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ACRONYMS AND DEFINITIONS

Acronym or term	Definition
Borrower	An organization, institution or company that requests a loan to the Inter-American Development Bank (IDB) and sometimes other lenders to carry out a Project. WSG and borrower are synonyms in this Manual. The term is also applicable to other names used in IDB financing process such as Executing Agency, Executing Organism or other, as applicable.
Brownfield	Developments in areas where construction has taken place (i.e., expansion of an existing facility).
CJIA	Cheddi Jagan international airport
Disadvantaged and vulnerable groups	Disadvantaged or vulnerable refers to those people who may be more likely to be adversely affected by the project impacts and/or less able to take advantage of a project's benefits. Such an individual/group is also more likely to be excluded from or unable to participate fully in the mainstream consultation process and may require specific measures or assistance to do so. The designation takes account considerations relating to age, including the elderly and minors, including in circumstances where they may be separated from their family, community, or other individuals upon whom they depend. A disadvantaged or vulnerable status may stem from disability, state of health, indigenous status, gender identity, sexual orientation, religion, race, color, ethnicity, age, language, political or other opinion, national or social origin, property, birth, economic disadvantage, or social condition. Other vulnerable individuals and/or groups may include people or groups in vulnerable situations including the poor, the landless, the elderly, single-headed households, refugees, internally displaced people, natural resource-dependent communities, or other displaced persons who may not be protected through national legislation and /or international law
EBDPR	East Bank Demerara Public Road
EPA	Environmental Protection Agency of Guyana
EPR/EPRP	Emergency Preparedness Response / Emergency Preparedness Response Plan
ESA	Environmental and Social Assessment
ESDD	Environmental and Social Due Diligence, carried out by an Independent Environmental and Social Consultant in conjunction with the lenders, as part of the assessment and verification process on E&S Performance.
ESMS	Environmental and Social Management System



Acronym or term	Definition
ESPF	Environmental and Social Policy Framework, published by IDB in 2021 (https://www.iadb.org/en/mpas) . The framework and ESPF are synonyms on this guide.
Good International industry practice (GIIP)	The exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances regionally or globally. The outcome of such exercise should be that the project employs the most appropriate measures and technologies in the project-specific circumstances and context (GL8, page 9 of the ESPF).
Greenfield	New developments or works in unbuilt areas.
GM	Grievance Mechanism, part of the Stakeholder Engagement Plan
Key Performance Indicator	A quantifiable measure of performance over time for a specific objective. KPIs are expected to be defined and enlisted in WSG’s Management Programs (Chapter 3.2).
Lender	The financial institution that will lend WSG to conduct a Project.
Mitigation hierarchy	The process of prioritization of mitigation measures of a Project or activity. The sequence of the hierarchy is avoidance, minimization, restoration and compensation/offset.
PEU	Project Execution Unit. The group of people that is assigned for the planning and execution of a specific Project. The PEU may comprise WSG full-time or temporary staff, contractors, subcontractors and external experts or consultants, depending on the Project’s size and complexity,
Principle of proportionality	Principle that dictates that technical requirements of WSG will be proportional to the level of project risk and identified impacts.
Stakeholders	Persons, groups and communities external to the core activities of a Project who may be affected by it or have interest in it. (ESPF Guideline, Page 50, GL92).
SEP	Stakeholder Engagement Plan
WSG	Work Services Group, part of the Ministry of Public Works of the Government of Guyana



1.0 INTRODUCTION

The Work Services Group (WSG) of the Ministry of Public Works (MPW) is an Executing Agency (EA) of the Government of Guyana, responsible for sponsoring Grove to Timehri Road Infrastructure Development Project (“the Project”). The WSG is a multidisciplinary Project Executing Unit (PEU) within the MPW, which executes government and donor funded projects in the areas of transport and sea and river defenses. The WSG received funding from the Inter-American Development Bank (IDB) to improve a portion of the existing road located in Region 4 of Guyana and that comprises 23.5 km from Grove to Timehri.

This document summarizes the Project’s Environmental and Social Management System (ESMS), which is aligned with the Environmental and Social Performance Standard (ESPS) No. 1 of the IDB’s Environmental and Social Performance Framework (ESPF)¹ and Good International Industry Practice (GIIP).

