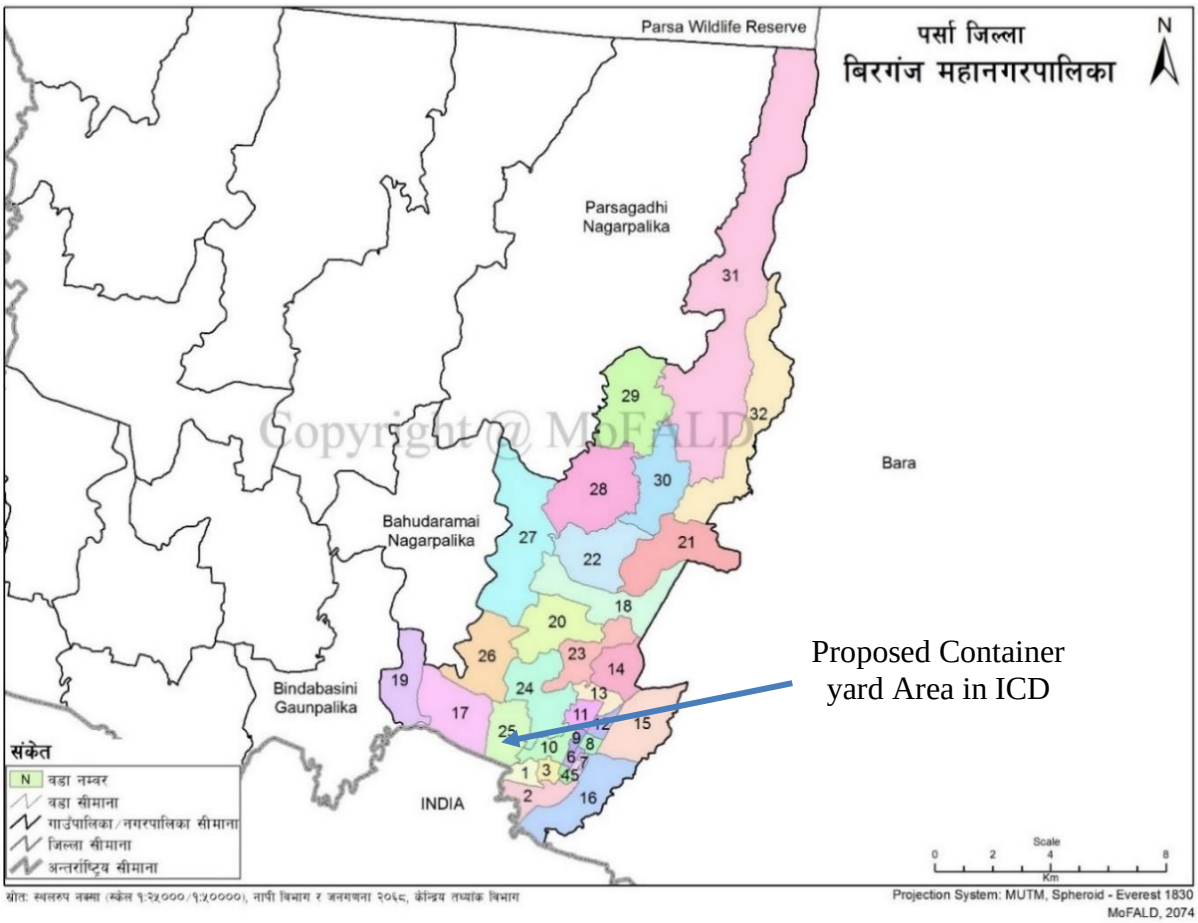


Figure 1.3: Project Location in Municipality Map (Source: MoFAGA)

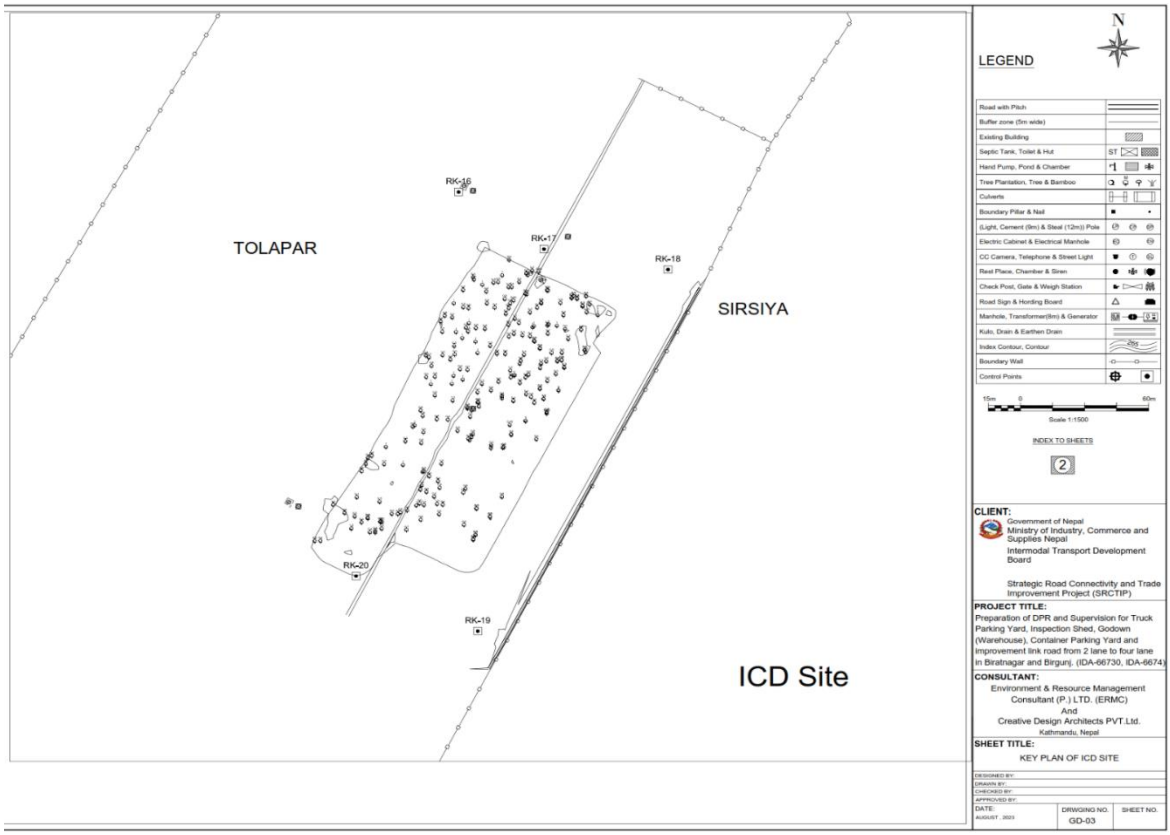


Figure 1.4: Schematic plan of the infrastructures

Fig: Existing Container Yard

Fig: Proposed container yard site

1.3.2 Design of the project

The architectural planning of the container yard within the Inland Container Depot (ICD) has been completed to accommodate up to 1,200 containers. The yard is designed to cover an area of 9,875.90 m² (approximately 133.67 m × 73.88 m) and includes the extension of the existing surface drain to effectively manage surface runoff and prevent flooding.

Infrastructure design has been guided by technical feasibility, national standards, and international best practices, with due consideration for environmental and social safeguards. The yard incorporates steel frame and concrete block structures, and provisions have been made for worker safety, community engagement, emergency preparedness, and an effective grievance redress mechanism.

The container yard surface will use M50 Interlocking Concrete Blocks (ICBs)—high-strength masonry units with a compressive strength of 50 MPa, known for their durability, load-bearing capacity, and quick installation without mortar. These blocks are particularly suitable for high-traffic infrastructure like container yards, ensuring long-term performance and stability.

1.3.3 Land Acquisition

The permanent infrastructures of container yard will be constructed in about 0.98 hectares within the existing ICD owned by Government of Nepal. The activities will not increase the area of the existing ICD. The temporary land for storage of spoil generated from the excavation work, stockpiling of construction materials will be managed within ICD premises. The construction manpower will be placed in rented house near the site or by constructing camp within the government/rented land.

1.3.4 Resource requirement

All materials required for the reconstruction of proposed works will be procured locally, domestic purchase/rental and foreign imports. The construction materials such as coarse and fine aggregates will be sourced from approved river aggregates suppliers' quarries with GoN's environmental clearance. Cements, fuel and construction equipment such as excavators, water browser, trees cutter, generator are procured from domestic purchase/rental. The steel and other equipment will be procured from foreign import.

The estimated manpower requirement is 23, i.e. 4 persons (2570 person-days), and unskilled 19 persons (11493 person-days) for the work. The contractor is expected to hire most of the labour locally due to the availability of labour in Birgunj Metropolitan City.