1.1 Environmental and Social Obligations

WSG is running two bidding processes in order to finalize technical tasks and comply with E&S obligations of IDB’s ESPF: Supervision and Design and Build. The former will be performed by a supervision firm, who will be in charge of conducting direct oversight during construction and enforce implementation of the project’s ESA/ESMP. The latter will be assigned to an Engineering, Construction and Procurement (EPC) contractor, who will be in charge of finalizing the design of the Project and execute construction (along with additional subcontractors, as needed). Both bidding processes are planned to finalize in late November 2022. Once having signed the contract, mobilization to start early works will occur within 60 days.

The EPC contractor is responsible of implementing the ESA/ESMP including lower-tier subcontractors.

¹ <https://www.iadb.org/en/mpas>



The ESMS, as defined in subsequent sections, has a set of assessments and programs that aim at managing the Project's risks and impacts; the governing document is the Environmental and Social Assessment (ESA) and the Environmental and Social Management Plan (ESMP), which has in turn several specific Management Plans and Procedures. These are explained in the following sections and will be updated based on final design, consultations and feedback from IDB and the supervision firm. The ESA/ESMP will be updated once the final design of the Project is finished, which will occur in 2023. Any updates to the ESA/ESMP made by contractors and consultants will be reviewed and approved by WSG and IDB before they can be implemented. Finally, as part of the project preparation for the IDB loan approval, a consultation process will occur with affected Stakeholders; such consultation process will also result in changes to the ESA/ESMP (including a Stakeholder Engagement Plan and Livelihood Restoration Plan (LRP), both of which are detailed in Chapter 4.0 of this document). The stakeholder engagement process will continue during the updates of the documents and execution of the works.

WSG will coordinate between implementation of the LRP and construction work (LRP will also be updated after final design)

1.2 Organization of the ESMS document

This document is organized to comply with the seven items of an ESMS (see Figure 1-1), which are as follows: (i) project-specific environmental and social framework; (ii) identification of risks and impacts; (iii) management programs; (iv) organizational capacity and competency; (v) emergency preparedness and response; (vi) stakeholder engagement; and (vii) monitoring and review. The following sections describe each of these elements in the context of the Project and the WSG's current systems and operations.



Source: IDB, 2021. Guidelines for the Environmental and Social Performance Standards (page 10).

Figure 1-1 The seven elements of an ESMS.



2.0 ESMS COMPONENT No. 1: PROJECT-SPECIFIC ENVIRONMENTAL AND SOCIAL FRAMEWORK

2.1 Introduction

The specific environmental and social framework also defines the national and international environmental laws and regulations applicable to the Project (the Applicable Standards), including alignment with the IDB ESPF. This section includes links and references to laws, regulations, codes, management plans, specialized studies, corporate policies, and any other documentation applicable to the Project.

2.2 Project description

The Project objective is to improve the quality, accessibility, resilience, and safety conditions of Guyana's road transport infrastructure. Road improvements for the Project aim to increase paved road coverage, support climate resilient interventions, and rehabilitate and upgrade the national roads that connect the capital Georgetown to the Cheddi Jagan international airport (CJIA). Investment from the IDB finances: (i) implementation of upgraded two-lane road infrastructure from Grove to Timehri at 23.5 Km of length, widening of shoulders, constructing a share path for bicycles and pedestrians, and where possible, adding space for parking; (ii) reconstruction of the entire lateral drainage system along the road; (iii) works including bridges and 58 perpendicular culverts and a sluice gate; (iv) reconstruction of the potable water distribution network along the 23.5 km of the route as well as the relocation of electricity and telecommunication utility networks; (v) covering of the parallel drains concrete drains in urbanized areas to form a pedestrian walkway; (vi) other complementary works, including the entire traffic plan and its interventions (v) and technical and socio-environmental supervision. A detailed description of all Project activities carried out can be found in Chapter 1 of the 2022 updated version of the Project Environmental and Social Assessment and E&S Management Plan (ESA/ESMP).

2.3 Laws and Regulations

Guyana is a signatory for a number of international policies, which are relevant for the Project. The international and domestic policies that provide the regulatory framework for the Project are



included in Table 2.1, below. Following that, Table 2.3 describes the gaps between Guyanese Government requirements and those of the IDB that are applicable to the Project.

Table 2.1 Relevant international and domestic policies

Type of Policy	Policy	Brief Policy Description
International	Agenda 21 from the United Nations Conference on Environment and Development (1992)	The Project falls under three chapters – 7, 19, and 20: Human Settlements, Environmentally Sound Management of Toxic Chemicals, including Prevention of Illegal International Traffic in Toxic and Dangerous Products and Environmentally Sound Management of hazardous Wastes, Including Prevention of Illegal International Traffic in Hazardous Wastes, respectfully.
	Convention on Biological Diversity (1992)	In coordination with the Convention, Guyana established the Environmental Protection Agency in 1996, to coordinate and implement a program for the conservation of biological diversity.
	United Nations Framework Convention on Climate Change (1992)	The objective of this framework is to “achieve stabilization of greenhouse gas concentrations in the atmosphere at a low enough level to prevent dangerous anthropogenic interference with the climate system.”
	Protocol Concerning Specially Protected Areas & Wildlife (SPAW)	The Protocol uses an ecosystem approach to conservation by protecting rare and fragile ecosystems and the endangered species they host.
	Convention on the International Trade of Endangered Species (1997)	The Convention aims to protect certain plants and animals by regulating and monitoring their international trade.
Domestic	Environmental Protection Act (1996)	The Act founded the Environmental Protection Agency (EPA), whose main function is to provide for the management, conservation, protection, and improvement of the environment, the prevention or control of pollution, the assessment of the impact of economic development on the environment, and the sustainable use of natural resources.
	Environmental Protection Water Quality Regulations (2000)	These regulations provide guidelines on the discharge of effluents and disposal of waste and set standards for water quality parameter levels.



Type of Policy	Policy	Brief Policy Description
	Environmental Protection Air Quality Regulations (2000)	These regulations establish parameter limits on air contaminants, and set requirements for emitting facilities.
	Environmental Protection Noise Management Regulations (2000)	Operations that emit noise in the execution of various activities such as construction, transport, industry, commerce, and any institution are required to apply to the Agency for an environmental authorization.
	Roads Act (1909) Chapter 51:01	The Roads Act covers the administration, maintenance, and construction of roads and governs the movement of vehicles on land.
	Motor Vehicles and Road Traffic Act (1940) Chapter 51:01	The Act is responsible for the licensing, regulating and use of motor vehicles and traffic on the roads of Guyana.
	Town and Country Planning Act, 20:01	This Act makes provision for the orderly and progressive development of land, cities, town, and other areas, whether urban or rural, to preserve and prove the amenities and other related matters. It contains development guidelines specific to the built environment.
	Labour Act (1942) Chapter 98:01	The Labour Act specifies the conditions that an employer must observe in the contracting of employees.
	Occupational Safety and Health Act (1997)	The Act provides regulations to protect the occupational safety and health of persons at work.

Additional laws and regulations in force in Guyana that are applicable to the Project not included in this list can be found in Chapter 2 of the 2022 ESA/ESMP update for the Project.



Table 2.2 ESMS Requirements and other guidance documents (the table provides links to the original documents)

ESPF Requirement
Environmental and Social Policy Framework
ESPF Guidelines*
ESPS 1: Assessment and Management of Environmental and Social Risks and Impacts
ESPS 2: Work and Working Conditions
ESPS 3: Resource Efficiency and Pollution Prevention
ESPS 4: Community Health and Safety
ESPS 5: Land Acquisition and Involuntary Resettlement
ESPS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
ESPS 7: Indigenous Peoples
ESPS 8: Cultural Heritage
ESPS 9: Gender Equality
ESPS 10: Stakeholder Engagement and Disclosure
World Bank Group
General Guidelines on Environment, Health and Safety
Involuntary Resettlement Sourcebook
ESPS 2: <ul style="list-style-type: none"> • EHS Guidelines: Occupational Health and Safety
ESPS 3 <ul style="list-style-type: none"> • EHS Guidelines: Air Emissions and Ambient Air Quality • EHS Guidelines: Energy Conservation • EHS Guidelines: Wastewater and Ambient Water Quality • EHS Guidelines: Water Conservation • EHS Guidelines: Hazardous Materials Management • EHS Guidelines: Noise • EHS Guidelines: Contaminated Land
ESPS 4 <ul style="list-style-type: none"> • EHS Guidelines: Occupational Health and Safety
EHS Guidelines: Construction and Decommissioning
Guide to the Environment, Health and Safety for Toll Roads
IFC
Guide for Cumulative Impact Assessment and Management

*Note: Guidelines are not policy, nor are they mandatory. They provide a useful resource for the interpretation of the ESPF and provide guidance to the Borrower into how to align with it. In case of any inconsistency or conflict between the Guidelines and the ESPSS, the provisions of the ESPSS will prevail.