1.3.5 Corridor of Impacts

For the scope of this ESMP, the impact areas those classified on the basis of the proximity and magnitude of the impacts as described in the National Environment Impact Assessment Guidelines (GoN, 2050) are:

Direct Impact Area (DIA): The Direct Impact Area (DIA) refers to the zone where construction activities and project facilities are located, and where a high level of direct impact on environmental components is anticipated.

Indirect Impact Area (IIA): This refers to the immediate vicinity of the project site where environmental components may face indirect impacts from construction activities.

The direct and indirect impact areas are listed in Table 1-4.

Table 1-2: Impact area delineation

Direct Impact Area	Indirect Impact Area
Existing ICD premises where the construction work takes place	Area adjacent to ICD compound and Wards 25 of Birgunj Metropolitan City, locals are also consulted.

1.3.6 Existing Environmental and Social Baseline Condition

The environmental and social baseline information used in this ESMP are based the detail Environmental and Social Screening Report (ESSR, 2022), design report of Birgunj ICD and information collected during the preliminary filed visits by the experts of PCO-NITDB and Construction Supervision Consultants (CSC). The information on existing physical, biological and socio-economic and cultural environment were collected from both primary and secondary source. A team with environmental and social safeguard experts of CSC had conducted a preliminary field (25 -27 July 2023 and 3-8 December, 2024) and carried out field investigation through survey, inspection, observation, measurement and consultation. The relevant information collected from other experts from the PCO and CSC were also used.

The topographical map (2784 16C Birgunj) was reviewed for land use and other features of the project area. The geological map of the project area was reviewed to understand the underlying geology of the project area. The meteorological data were analyzed by the design team with the reference to the nearest meteorological station at Simara. The wildlife and vegetation data of the ICD area was acquired by site visit and verified from publications of Division Forest Office, Parsa. Local level socio-economic and cultural information were reviewed from CBS publication, Birgunj Metropolitan Demographic Report.

The ESMP has been updated as per the approved *Brief Environmental Study (BES) for the construction of Container Yard in existing Birgunj ICD and Parking Yard, Inspection Shed, Warehouse in existing Birgunj ICP which* has been approved by the Department of Industry in May, 2025.

1.3.6.1 Physical Environment

The project area is located in the Terai plain with an altitude of 84 m asl. The community has witnessed water congestion every year due to poor drainage system. Water logging was reported in nearby low-lying areas during monsoon. The quarry sites are not within the scope of the study, however, the detail assessment of quarry sites in terms of recovery volume, haulage distance and cost per m^3, suitability, quantity and quality of material will be done while monitoring. Observed values for air quality of the sites are within the limit prescribed by the Nepal National Ambient Air Quality Standard (NAAQS, 2012) except for PM2.5. Similarly, observed values for noise and water quality parameters of the site are within the limit prescribed by National Noise Quality Standard 2012 and Nepal Drinking Water Quality Standard 2005) respectively.

1.3.6.2 Biological Environment

The proposed container yard area is located in the dense vegetation of self-grown plants within the ICD area. Besides ground vegetation, climbers and shrubs are found in the site. From the sample count, about 600 stands of Sissoo (*Dalbergia sissoo*), Simal (*Bombax ceiba*), Siris (*Albizia lebbeck*) were recorded within the proposed construction area. Besides ground vegetation, climbers and shrubs are also found Mammals reported from the sub-project area are Nyauri (*Herpestes auropunctatus*) and Musa (*Rattus rattus*). Major bird species reported are Bhangera (*Passer domesticus*), Dangre (*Acriotherus tristis*) and Kauwa (*Corvus splendens*). Snakes are reported in the project location.

1.3.6.3 Socio-economic and Cultural Environment

a) Demography, Caste, Ethnicity, Gender, Religion and Language

Approximately 2.5% of the metropolitan city's population resides in Ward 25, comprising 4,362 people (2,320 males and 2,042 females) across 635 households. Major ethnic groups include Musalman, Kurmi, Yadav, Kanu, Teli, Dhanuk, Tharu, Sonar, and Chammar/Harijan, with Hinduism and Islam as the dominant religions. Bhojpuri is the primary language, followed by Nepali, Maithili, and Urdu. There are no concentrated indigenous settlements. Agriculture is the main livelihood, supplemented by labor, trade, small businesses, and some foreign employment. Nearby settlements such as Sirsiya and Tolopar lie about 350 m from the ICP site, while Sirsiya (Dry Port Bypass) Road is located 500 m north. The construction site has no historical, cultural, religious, or archaeological significance, with the nearest temples located over 1.5 km away. (Source: Metropolitan Demographic Report, 2021)

1.4 Impacts on Disadvantaged and Vulnerable Group

As the construction work is limited within ICD premises, resettlement and additional land acquisition are not required for the project. The female headed HHs are 4.4 % in ward 25. According to the report, the people with disabilities of ward 25 is are 1.2% and elderly people (above 68 years) are 3.3 %. Tharu, Newar, Tamang and Magar are the major indigenous community of the Metropolitan City. Significant number of the population identifies as Muslim, and significant proportions belong to marginalized ethnic groups such as Dalits and indigenous communities. (Source: Metropolitan Demographic Report, 2021).

2 PROJECT SPECIFIC ENVIRONMENTAL AND SOCIAL RISKS AND MITIGATION MEASURES

The construction of the container yard in the existing ICD has both the beneficial and adverse environmental and social issues. The employment creation, income generation, better facilities and revenue increment are some of the beneficial impacts during the construction and operation stages. Trees removal, waste generation, dust emission, noise, health and safety, SEA/SH, GBV, social disputes are some of the adverse impacts during preconstruction, construction and post-construction phases.

The impacts are separately mentioned as beneficial and adverse impacts on physical, biological, socio-economic/cultural environments for pre-construction, construction and operation stage. For beneficial impacts, benefit augmentation measures are considered and for adverse impacts, adverse impacts mitigation measures are considered.

2.1 Beneficial Environmental and Social Impacts and Mitigation Measures

The construction of container yard in ICD will increase the employment opportunity and the flow of the workers will create the trade and business opportunities to the locals. During the operation stage, the increased container yard area will enhance the ICD's efficiency. The existing drain improvement in the ICD compound has also been considered.

The benefit augmentation measures will enhance the beneficial environmental and social condition of the affected areas. The proponent and contractor will implement the proposed enhancement measures such as employment opportunity and capacity enhancement program as prime responsibilities.

The beneficial impacts and their enhancement measures during construction and operation are given below:

Table 2-1: Beneficial Environmental and Social Impacts and Augmentation Measure)

Activities	Associated Risks/Impacts	Benefit augmentation measures	Responsibilities	Time	Budget
Construction Phase					
Construction related activities, site clearance, excavation etc.	Employment generation and increase in income – The skilled labours are 4 persons (2570 person-days), and unskilled 19 persons (11493 person-days). – Increases the economic activities and enterprise development with multiplier effect contributing local economic growth.	– The project will include a binding clause in the contractor's environmental management plan to give employment priority to the local people of the project affected areas; – the local people particularly poor; dalits, ethnic, minority and women will be given priority for employment and on-the-job trainings. – Coordinate with ward office and information dissemination for employment opportunities.	Contractor Supervision Team, NITDB	During construction period	50,000
Labour influx/construction works	Business opportunities for local people to cater the need of workforce, Trade enhancement – The existing shops, local business and restaurant get boosted due to the higher demands from the workers.	– Give priority to use local products. – Local people will be encouraged to establish local enterprises.	Contractor Supervision Team, NITDB	During construction work,	No cost is required
Construction related/labour requiring activities, Employment	Skill Enhancement of Workers and Locals – Working with the technical persons will enhance worker's skills in health & safety, ESMP implementation, masonry,	– Project will give necessary equipment operation related training to the newly employed workers depending upon their skills and the nature of the work offered.	Contractor Supervision Team	Before and during the construction work	50,000

Activities	Associated Risks/Impacts	Benefit augmentation measures	Responsibilities	Time	Budget
	electric and other semiskilled works.				
Operation Phase					
Adequate parking space and frequency of CFs	Resolve inadequate parking- Additional 1200 units of containers may be parked.	Proper Operation of ICD, quick service and monitoring of quality service	Operators/ NITDB	Entire ICD operation	No cost is required
ICD efficiency increment	Improve trade and business, increase revenue The operation of the ICD generates revenue for the government through customs duties, taxes, and other fees associated with import and export activities.	Quality service provided by the ICD	Operators/ NITDB	Entire ICD operation	No cost is required

2.2 Adverse Environmental and Social Impacts

As the ICD is already established, the additional concerns of land acquisitions and major construction activities are not required. The waste management, water treatment, health and safety management have been considered in the existing ICD.