Table 2.3 Main elements considered for the Project Risk and Impact Assessment required by Guyana's Regulation and IDB ESPF

Topic	Guyana Requirement	IDB Requirement	IDB Resource and References
Environmental	<ul style="list-style-type: none"> Environmental Impact Assessment <ul style="list-style-type: none"> Environmental baseline (Fieldwork) Environmental monitoring of air, water and noise against Guyana's National Bureau of Standards (GNBS). 	<ul style="list-style-type: none"> Project alternatives Analysis (for location, technology, suppliers, etc). Climate Risk Assessment (Natural Hazards, and Physical Risk Assessment). All monitoring will be compared against the most stringent standard between GNBS and the World Bank Group Guidelines². Cumulative Impact Assessment. Environmental audits 	<ul style="list-style-type: none"> Analysis of alternatives (GL22*). IDB's technical note Disasters and Climate Change Risk Assessment. Monitoring standards (GL20, 32). Cumulative impacts (ESPF paragraph 10, GL39-45, IFC's Handbook on CIA Management). Environmental audits (GL27)
Occupational H&S	<ul style="list-style-type: none"> Obligations of WSG regarding handling chemical, physical and biological agents in the workplace. 	<ul style="list-style-type: none"> Risk Assessment of Occupational Health and Safety. 	<ul style="list-style-type: none"> H&S Risk assessment (ESPF page 52, paragraph 32). Occupational Health and Safety (ESPF Paragraphs 25-32 of ESPS No 2)
Labor	<ul style="list-style-type: none"> Currently no requirement for impact assessment on labor; only to follow Guyana laws (for instance, minimum statutory age and daily hours of workers). 	<ul style="list-style-type: none"> Impacts to Primary suppliers. Labor assessment Worker's grievance mechanism 	<ul style="list-style-type: none"> Primary supply workers (Paragraph ESPS 36-38, GL113 of the ESPS 2 guideline) Labor assessment (GL2, ESPF paragraph)
Community Health, Safety and Security	<ul style="list-style-type: none"> Currently no requirement for impact assessment for H&S Risks on communities 	<ul style="list-style-type: none"> Impacts to affected people during the Project lifecycle 	<ul style="list-style-type: none"> H&S and security risk assessment (ESPS No 4 of the ESPF) Identification of Risk and Impacts (ESPF Paragraph 9, GL5, 6, 23 of ESPS 1 guideline). Human Rights Risk Assessment (ESPF page 34, paragraph 9, footnote 52)

² Found on the [Environmental, Health and Safety Guidelines](#) section of their website.



Topic	Guyana Requirement	IDB Requirement	IDB Resource and References
			<ul style="list-style-type: none"> IDB Technical Note Community Health and Safety: Recommendations and Tools Publications (iadb.org)
Involuntary resettlement and Economic Displacement	N/A	<ul style="list-style-type: none"> Public consultation to establish a census of individuals economically displaced Preparation of Livelihood Restoration Plan 	<ul style="list-style-type: none"> Land acquisition and Involuntary Resettlement (ESPF Paragraph 5, ESPS 5)
Biodiversity	N/A	<ul style="list-style-type: none"> Impacts to biodiversity during the Project lifecycle 	<ul style="list-style-type: none"> Sustainable Management of Living Natural Resources (ESPS No 6 of the ESPF). IDB Technical Note Guidance for Assessing and Managing Biodiversity Impacts and Risks in Inter-American Development Bank Supported Operations Publications (iadb.org)
Indigenous Peoples	<ul style="list-style-type: none"> Currently no requirement for impact assessment on indigenous communities. 	<ul style="list-style-type: none"> If indigenous communities were identified in the Project's Area of Influence, they would be included in the Stakeholder Engagement in a culturally appropriate manner (For this Project, no IPs were identified). Free, Prior and Informed Consent (FPIC) when the Project locates or develops on, lands traditionally owned by IPs (For this Project, not applicable; the Road is property of the Government). 	<ul style="list-style-type: none"> ESPS 7; Indigenous Peoples (ESPF, Page 85)
Cultural heritage	<ul style="list-style-type: none"> Currently no requirement for impact assessment to cultural heritage. 	<ul style="list-style-type: none"> Assess Cultural heritage presence. Preparation of a Chance Find Procedure 	<ul style="list-style-type: none"> Chance Find Procedure (ESPS No. 8 of the ESPF) Cultural Heritage (ESPS No. 8 of the ESPF) Technical Note: Managing the Impacts of IDB Projects on Cultural Heritage Publications (iadb.org)



Topic	Guyana Requirement	IDB Requirement	IDB Resource and References
Gender	<ul style="list-style-type: none"> • Currently no requirement to assess gender-based impacts 	<ul style="list-style-type: none"> • High level Gender Analysis to identify gender-related related risks impacts (gender violence, gender-based exclusion, discrimination on the basis of gender or sexual orientation). • Updated Stakeholder Engagement Plan focused on gender issues and impacts to disadvantaged groups (African descendants, LGTB community, women). 	<ul style="list-style-type: none"> • ESPS 9 of the ESPF
Stakeholder Engagement and Information Disclosure	<ul style="list-style-type: none"> • Currently no requirement for stakeholder engagement at the Project level. 	<ul style="list-style-type: none"> • Stakeholder identification and mapping. • Direct and Indirect Area of influence • External grievance mechanism • Social Impact Assessment <ul style="list-style-type: none"> ○ Social baseline (fieldwork) 	<ul style="list-style-type: none"> • Stakeholder Identification and Mapping (ESPS No. 10 of the ESPF) • IDB Social Impact Assessment: Integrating Social Issues into Development Projects. • Guidebook: Meaningful Stakeholder Engagement: A Joint Publication of the MFI Working Group on Environmental and Social Standards Publications (iadb.org)

* Note: "GL" refers to guideline and can be found on the ESPF's Guidelines. N/A= not available.



2.4 National and Local Licenses and Permits Necessary for the Project

The Project is in the Process of obtaining the authorization from the Environmental Protection Agency (EPA), which is the overarching permit required to commence the Project. The EPA application is focused on Environmental assessment; it is a standard form that requires any Project proponent to provide with the following information:

- Project name and contact information of the applicant (telephone, address, email, location of the Project, type of activity or business, name of the local authority where the Project is located, capital investment needed and annual financial turnover)
- Alternative sites, if any
- Project description (description of the area, Project's lifetime, stages, vegetation needed to be cleared, listing of proximity to sensitive ecosystems, buildings and infrastructure surrounding the site, topography and soil type, description of the construction phase and the operation phase, layout of the Project).
- Waste characteristics and volume (solid waste, hazardous) and methods for storage disposal, effluents (treatment and disposal).
- Impact assessment to soil, air, water, noise/vibrations, and the corresponding mitigation measures (all impacts and mitigations are enlisted in a form).
- Application has a section to add further details and include attachments

The EPA application form does not include sections for social impact assessment, stakeholder engagement or public consultations. There are no other permits or licenses required in addition to the EPA permit. Given the fact that the Project is a Public Road, it is MPW's sole responsibility to maintain it. Therefore, construction approval will be determined by MWP once the EPC Contractor is selected. WSG will be supported by Supervision Consultant, who will provide direct oversight during construction activities.

2.5 ESMS disclosure

The ESMS will be communicated to all relevant levels of WSGs organization, including contractors. During the pre-construction period, a meeting will be held with the Contractor to



highlight obligations of sound implementation of the recently updated ESA/ESMP (2022) and the Livelihood Restoration Plan (LRP), described in the next section. WSG will also communicate required compliance with national regulations. This meeting will include representatives from the Ministry of Public Works construction, engineering, and socioenvironmental sections, the contractor, the multi-stakeholder committee, and the Environmental and Social Monitor.



3.0 ESMS COMPONENT No. 2: IDENTIFICATION OF RISKS AND IMPACTS

3.1 Process of Evaluation of the Project Risks and Impacts

As previously mentioned, WSG carried out a Risk and Impact assessment to identify potentially adverse E&S risks in 2015³ through an Environmental and Social Impact Assessment (ESA). That document also included an E&S management Plan (ESMP), discussed in the next section, in order to develop tailored strategies to address them. WSG recently updated the ESA/ESMP in 2022⁴ to consider new risks and impacts derived from changes in the Project design and to be aligned with the recently published ESPF from IDB, the organization which will partially fund the Project.

The updated ESA/ESMP includes information from a public consultation event and two site visits to reevaluate direct, indirect, and cumulative risks and impacts of the Project. The Project's main impacts will be localized and temporary, they will occur primarily during the construction phase, and are typical of road widening and rehabilitation projects in urban and semi-urban areas. The Project will incur in temporary economic displacement impacts in areas along the 23.5 km Project corridor, which will be managed through a Livelihood restoration Plan (LRP) and a specific Consultation Event with affected Stakeholders (Provided in Appendix D of the 2022 ESA/ESMP).