The adverse environmental and social safeguard issues in different phase are grouped into following Table.

Table 2-2: Environmental and Social Risks from the construction of container yard

Preconstruction/Planning Stage	Construction Stage	(Operation & Decommissioning) Stage
– Risk of poor contractor's environmental, social, health and safety performance (ESHS), leading to non-compliance – Failure to adhere to ESMP can result project delays. – Inadequate training causing gaps in the ESMP awareness and implementation – Risk of poor stakeholder engagement, dissatisfaction, or grievances escalating into conflict – Delayed permits from DFO delaying project start or causing legal complications – Inadequate site-specific ESHMP posing non-compliance and operational risks – Security risk due to unauthorized entry if areas are not properly demarcated	– Unsuitable sites selection/ over-extraction leading to environmental degradation – Accidents, diseases, heat stress, exposure to chemicals, and unsafe working conditions – Increased risk of GBV, SEA/SH and STD for workers and community incidents due to labour influx – Community grievances over employment, noise, dust, and access restrictions – Non-compliance of Labour Act of Nepal as well as WB Standard on ESS2 leading to poor working condition – Child labour, forced labour – Clearing vegetation cover causing Habitat loss, risk to protected species, and ecosystem disruption – Air pollution including dust causing health hazards to workers and local residents – Sanitation, disease outbreaks, conflicts, and waste management issues from poor construction camp – Road congestion, increased accident risk, and damage to local roads due to higher number of vehicles	– Delays, leftover spoil/waste, incomplete rehabilitation, community grievances during dismantling – Pollution, blockage of drainage due to operation waste – Risk of accidents, exposure to hazardous materials, inadequate PPE usage – Health and nuisance problems for communities – Increased risk due to operational traffic or decommissioning vehicles – Improper disposal leading to soil, water pollution, and legal non-compliance

2.2.1 Preconstruction/Planning Stage

Preconstruction stage activities include the necessary assessment and permit such as approval of environmental assessment, site clearance, trees cut, construction material and equipment sourcing. Public dissatisfaction and conflict, legal obstruction and impacts related to the site clearance such as air pollution, noise, safety and site security will occur if not considered initially. Following are the major adverse impacts and mitigation measures proposed at this stage:

Table 2-3- Environmental and Social Risks and Mitigation Measures during Preconstruction Stage

Activities	Associated Risks/Impacts	Adverse impacts Mitigation Measures	Responsible Agency	Timeline	Budget
Finalization of Environmental and Social Documents (ESMP, BES)	– Inadequate ESMP/BES will lead to regulatory non-compliance and project delay. – It may fail to address key environmental and social issues.	– The procedural requirements of ESMP/BES will be followed. – All of the necessary approval (ESMP-WB will review and approve, BES-review and approved by the Department of Industry) – Detailed design, drawings and documents and budget will be included.	CSC/NITDB	ESMP (Before the contract, IEE before the construction)	Included in design phase of the project
Inclusion of the ESMP in Bid Documents	– Failure to adhere to ESMP can result project delays and contractor's negligence.	An approved ESMP will be included in bidding documents and contracts.	CSC/NITDB	Before the contract for the construction	Included in design phase of the project
Preparation of Contractor's Environmental, health and Social Management plan and approval	Inadequate site-specific ESHMP posing non-compliance of safeguard and harm to workers, community and the environment.	– The contractor will submit a detailed CHESMP as part of their bid requirement with different plans such as spoil, waste, traffic, health & safety, biodiversity etc. – The NITDB will consider availing the approved ESMP and BES to the contractors to guide their C-ESHMP development and ensure budgetary considerations in their bids.	Contractor/CSC/NITDB	Before construction activities	It is under the contractor's responsibilities before the construction works starts
Consent/permit from DFO, Parsa for	– Delayed permits from DFO delaying project start or causing legal complications	– The project will inform the DFO about tree removal and request their support. No vegetation will be	NITDB/CSC	Before trees removal	NITDB responsibilities

cutting the trees during site clearance.	failure to obtain consent for trees cut can result in legal penalties.	cleared without prior approval from DFO. – Trees removal activity will follow the Standard for Removing Government trees, 2071 BS.		during site clearance	(it is a regular coordination activity, no additional cost is required,)
Hiring labour and Establishing labour camp	– Hiring workers without workforce assessment, worker's background, and site selection without stakeholder engagement will bring the conflicts – Child and forced labor	– Community engagement and local employment will be considered during hiring the labour. – The labour camp will be established in dedicated area within ICD or in rented apartments by the contractor in coordination with the NITDB – Age verification documents, recommendation from local authority will be acquired from the workers.	Contractor/NITDB	Before construction activities	Contractor's responsibilities, NRs. 30,00,000 has been allocated in BoQ for Contractor's Camp
EMP Implementation Training	Inadequate training causing gaps in the ESMP awareness/implementation leading to environmental harm, putting workers and the community at risk	– Regular training sessions for all relevant personnel on EMP implementation	Contractor/CSC/NITDB	Before Construction Activities	100,000 (Included in ESMP implementation Cost)
Site security	Security risk due to unauthorized entry to the ICP area	– A security plan that includes 24/7 surveillance, CCTV, security personnel and emergency response protocols with training to security personnel shall be developed	Contractor/CSC/NITDB	Before Construction Activities	100,000 CCTV will be installed in coordination with ICD.

2.2.2 Construction Stage

Construction stage includes the impacts such as land use change, health and safety, impacts related to labour camp, social disturbances from construction crew, dust emission, noise, air and water pollution, waste generation and stockpiling of construction materials. The grievance/complaints from the public and social disputes are also associated during construction.

Adverse impacts during construction and their mitigation measures are provided as:

Table 2-4- Environmental and Social Risks and Mitigation Measures during Construction Stage

Activities	Associated risks/impacts	Adverse Impacts Mitigation Measures	Responsible Agency	Timeline	Budget
A. Socio-economic and cultural environment					
Construction of parking yard	– About 0.98 ha of land with dense vegetation will be converted to the container yard – Loss of Top Soil	– All available top soil from the sites will be preserved and re-use it on the site approved by Supervising Consultant. – Top soil will be used in greenery management, plantation and will be given to farmers upon request	Contractor Supervision Team, NITDB	During construction	No cost is required
Construction works, labour influx, vehicle movement	– Occupational Health & Safety of Workers and Community – Risks from exposure to hazardous materials, dust, noise, and physical strain – Air/dust and noise pollution	– The contractor will develop and implement occupation health and safety management plan, Traffic Management Plan and Emergency Response Plan – These plans will be included in Contractor's EHSMP with the provision of designated OHS staff to oversee OHS related issues at the project site. – Provision for incident reporting and documentation. – Health insurance will be done to the workers.	Contractor	Immediately after the construction works	3,50,000

		– First aid kits, standby vehicle, and fire extinguishers will be provided in the sites. – To avoid risks due to the movement of vehicles, speed limit will be provisioned. – Soft and hard barricades, and warning signs will be placed in the construction site. – Comprehensive health and safety training to workers, including the use of PPEs by workers e.g. safety helmets, safety belt, boots, gloves. – Provide appropriate facilities such as access for approach and exit, temporary toilets, drinking water provisions, first aid kits. – Maintain safe distances between the earthmoving equipment and working labors. – Work will be stopped in the heavy raining days and hot wave days. Emergency assembly point of steel frame will be provisioned. – Welding helmet with proper lens shade and welding googles (hot works). Gloves, safety googles (Silicosis) Non-slip safety footwear, Helmet with chin strap (Working at height) can be recommended as specialist PPEs. – 3 events of health screening camps for workers and community			
Labour Influx for	– Breaching of local social/cultural norms and values	– Recruit local labour to the extent they are available to minimize labour influx.	Contractor/NITDB	During construction and after labour camp establishment	100,000

construction works	and human trafficking – Increased incidents of GBV, SEA/SH, – Spread of sexually transmitted infections (STIs) and other diseases. – Human Trafficking	– Strict anti-GBV, SEA/SH plans shall be developed and enforced including community awareness – Community awareness about the risks and prevention of STIs including human trafficking – Workforce to be sensitized on cultural and social norms as well as values of the host. – Harassment, intimidation and/or exploitation will be prevented or addressed with clearly displayed IEC prohibition signage and CoC			
Outside Labour influx for construction work, Hiring labour for works	– Social dispute in the community due to irresponsible behaviour of the workers such as gambling and drinking. – If local do not get the employment opportunity, it causes dissatisfaction	– Awareness program to the workers on cultural and social norms of local – A transparent grievance redress mechanism shall be established to address disputes and dissatisfaction promptly. – Code of conduct (CoC) will be drafted in simple and local language. Workers will be orientated about the CoC before getting their sign on the CoC and it will be followed strictly	Contractor/NITDB	During construction work, immediately after complaints/grievance received	
Hiring labour for construction works	Discrimination in hiring practices can lead to social tension and exclusion of local and marginalized groups.	– An employment policy will be prepared so that the local people may not be deprived of employment opportunities. – Local people above the age of 18 will be given preference for employment.	Contractor	Before and during construction work	