For more details on the components of social risk and stakeholder relations identified during the public consultation and stakeholder engagement process, see Chapter 7.0 Stakeholder Engagement.

³IMC Worldwide on Behalf of Government of Guyana's Works Services Group. "Consultancy Services for Upgrade and Expansion Program: East Bank Dmerara Public Road (Grove to Timehri) Road Design Project, Environmental and Social Impact Assessment Report." March 2015.

⁴ Environmental Resources Management on behalf of Government of Guyana's Works Services Group. "Program to Support Climate Resilient Road Infrastructure Development Georgetown, Guyana, Environmental Assessment." July 2022.



Table 3.1 Main impact causing activities from the Project

Phase	Impact-Causing Activities
Pre-Construction	<ul style="list-style-type: none"> • Installing temporary laydown areas and temporary workers camps (rest areas). • Site preparation, mobilization of equipment and workers.
Construction	<ul style="list-style-type: none"> • Operation of heavy machinery and movement of soil • Traffic diversion/use of a full lane for rehabilitation (detour roads) • Road repaving • Raising of crosswalks • Construction of a multi-use path • Adding parallel parking (in certain sections) • Sign replacement • Installation, repositioning, and upgrade of new light posts • Road widening (carriageway) • Opening of ditches • Reconstruction of the lateral drainage system • Culvert construction • Adding a weight control facility to prevent damage to the road by heavy loads
Operation	<ul style="list-style-type: none"> • Traffic management during maintenance activities • Drainage structure maintenance

Table 3.2 summarizes Key Project impacts and proposed Management Measures. Details of the impacts can be found on WSG’s ESA/ESMP (2022) section 5.



Table 3.2 Summary of Project Specific Risks and Impacts

Impact Significance Rating

Negligible
Minor
Moderate
Major
Positive

Impact	Management Measure	Pre-Management Impact Significance	Pre-Management Impact Significance
Air emissions and dust generation from construction vehicles, equipment and increased combustion and exhaustion emissions from private and commercial vehicles	<ul style="list-style-type: none"> • Implementation of the Construction Environmental Management Plan (CEMP) on the air quality and dust management measures. • Maintain all construction equipment in accordance with manufacturer’s specifications; keep the service log up to date. • Suppress dust as needed in unpaved areas (e.g., use of water sprays or water carts). • Where dust is identified as an issue, dust control measures will be implemented. These will primarily be the use of water carts but may include surface treatments • Avoid burning non-vegetative wastes (refuse, etc.) at construction sites. • Avoid unnecessary idling of construction equipment or delivery trucks when not in use. • Keep work vehicles clean (particularly tires) to avoid tracking dirt around and off the site. • Cover work vehicles transporting friable materials to prevent materials being spread around and off the site. • Minimize drop heights of materials. • Area to be disturbed minimized. Clearance lots to be approved by Project Manager. • Implement the external grievance mechanism to follow-up on dust and/or exhaust emissions complaints being received by the community and workers. • Vehicle movements controlled, optimize signaling to reduce traffic congestion (implement Traffic and Pedestrian Management Plan) • Enforcement of speed limit and other traffic laws at the site • Use of dust masks by workers (number of workers wearing them) • Provide dust and air quality awareness talks as part of the environmental induction process 	Moderate	Minor
Contamination to surface water	<ul style="list-style-type: none"> • Implemented the Construction Environmental Management Plan regarding sediment and erosion control and waste management • Provide appropriate waste bins, type, volume, and service frequency to accommodate anticipated waste streams • Enforcement of a strict no dumping policy especially in drainage canals and areas nearest the waterways 	Minor	Negligible