	The child labour policies shall be strictly enforced against child labor and ensure that all workers meet the legal age requirements.	– Under aged child of less than 18 years will not be employed in the project works. (Age verification documents such as National ID, Citizenship, License, Passport etc. recommendation from local authority) – The child related policies against child labor will be enforced and the workers meet the legal age requirements. – Forced labor will be prohibited in the construction works. – No worker will be discriminated in the aspects of wage rates, trainings, or other benefits and services – A documented employment letter will be provided to each of the workers prior to engagement in the construction works stating their rights related to hours of work, wages, overtime, compensation, and benefits as per the national labor law. – Retrenchment of workers without prior notification on the basis of work relationships will be prohibited. The workers will be paid all his dues and benefits prior to the termination.			
Construction Camp Establishment	Inadequate sanitation and waste management in camps can lead to	– A standard Labour camp facilities will be followed if established. The labour management procedure of ESS2 of ESF will be followed.	Contractor	During construction work	NRs. 20,00,000 of contractor's camp which will be used

	the spread of diseases.	– Health and hygiene in the camp site (against unsafe working conditions, accidents, transmission of communicable diseases etc.) will be given top priority. – Adequate sanitation, waste management, and clean water facilities along with proper ventilation, lightening and security will be provided in construction camps to ensure the health and well-being of workers. – A comprehensive waste management with strategies for recycling, reuse will be developed and implemented. – Coordination with local communities and authorities – If require, establish Labour camp with i) well-ventilated rooms ii) lighting facilities, iii) adequate toilet and bathroom facilities iv) common cooking and dining facilities, v) adequate communication facilities, vi) first aid facilities, vii) runoff drainage facilities, ix) solid waste collection and storage and transportation facilities, x) water supply facilities, xi) grosser and consumable shops, xii) LPG gas facilities for cooking etc. – Toilets for the workforce to be established at least 50 m away from water sources – Prohibit Open waste disposal – Workers' health will be screened against communicable diseases			for labour camp.

		– Encourage local labor force for project employment Encourage local labor force for project employment			
Vehicle movement during transportation of material	Road accident	– The traffic management plan will include clear signage, speed limits, flag personnel if needed, and proper coordination to prevent accidents and minimize traffic congestion. The plan will be considered for: – Entry and exit points between the construction site and public roads – Interaction with the operating ICP to avoid disruption – Movement within the construction area, including designated paths for vehicles and workers	Contractor/NITDB	During material transportation	50,000
Construction work	Grievance	– A focal person for the Grievance related to SEA/SH/GBV will be designated. – Grievance Redress Mechanism will be activated and strengthened	Proponent	During construction	250,000
B. Biological Environment					
Site Clearance	Vegetation loss, 600 trees will be removed	– With the involvement of Division Forest Office (DFO), Parsa, the trees will be removed following Standard for Removing Government trees, 2071 BS. – Promote plantation program. – Management of cut wood stock. – Coordination with DFO, Parsa	Proponent/Contractor	Construction work	50,000 for coordination 820,000 for tree cut, management and plantation

Site clearance, trees cut	The loss of habitats for local wildlife, reducing biodiversity.	– Biodiversity assessments will be done to identify key species and their habitats during construction by contractor. – The trees with birds' nests will not be fell down suddenly. The nest will be relocated first in coordination with DFO if requires. – The animal found during site clearance will be handed over to the concerned authority such as DFO and Parsa wildlife Conservation Area.	Contractor	Construction work	
C. Physical and Chemical Environment					
Site clearance, transportation & loading-unloading of construction materials	Emission of fugitive dust and reduce air quality causing health issues.	– Dust control measures such as water spraying, covering of stockpiles, and minimizing vehicle speeds on unpaved roads will be implemented. – The occupational workers at the construction sites, engineers and supervisors will be provided with air masks, helmets, and safety goggles and will be made mandatory use of them.	Contractor	During the construction	150,000
Stockpiling of construction material	If the construction materials are haphazardly placed at construction sites, this will cause land degradation, pose threats to safety of the workers/visitors, and hinders public	– Designated, well-managed areas for material stockpiling will be established away from sensitive areas with fencing, covering and record-keeping. – The sites will be selected after the consultation with NITDB and their approval is needed. – Water spraying over stockpiled materials may also be required.	Contractor	During construction period	No cost for measures

	movement and traffic management.	– Regular inspections will be done to ensure that stockpiles are managed properly and do not pose environmental or safety risks.			
Civil works, excavation etc.	Improper disposal of construction waste and spoil can lead to soil, water contamination.	– A solid waste collection and storage will be followed the established system in the existing ICP area. – Garbage containers of adequate size will be placed in the construction area. The garbage will be collected as per the existing management provision. – Spoil will be used as backfilling. – A construction waste and spoil disposal plan including hazardous waste management plan will be developed and enforced.	Contractor	During construction period	250,000
Civil works	Drainage disturbances of the proposed construction sites	– Care of the drainage system, provide alternative plan during construction period, cover the drain to prevent for accidental falling of the workers	Contractor implements	During construction	No cost is required
Operation of construction vehicles and machineries,	Air pollution which may impact the human and environment	– All construction vehicles will comply with Act with mandatory Green Sticker, – Maintenance of equipment and vehicles regularly to control air pollution. – Air pollutant parameters (TSPM, PM10, Sox, NOx, Cox) will be monitored regularly during construction. Conforming NAAQS of Nepal.	Contractor implements Supervision Team, NITDB monitor	Throughout the construction period	120,000 (Air quality monitoring, also included in monitoring table)

Operation of construction vehicles and machineries,	Noise generation which may impact the human and environment	– Ensure plant and equipment to keep noise at minimum. – Workers will be provided with appropriate ear muffs/plugs specially at crusher site – Prohibition on the blowing of horn in critical stretches close to setlement and near the school area along the road. – Noise levels (1 hr Leq dB(A)) levels will be monitored regularly conforming WHO standards.	Contractor	During construction	60,000
Movement of vehicles	Movement of vehicles during construction activities can lead to increased traffic congestion and the risk of accidents.	– A traffic management plans that include designated routes, timing and speed limit will be developed and implemented. – Clear signage, signals around will be installed. – Speed limit and Traffic Safety: – The construction traffic will be supervised monitored regularly to ensure the given instructions are complied.	Contractor	During construction	50,000
Quarry Sites and its Operation (if the contractor has its own crusher)	Environmental degradation, noise, dust, over exploitation of resources and dust emission and road safety during transportation	– Obtain from the legally operating crusher industries. – The quarry sites and amount of quarrying material will be monitored by the contractors/DSC/NITDB. – Monitoring quality of quarrying material	Contractor Supervision Team, NITDB	Before obtaining the construction material	No budget is required. Supervision cost will be borne by respective agencies

Chemical used during construction	Chemical Environment	– Store chemicals in designated areas with proper signage and secondary containment. – Use leak-proof, clearly labeled containers for all chemicals. – Train workers on safe handling, storage, and emergency spill response in accordance of Material Safety Data Sheet (MSDS) – Conduct regular toolbox talks on the hazards associated with specific chemicals. – Install spill containment systems (e.g., bunds, drip trays, or absorbent mats) in high-risk areas. – Provide fire extinguishers for chemical hazards near storage areas. – Report spills to the site supervisor and relevant authorities as required. – Regularly inspect and maintain all storage and spill control equipment.	Contractor Supervision Team, NITDB	During construction	50,000, Included in EHS awareness

2.2.3 Post Construction Stage (Decommissioning and Operation Stage)

Post construction stage includes both decommissioning such as dismantling, demolition, and site restoration and operation of ICD parking yard. Both the activities can have significant environmental and social impacts. Monitoring of the issues, adoption of the plans are the major concerns during post construction stage. The existing coal dust and waste in the existing operation of ICD will also be considered.

The existing systems of waste management, health and safety, water treatment and other provisioned in the existing operation will be strengthened.

Table 2-5: Environmental and Social Impacts and Mitigation Measures during Post Construction Stage

Activities	Associated Risks/ Impacts	Adverse Impact Mitigation Measures	Responsible Agency	Timeline	Budget
Physical Environment					
Operation of ICP/ Dismantling and demolition of the temporary structures	Noise, Dust Emission, and Air Pollution	– Noise control measures, dust suppression and air quality monitoring will be considered during the post construction activities. – Strengthen the air/dust noise emission – Enhance the existing management system	NITDB/Operators	NITDB in coordination with Operator	
Operation activities	Solid and Liquid Waste	– Noise control measures, dust suppression and air quality monitoring will be considered during the post construction activities. – Enhance the existing management system	NITDB/Operators	NITDB in coordination with Operator	
Operation activities	Solid and Liquid Waste	– Enhancing the existing waste management system	NITDB/Operators	NITDB in coordination with Operator	

Biological Environment					
Implementing management plan of construction work	Failure to complete or maintain mitigation measures, such as tree planting, spoil management can lead to environmental and social problems.	– Strict monitoring of the compliance and instruct the contractor for complete the remaining task – Take care of the plantation and trees status.	Contractor/NITDB	After construction	
Socioeconomic and Cultural Environment					
Demolition and dismantling of temporary camps	Risks of accidents and injuries to workers, such as falling debris, equipment malfunctions, and exposure to hazardous materials.	– Strict safety protocols, including the use of personal protective equipment (PPE), the presence of safety officers on-site will be implemented. – The existing First Aid will be enhanced.	NITDB/Operators	Will be prepared by NITDB	
Operation of ICP	Operation activities pose various risks, including falls, equipment accidents, and exposure to hazardous materials.	– The operator will update/develop and implement a safety management plan for the operations phase. – Follow health and safety guidelines of the operation stage.	NITDB/Operators	Will be prepared by NITDB	

Note: Himalayan Terminal Pvt. Ltd. is responsible for operating the Birgunj ICD. It is responsible for implementing and maintaining safety protocols that protect workers, drivers, and visitors, including the provision of Personal Protective Equipment (PPE), enforcement of safe work practices, emergency preparedness, and coordination with customs and security agencies.

The operator oversees the organized flow of cargo trucks, containers, and vehicles to prevent congestion, reduce delays, and ensure smooth entry and exit through designated lanes. This includes maintaining clear signage, managing parking zones, regulating vehicle movement ensuring that vehicle loading and unloading operations follow safe procedures.

3 EMERGENCY, PREPAREDNESS AND RESPONSE

Emergency incidents occurring on site may include spillage, occupational exposure to hazardous materials, equipment failure, accidents, solid waste and fire. These emergency events could seriously affect workers, communities, operators, and the environment.

The Emergency, Preparedness and Response Management Plan for the construction site will be displayed on Safety Notice Boards and other prominent locations around the site. The plan shall be reviewed during EHS committee meetings and all the workers will be trained.

Sufficient first aid facilities will be available for the site as specified ***'First Aid'*** and qualified First Aid personnel will be appointed to meet the requirements of EHS Legislation.

The unfavorable weather conditions refer to any weather event that increases the risk of having an accident. Rain and heat are all example of unfavorable weather conditions and following precautions is planned:

- During heavy rains, accidents, or emergencies of any kind, all work shall be suspended.
- Sawing, cutting, grinding, sanding, chipping, shall be conducted with proper safety measures as applicable.
- The contractor shall ensure shade station and drinking water in the work sites along with safe sight distance in both construction areas and construction camp sites.

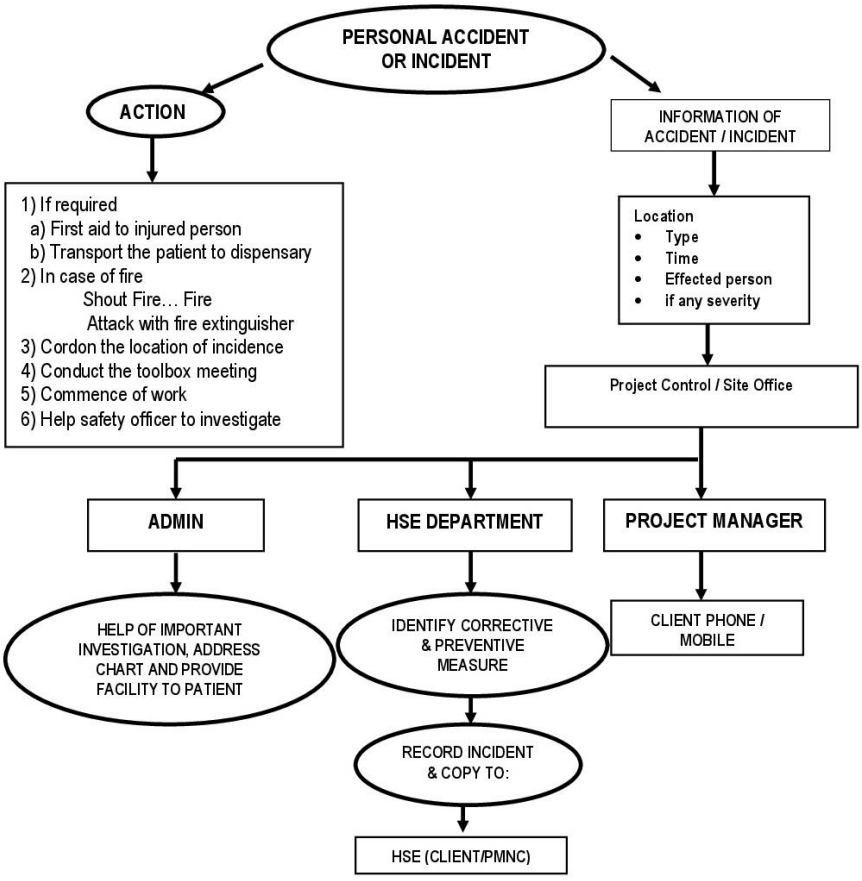


Figure 3.1: Emergency Preparedness and Response Plan

In case of serious injury special arrangements shall be made available based upon site conditions. For any severe injury, the Project Manager shall be authorized to take necessary arrangements for lifting / transporting the injured to the correct location.

3.1 Accident and Emergency Management Plan

The Accident and Emergency Management Plan need to be prepared to handle unforeseen events during emergency operations. This emergency management plan highlights some key feature of the emergency preparedness in the event of such unforeseen events (Table 3-1).

Table 3-1: Accident and Emergency Management Plan

SN	Activities	Timing of Actions	Location	Responsibility
1	Prepare and submit an accident and emergency management plan, including response methods, to CSC/NITDB for approval.	Pre-construction (at least a month before starts of work)		Contractor will prepare and CSC/NITDB will approve it
2	Establish and operate a health clinic within the camps, ensuring it is adequately staffed, well-maintained, and equipped to serve the maximum workforce efficiently.	Prior to the commencement of construction and land clearance	Construction site	Contractor
3	Proper implementation of OHS plan,	As designated in the plan	As in the plan	Contractor/Operator
4	Provide stabilization equipment and facilities for the injured before transferring them to a well-equipped hospital.	Construction	Health care facility	Contractor
5	Maintain medical stock for waterborne diseases to manage potential outbreaks in the camp or surrounding areas.	Construction	Construction site health camp	Contractor
6	Monitoring of the above activities	Construction, Operation	As in the plan	Contractor/Operator/client/CSC

3.2 Hazardous Waste Management Plan

In the context of construction activities within Birgunj ICD hazardous materials such as diesel, lubricants, paints, welding gases, and cleaning chemicals will be used. These materials may pose risks of spillage, leakage, and fire hazards. Similarly, during operation, waste oils from vehicle maintenance, used batteries, chemical residues from cargo handling, coal dust and expired goods may create environmental and health risks. The existing operator has been managing them during operation. However, the NITDB (the client) shall focus on strengthening the capacity of the contractor (during construction) including operator (during operation) by considering designated storage areas with proper ventilation, labeling, and secondary containment. Trained personnel will handle hazardous substances using appropriate PPE, and Material Safety Data Sheets (MSDS) are maintained on-site. Waste is disposed of through authorized handlers, and regular inspections are conducted to prevent contamination. Emergency response measures, including spill kits, fire extinguishers, and first aid facilities, are in place to ensure safety and compliance with national environmental and health regulations.