Impact	Management Measure	Pre-Management Impact Significance	Pre-Management Impact Significance
	<ul style="list-style-type: none"> • Separate hazardous waste from non—hazardous waste • Place of trash disposal bins around the construction site and worker day-camp • Provide information regarding waste management in site specific inductions, including waste separation and importance of securing vehicle loads. • Ensure licensed contractors are used to collect controlled wastes • Disposal of all waste in the Haags Bosch Landfill site • Installation of appropriate fencing and containment in waste management areas • Implement management measures to prevent and manage spills, per Contingency Plan • Storage of excavation material in designated laydown areas away from drainage channels and water bodies • Selection of laydown areas by the contractor away from drainage channels and water bodies • Appropriate training for staff on waste management practices and safe handling and storage of hazardous materials • Implementation of Spill Management Measures established in the Contingency Plan (i.e., Implementation of sumps and oil traps to prevent fuel leaks and spills from contaminated surface water, have spill kits on site, storage of collected material in drums before transport to license disposal site 		
<p>Noise generated by construction equipment and activities</p>	<ul style="list-style-type: none"> • Implementation of the Construction Environmental Management Plan (CEMP) on noise management measures. • Maintain all construction equipment in accordance with manufacturer’s specifications. • If possible, schedule construction, modification, and rehabilitation work during daylight hours when increased noise levels are more tolerable. • If possible, schedule construction and rehabilitation work to minimize activity during peak periods of tourism and recreation (weekends, holidays, etc.). • Avoid unnecessary idling of construction equipment and trucks. • Include a communications protocol regarding construction as part of the external communication mechanisms to stakeholders to inform adjacent receptors (e.g., commercial and industrial businesses) of construction activities. • Install broadband spectrum backup alarms on construction vehicles as opposed to the typical single-tone frequency alarms (broadband alarms attenuate more quickly over distance due to the incorporation of higher frequencies). • Pre-start checks and maintenance schedules to ensure equipment performance as required. 	Moderate	Moderate



Impact	Management Measure	Pre-Management Impact Significance	Pre-Management Impact Significance
	<ul style="list-style-type: none"> • Noise-dampening equipment to be used on equipment with excessive noise generating characteristics • Implementation of community grievance mechanism • Use of auditive protection equipment by workers (i.e., ear muffs) 		
Disruption to drainage and water service, negative alteration of hydrology conditions of runoff water crossing the Road.	<ul style="list-style-type: none"> • Follow technical specifications for base width, side slope, and invert level for the 58 drainage structures as recommended in Appendix F of the drainage study for the improvement of roadside drainage. • If needed, conduct a flood hazard assessment to finalize the drainage design • If possible, perform relocation of utility infrastructure prior to the start of construction activities. Otherwise, liaison with relevant service providers to limit service disruptions 	Moderate	Minor
Erosion and sedimentation	<ul style="list-style-type: none"> • Disturbance area will be minimized and clearly demarcated. • Works will only be conducted within the works zone. • Vehicle movements will be restricted to the defined roads/tracks. • Where possible, works area will be designed to ensure stormwater runoff drains into the site. • Where required, sediment controls will be put in place. These will include, but not be limited to, rock check dams, sediment basins, sediment fences and silt socks. • Sediment controls will be reviewed during site inspections and/or after significant rainfall (more than 10mm in 24hrs resulting in site runoff). • Strategic location of detention basins to separate sediments in surface water runoff from water discharged to drains • Locate material stockpiles away from waterways and with perimeter berm • Re-routing drainage network to facilitate construction of Kofi Structure and other culverts • Periodic cleaning of drainage canals per maintenance guidelines • Landscaping and revegetation measures 	Moderate	Minor



Impact	Management Measure	Pre-Management Impact Significance	Pre-Management Impact Significance
Climate change and natural hazards (flood risk)	<ul style="list-style-type: none"> • Incorporate into the Project design, results from the drainage study, to inform the design specifications for 58 cross drainage structures, including invert level, soffit level, slope, and base width, as applicable • Installation of manually operated sluice gates (kokers) at the downstream end of the drains to prevent flooding and intake of brackish or salt water during high tide • Consult with the Sea defense Board to inform Project design • Implementation of Construction Contingency Plan for general actions in the presence of floods • Reporting of disaster event(s) to appropriate authorities • Carry out planned maintenance of drainage infrastructure 	Moderate	Minor
Climate change and natural hazards (flood risk)	<ul style="list-style-type: none"> • Implementation of contingency plan in the event of floods • Reporting of disaster event(s) to appropriate authorities • Carry out planned maintenance of drainage infrastructure 	Positive	Positive
Disturbance to surrounding vegetation	<ul style="list-style-type: none"> • Minimization of the construction footprint by refraining from the removal of vegetation • Demarcation of work area with fencing to minimize disturbance of natural vegetation • Minimization of temporary and permanent construction footprints during the design phase. • Plan equipment access locations that minimize impacts, where possible; avoid areas with less stable structure such as steep banks. • Revegetation as necessary 	Minor	Negligible
Wildlife injury or mortality.	<ul style="list-style-type: none"> • Minimize lighting • Implement above measures to minimize noise and air pollution, • Implementation of construction contingency plan (CCP) • CCP includes measures such as proper training for workers and appropriate materials to deal with spill incidents (absorbent material, safety equipment, containers for collected materials, ect.). • Implementation of the Traffic and Pedestrian Management Plan will further reduce risk of injury or mortality resulting from vehicle collision with wildlife by (i) ensuring routes are planned to reduce the need for excessive vehicle movement, (ii) eliminating the need to reverse, (iii) ensuring adequate visibility for drivers 	Negligible	Negligible