4 INSTITUTIONAL ARRANGEMENT AND CAPACITY BUILDING

4.1 Institutional Arrangement

An effective institutional setup is essential for successful ESMP implementation. The Ministry of Industry, Commerce and Supplies (MoICS) has established a Project Coordination Office (PCO) in Kathmandu, supported by a Safeguard Team to ensure compliance with GoN and World Bank safeguards. The Nepal Intermodal Transport Development Board (NITDB) will implement the project on the ground. Construction Supervision Consultants (CSC) will provide technical support, including engineers and environmental and social (E&S) specialists, to assist NITDB and oversee project implementation. The CSC's safeguard team will regularly monitor ESMP implementation and submit reports to the PCO. At the construction level, contractors must follow ESMP measures and assign Environmental, Social, and Health Experts for implementation. CSC's E&S specialists will visit the site to ensure compliance with safeguard requirements. The CSC will also support legal compliance, coordination with stakeholders, and reporting. Overall responsibility for legal compliance, sustainability, and institutional capacity development lies with the PCO. Monitoring and evaluation reports will be submitted internally by CSC and PCO.

Table 4-1: Roles and Responsibilities of the Stakeholders in ESMP Implementation

SN	Stakeholder	Roles and Responsibilities	Time Schedule
1	World Bank	• Approves ESMP and reviews project documents • Reviews safeguard monitoring reports and takes corrective actions	ESMP approval Before bidding. Throughout the project period.
2	PCO - Environmental and social specialists within the PCO	• Reviews ESMP and grants implementation approval • Ensures safeguard measures in bidding documents • Monitors ESMP compliance and reviews reports • Investigates incidents and conducts root cause analysis • Provides training and engages stakeholders	Before contract bidding construction and operation phases
3	NITDB	• Integrates ESMP in design and tender documents • Obtains permits • Monitors and reports on environmental performance • Develops and conducts ESMP-related training	Before construction During construction, and operation phase
4	DSC	• Prepares and supports ESMP implementation • Supervises contractors • Monitors ESMP compliance and prepares reports	Pre-construction phase Construction phase (daily, weekly, monthly)

SN	Stakeholder	Roles and Responsibilities	Time Schedule
		• Conducts training and prepares manuals • Monitoring of the effectiveness of enhancement measures and mitigation measures	
6	Contractor - ESHS specialist of the contractor	• Prepares C-ESMP • Appoints EHS officer • Implements and monitors ESMP measures • Maintains records and submits reports • Conducts toolbox training	Pre-construction phase Daily during construction phase.
7	Affected Stakeholders	• Address local grievances • Provide feedback to NITDB/ICP on community matters	As and when required

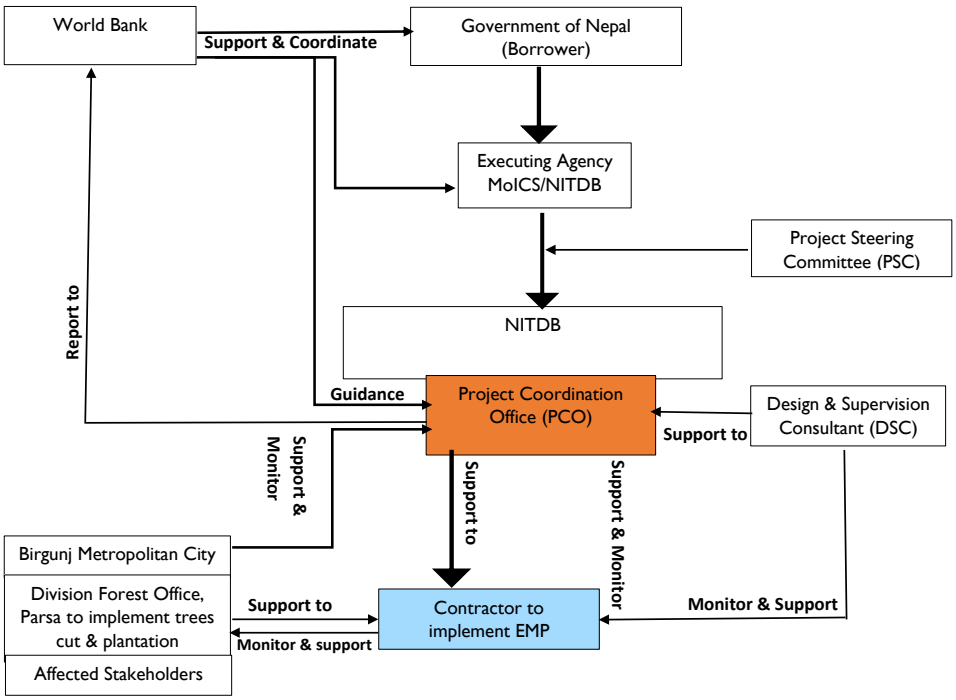


Figure 4.1: ESMP Implementation Mechanism

4.2 Grievance Redressal System

In order to address the incoming grievances (received in person, by phone, text message, email), two level grievance redresses committee will be formed; one at the Subproject level (ICD, Birgunj) and next at the Central Level (NITDB-PCO). The subprojects Level GRM consist of a subproject Level Grievance Redress Committee (GRC) which constitutes ward representative. head of NITDB branch Birgunj, social safeguard expert of CSC and focal person of the contractor. The subproject level GRC will record all the grievances at project site and analyzed the grievances. The focal person assigned by the client will serve for the primary contact for complaints update prior to forwarding them to the GRC. The subproject level GRC will try settling the incoming grievance at site level within a week. If the grievance fails

settle at subproject level GRC then the subproject Level GRM forwards the grievance to central level GRM with recommendation for further action to Central Level Grievances Redress Committee (GRC). The central level GRC constitutes the NITDB director, safeguard focal person, safeguard persons of PCO. The safeguard focal person of the NITDB will update the complaints prior to forwarding them to the GRC. The central level GRC will take a decision and inform the complaining party regarding the decision it has made through appropriate channel within fifteen days. The NITDB-PCO may forward the decision to Ministry Level (MoICS) and Boards of NITDB if the complaining party is still unsatisfied. If the complaining party doesn't satisfy with the decision from ministry level decision, they can go to the court of appeal (As per ESMF of SRCTIP, September 2020).

All concerns are filtered to the relevant departments or grievance committees to address the reported matters about the project. The GRM will receive stakeholder complaints and will address all these complaints within a month. The GRM process is depicted in the chart below.

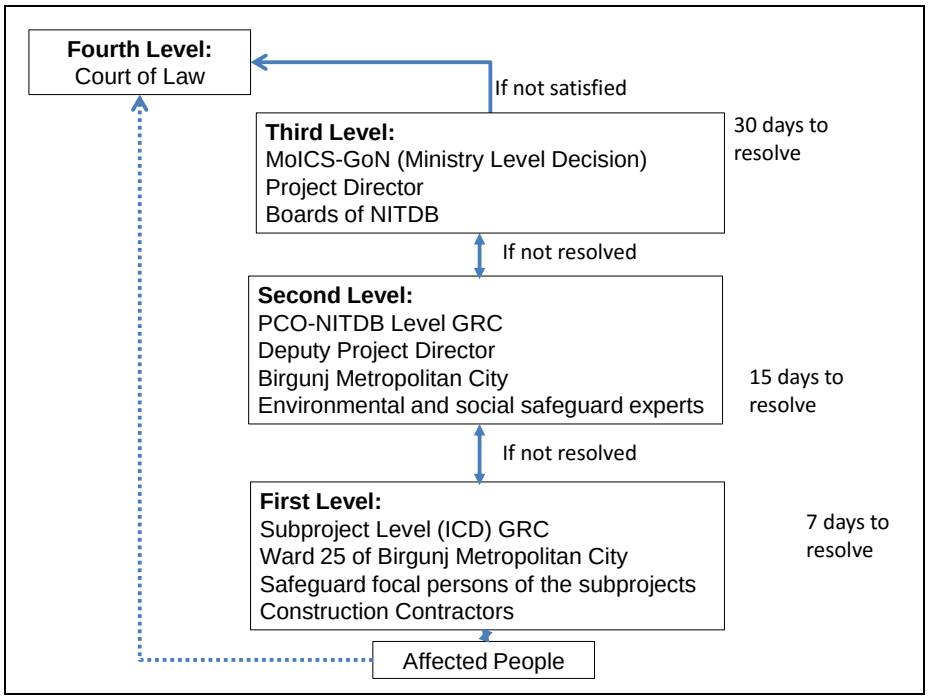


Figure 4.2: Grievance Redress Mechanism

In addition, MoICS (PCO-NITDB) will ensure that the Contractor will setup a separate Grievance Redress Mechanism (GRM) to deal exclusively with those complaints that involve workers employed by the Contractors for construction activities. The environmental and social specialist at PCO will monitor the GRM and implementation of the Contractor's environmental and social risk management commitments.

The complaints data are reported as a part of the regular reporting period. Complaints received during the period must record and maintained in a separate book with the following details:

- Nature and type of complaints,
- Type of communication (written or verbal),

- Date and time of complainant, and
- Name and address of the complainer.

4.3 Stakeholder Consultation and Information Disclosure

A separate Stakeholder Engagement Plan (SEP) will be prepared for the Project, based on the World Bank's Environmental and Social Standard 10 on Stakeholder Engagement.

4.3.1 Stakeholder Consultation

PCO-NITDB will carry out consultations with various stakeholders on the proposed reconstruction activities and take their feedback on design, E&S risks, and mitigation measures. The key stakeholders consulted at various stages during safeguard document preparation and safeguard implementation includes local community, ward representatives, local government and relevant government agencies. Altogether five consultations (with 47 participants) were carried out during the ESMP preparation. In the consultation meetings, the participants were informed about the project, its related activities and the potential positive and negative impacts resulting from project implementation. The feedbacks were to establish GRM, consider dust management, traffic management. If any impacts from the proposed activities occur, the impacts should be mitigated through discussion with concerned stakeholders.

While preparing the draft BES report, a public hearing was also carried out in 6 December, 2024 to inform the stakeholders about the proposal and gather their concerns and suggestions. Drainage improvement to solve water logging in the outside of ICP area, safety measures during construction, water spraying, study of recharge ponds and workers management are the concerned raised during public hearing and consultation meeting.

4.3.2 Information Disclosure

This disclosure enables affected communities and stakeholders to understand potential project impacts and provide feedback. According to the World Bank's Environmental and Social Framework (ESF), disclosure should begin early in the project cycle and continue throughout implementation. It should be done in a language and format suitable to the local context to ensure effective communication and participation.

This ESMP will also be disclosed on the NITDB website and also on the World Bank website. Hardcopies of the ESMP will be made available at the project office and contractor office. Quarterly environmental monitoring reports on the implementation of ESMP will be included into the project overall report and will be shared with the World Bank.

4.4 Contractor's Responsibility for Environmental and Social Compliance

The contractor will prepare and implement a Contractor's Health, Environmental and Social Management Plan (CHESMP) based on the project's ESMP. While major risks may need separate plans, issues with low to moderate risks can be included directly in the CESMP instead of making separate documents. The CESMP should cover key areas such as labour camp management, pollution control, waste and spoil management, health and safety, emergency response, site security, traffic management, training, and complaint handling. The contractor will also prepare a Biodiversity Management Plan which include measures to conserve and enhance local flora, fauna, and habitats affected by the project. All these plans should clearly

outline the contractor's responsibilities, including who will do what, when and how activities will be done, how progress will be monitored, and what actions will be taken if requirements

4.5 Capacity Building

Capacity building aims to raise awareness and educate the project management team, engineers, supervisors, contractors, and workers on the environmental impacts of the project and their roles in environmental protection. Training will focus on ESMP implementation, corrective actions, monitoring, and reporting.

The contractor, in coordination with NITDB and CSC, will organize training for staff, subcontractors, and key personnel on environmental laws, required approvals, and impact mitigation measures. Special focus will be given to community health, sanitation, occupational health and safety (OHS), labour camp standards, and awareness on SEA/SH and GBV.

4.5.1 For the Implementing Unit (the client, NITDB)

The implementing agency will be oriented on safeguard requirements of GoN and the World Bank, including ESMP monitoring, stakeholder roles, compliance reporting, and the grievance redress mechanism.

4.5.2 For Contractors

Contractors will be trained on safeguard compliance measures including C-ESMP, OHS plans, labour camp management, training coordination, and grievance redress. Relevant costs are included in the mitigation measures section.

5 MONITORING AND REPORTING

5.1 Monitoring

The main objectives of the environmental monitoring plan are to ensure that the project baseline conditions are adequately documented and the mitigation/enhancement measures are compiled and implemented in time, and with sincerity. Environmental monitoring plans include the activities to be monitored (parameters and indicators), methods, location and responsible agency for monitoring during Pre-construction, Construction and Operation phases. It not only evaluates the effectiveness of the implemented measures to mitigate the impacts but also identifies any unforeseen impacts for further corrective actions to avoid or minimize the impacts before it is too late.

Regular monitoring of ESMP implementation will be conducted by the implementing agency (internal monitoring) as well as by an independent external monitoring and evaluation organization to verify:

- Project activities comply with environmental laws and the impacts do not exceed legal standards;
- Actions and commitments described in the ESMP are implemented fully on time;
- ESMP actions and compensation measures are effective enough to enhance (or at least restore) affected parties and/or environmental components;
- Complaints and grievances lodged by people of project affected area followed up and that where necessary, appropriate corrective actions are implemented; and
- If necessary, changes in ESMP procedure are made to improve delivery of entitlements to people of project affected area.

The primary monitoring responsibility will rest with the NITDB. The client will establish safeguard unit comprising environmental and social safeguard experts to undertake social and environmental monitoring of the project.

5.1.1 Internal

The internal monitoring will be carried out NITDB, PCO, CSC and Contractor on a regular basis to assess progress against the schedule of action defined in the ESMP. Activities to be undertaken by the proponent for ESMP implementation will include;

- Liaison with the ESMP implementation team, construction contractor and project stakeholders to review and report progress against the ESMP;
- Assess the progress on implementation of action and commitment describe in ESMP;
- Verification that agreed measures to restore or enhance affected environmental components are being implemented;
- Assess people of project affected area's satisfaction with environmental and resettlement outcomes through informal village head and household interviews;

- Collect record of grievances, and follow-up to check that appropriate corrective action, if required have been undertaken and that outcome are satisfactory;

5.1.2 External

External monitoring will be conducted during the implementation period to ensure that the project activity comply with the environmental standards and to check the proper implementation of ESMP and grievances are addressed in a prompt manner to resolve the cases. Activities that will be undertaken by the third-party consultants designated by WB/NITDB include:

- Review of internal monitoring procedures and reporting to ascertain whether these are being undertaken in compliance with ESMP;
- Review of internal monitoring record as a basis for identifying any areas of non-compliance, any recurrent problems, or potentially disadvantaged groups or households;
- Review grievances record for evidence of significant non-compliance or recurrent poor performance in resettlement implementation;
- Assess overall compliance with the EMP requirements; and
- Prepare a summary monitoring report for NITDB management, MoFE and financing institute on progress of ESMP implementation, any issue arising and any necessary corrective actions.

5.1.3 Monitoring Plan

To ensure effective implementation of ESMP, the PCO, NITDB and Construction Supervision Consultants (CSC) will be responsible for undertaking monitoring the project. The monitoring by environmental and social safeguards of PCO and the CSC is a regular activity. Thus, no additional cost will be allocated for the monitoring of the ESMP implementation. However, few measurements during are included in civil contract and few plans under contractor's responsibility.

Table 5.1 presents methods, schedule, and indicators to be monitored during pre-construction, construction and operation phase.

Table 5-1: Monitoring Plan

Impact/ measures	Monitoring Indicator	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility	Cost of Monitoring
Pre-construction Stage						
Inclusion of ESMP in tender documents and thereafter into the contractors work plan	Written statement in tender document and construction work plan	In tender document	Review of detailed design, specification, tender documents and construction work plan	Once, before approval of tender document	CSC/NITDB	No cost is required
Contractor ESMP and other plans including OHS and Emergency Preparedness Plan, Stockpile Management, Labour camp standard	Plan and standard	Safeguard document	Review	Once	CSC/NITDB	No cost is required
Prior approval from Division Forest Office	Approval letter	Document	Observation	Once	CSC/NITDB/DFO	No cost is required
Construction phase						
Trees cut, illegal trade of trees, wood logs management	Number of trees cut down, stockpiling of trees logs, coordination with DFO	Site	Observation/Records	During site cleaning	CSC/NITDB/DFO	
Tree/vegetation Loss from site	No of plantation	Site	Observation/records			
Trainings, awareness and orientation to the workers	Training documents, trainee list, documents	Construction sites	Observation and document review	monthly	CSC/ PCO/NITDB	No cost is required
Stockpiling of construction materials	Stockpiling area, barricade in the sites	Stockpiling area	Field visit and site observation	Construction stage	CSC/ PCO/NITDB	
Air Quality	24 hours TSP and PM 10 (to examine impact on ambient air quality in relation to NAAQS standards Dust generation	In and around construction site	As per National Ambient Air Quality Standards, Nepal, 2003	Quarterly	CSC/ PCO/NITDB	160,000 (8 samples- 20,000 per sample) in Civil Work Contract

Impact/ measures	Monitoring Indicator	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility	Cost of Monitoring
Water Quality	DO, BOD, Turbidity, TDS, TSS, COD, Color, pH, hardness, oil, grease, coliform	Construction site, drinking water	Sample collection and laboratory analysis	Quarterly	CSC/ PCO/NITDB	80,000 (8 samples- 10000 per samples) in Civil Work Contract
Noise quality	Noise level (dBA)	Construction site, nearby settlements	Sound level meter	Monthly	CSC/ PCO/NITDB	120,000 samples (24 samples- 5000 per sample) in Civil Work Contract
Dust emission	Visual inspections, Frequency of water spraying	Construction site, roads	Site observation/ Water spray record	Daily	CSC/ PCO/NITDB	
Health and sanitation	Common disease, Practice of sanitation (solid waste disposal), source of water and its quality	Project surrounding settlements	Field survey and documentation, Photographs	Monthly	CSC/ PCO/NITDB	
Labour Camp	Compliance with Labour Camp Standard	Labour Camp	Observation/Photographs	Weekly	CSC/ PCO/NITDB	Labour camp establishment will be included in contractor responsibility
Occupational Health, Accident, Injury,	Following OHS plan, Use of PPEs, Provision of first Aid Box	Construction sites/labour camp	Observation	Monthly by CSC, daily by contractor	CSC/ PCO/NITDB	Not required

Impact/ measures	Monitoring Indicator	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility	Cost of Monitoring
Waste generation	Waste management system, number of marked bins, waste around the sites	Construction sites and labor camp	Observation/Photographs/ Record Keeping	Biweekly	CSC/ PCO/NITDB	
Impacts from Stockpiling of Construction Materials	Location of Stockpile Sites, (Nearest distance of residential house/sensitive area) Land use permission	Site	Observation	Daily	CSC/ PCO/NITDB	
Traffic Issues	Vehicle counts/no of vehicles per day Accident record	Road	Site observation Public consultation	Daily	CSC/ PCO/NITDB	
Health and Safety Issues	Number of reported incidents PPE compliance rate Nb of training sessions conducted	Construction Site, labour camp	Site observation Records/Photographs	Daily	CSC/ PCO/NITDB	
Unequal wages to Male and Female	Salary slips/record of receipt	Construction Office/site	Interview/Grievance from employee	Monthly	CSC/ PCO/NITDB	
Child Labour	Age verification documents/Observation	Construction workers	Interview/Verification documents	Monthly	CSC/ PCO/NITDB	
Disadvantaged groups	Employment, economic status, social status, education	Project affected Wards	Social survey and discussion with targeted group	Once a year	DSC/ PCO/NITDB	
GBV (SEA/SH) prevention and response measures	Signed codes of conduct; IEC materials displayed; training and sensitization reports; number of GBV-	Labour camps, construction sites, community areas	Field observation, document review, stakeholder interviews	Monthly and as needed	DSC/ PCO/NITDB	Included in safeguard training and awareness budget

Impact/ measures	Monitoring Indicator	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Responsibility	Cost of Monitoring
	related complaints; presence of referral pathways					
All workers have formal employment contracts with clear terms and conditions	Copies of signed employment contracts	Contractor's office / labour camp	Document review and worker interviews	Monthly	Contractor, monitored by DSC/PCO	Included in supervision cost
Entry of unauthorized person to the sensitive area and to the construction sites	Provision of guard, signage and barricade in the sites	Construction sites	Observation, Visitors' entry register	Daily	Contractor/DSC/NITDB	
Monitoring of impacts and mitigation measures as per ESMP		Construction sites		Monthly	CSC /NITDB	
Conflicts/Grievances	Grievances registered in the site, GRM resolved Feedback from community	Construction sites	Document review and Grievance Record Book	Monthly	CSC /NITDB	
Operation Phase						
Objective of the infrastructures	Observation, Management system	Construction sites	Observation, Visitors' entry register	Daily	NITDB/Operator	
Adopting code of practice for waste management	Environment code of practice in the area	Construction sites	Observation, Visitors' entry register	Daily	NITDB/Operator	
Taking care of planted trees	Trees growth/survival	Construction sites	Observation, Visitors' entry register	Daily	NITDB/Operator	

5.2 Reporting

The safeguard experts of both CSC and PCO monitor the compliance status of ESMP and make necessary recommendation and compiles them to incorporate in quarterly, semi-annual report as per requirement. The contractor will prepare monthly progress report of the construction work including monthly ESMP's compliance report inclusive of health and safety report and submit to the project. The client in support with CSC is responsible for the preparation of semiannual safeguard monitoring report and the submission to the WB.

6 BUDGET

The Environment, Health, and Safety requirements of the construction contractor shall be clearly spelled out in the contract document and the necessary cost will be included in the BOQ. As all the ESMP costs and activities are included in the BoQ, the budgetary activities lie within the contractor's responsibility. Besides budgetary work, the contractor is responsible for the contractor's commitment plan as in ESMP and CHESMP.

The cost of executing the suggested mitigation measures such as spoil management, stockpiling of the construction material, labour camp establishment shall be included in contractor's environmental and social plans, whereas the tree plantation, tree cut and wood logs management, provision of PPE, awareness on OHS, SEA/SH, GBV and monitoring of air, noise, water come under the BoQ. These estimates cover the basic monitoring activities and the mitigation measures to be complied from the contractor's side. The total ESMP cost including the Items in BoQ estimated for the construction of container yard in Birgunj ICD is NRs 58,90,000.00 (Fifty-Eight Lakh Ninenty Thousand Nepalese Rupees only) excluding VAT.

Table 6-1: Cost for ESMP implementation and monitoring

	Activities	Total Cost		Remarks
		ESMP	BoQ	
1. Environmental Mitigation Measures (Pre construction phase)				
1.1	Coordination with DFO, Parsa and Local Authority	50,000		NITDB responsibility
1.2	Establishing labour camp with project information, hoarding board and signage, barricading the construction sites		30,00,000	Contractor's site camp
1.3	EMP implementation training	100,000		
1.4	Site Security Provision with CCTV	100,000		4 unit of CCTV in coordination with ICP
2. Impact Mitigation Measures (Construction)				
2.1	Specific activities related to mitigations such as GBV (SEA/SH), child trafficking, HIV/AIDs awareness, gender and social empowerment	100,000		Social awareness program to the workers and community
2.2	EHS Awareness raising and Health and Safety training to project staff and contractor workers. 3 events (Semiannual basis) Health Screening camps for workers and community (ward office) Provision of First Aid box with replenish	100,000 150,000 50,000		

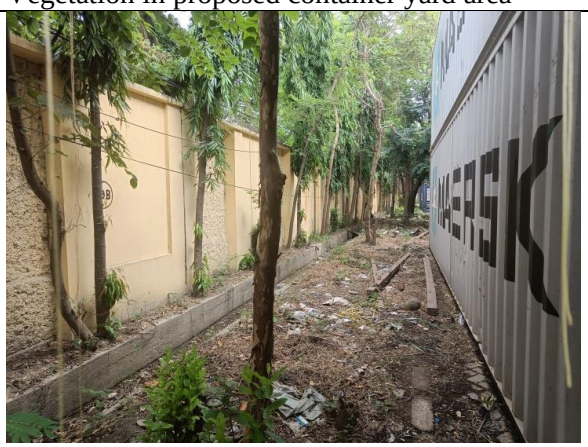
2.3	Skill enhancement trainings to the labour	50,000	-	
2.4	Provision of PPE to the workers	50,000		
2,5	Waste management including Construction waste and spoil management	250,000		
2.6	Traffic Management	50,000		For coordination during high flow.
2.7	Dust Management by water spraying	100,000		Contractor's responsibility.
2.8	Environment Monitoring and Management Unit		-	The cost is already included in the CSC and PCO contract
2.9	Cutting of 600 trees Management of wood logs and, plantation of 1200 trees	120,000 100,000 600,000		Included in BoQ Plantation 1200 trees @ NRs. 500/plant-500,000
2.10	Stakeholder consultations, maintaining GRM at project level, SEA/SH, GBV Unit	150,000		This could be included in PCO or NITDB
2.11	Toilet Construction in coordination in ward 25 (Community Support Program)	5,00,000		1 unit of toilet
3. Environmental Monitoring Cost				
2.9	Quarry Sites monitoring and material quality check up			Visit by NITDB/PCO/DSC, no cost is required
2.10	Air Sampling	120,000		6 samples in quarterly basis for 1.5 years @ 20,000/Sample
2.11	Noise measurement and management	90,000		18 samples) in monthly basis for 1.5 years @ 5,000/Sample
2.12	Water quality test	60,000		6 samples (in quarterly basis for 1.5 years @ 10,000/Sample
	Total	28,90,000	30,00,000	Excluding Vat

PHOTOGRAPHS

Existing container yard in ICD

Vegetation in proposed container yard area

Boundary wall and road outside of ICD close to Container Yard



Inside of Boundary Wall of ICD Close to Container Yard

Consultation with Ward Chair of Birgunj-25

Consultation among stakeholders