Impact	Management Measure	Pre-Management Impact Significance	Pre-Management Impact Significance
Degradation of aquatic habitat	<ul style="list-style-type: none"> Implementation of drainage system to direct surface runoff to the stormwater systems Implementation of construction waste management plan Installation of sediment and erosion controls Avoidance of vegetation disturbance. 	Minor	Negligible
Occupational Health and Safety and Working conditions	<ul style="list-style-type: none"> Implement the Construction Health and Safety Management Plan: Training for the safe use of construction equipment and machinery to all workers. Conduct Job Hazard Analysis before conducting a task. Assure Work Permits are issued for hazardous work, as required Use of appropriate protective clothing and safety gear including hard hats, hearing protection, goggles, and other devices; consider individual fitting of PPE for women and employs who do not fit one-size-fits-all and purchase safety helmets equipped with chin straps to improve fit Application of signage such as reduced speed in work zone and presence of workers. Signage must be in appropriate language (i.e., other than English if workers who speak other languages are present) Provision of ample supply of potable water and required number of sanitary facilities on site; ensure women have separate facilities. Waste bins should be available near temporary camps and rest areas to minimize working in excess heat Communicate with local hospitals to determine protocol in the event of an emergency Maintain first aid kits on site that are fully stocked at all times. Implement workers' grievance mechanism to raise concerns regarding H&S or working conditions. Conduct H&S meetings as needed to discuss issues or incidents. . Incidents resulting in fatalities must be reported immediately Implement COVID-19 protocol 	Moderate	Minor
Provision of construction jobs to local companies and materials sourced from the local economy	<ul style="list-style-type: none"> Implement job quotas for local employment and sourcing requirements for construction contractors based on the size and scope of the Project. Encourage hiring women Attract local workers, suppliers and contractors 	Positive	Positive



Impact	Management Measure	Pre-Management Impact Significance	Pre-Management Impact Significance
Temporary economic displacement to local businesses	<ul style="list-style-type: none"> Implement a Livelihood Restoration Plan, that accounts for all stakeholders impacted on their means of living. Design a compensation program for eligible stakeholders 	In evaluation	
Impacts on health and safety of the community	<ul style="list-style-type: none"> Develop and implement a Construction Health and Safety Plan and the Traffic and Pedestrian Management Plan Appropriate and timely engagement of stakeholders, to ensure that they are well informed of the nature and duration of Project activities, and have a good understanding of associated safety risks. Implement good housekeeping practices in and around the Project construction sites including elimination of standing water or, if not practicable, treatment of standing water to kill mosquito larvae Implement stakeholder outreach to vulnerable subpopulations or to those responsible for maintaining their safety Establish and publicize a Grievance Mechanism to receive and respond to grievances. Develop a Code of Conduct that strictly prohibits SGBV of any kind within the workforce and community. Implement the COVID-19 protocol 	Moderate	Minor
Infrastructure damage	<ul style="list-style-type: none"> Conduct an assessment of properties along the RoW to determine the physical state of property (including fencing and walls) prior to the start of construction activities in order to determine if damaged occurred resulting from construction activities Cover material transport truck to prevent air borne debris that could damage property Enforcement of Traffic and Pedestrian Management Plan to reduce the likelihood of vehicles colliding with infrastructure 	Minor	Negligible
Community Health and Safety	<ul style="list-style-type: none"> Regular maintenance of the road Use of reflective traffic signs and road markings Sufficient street lighting Installation of raised pedestrian cross walks Universal access features Road safety campaign Implementation of contingency plans for natural hazards 	Positive	Positive



Impact	Management Measure	Pre-Management Impact Significance	Pre-Management Impact Significance
Restricted access to cultural heritage sites	<ul style="list-style-type: none"> • Construction of concrete access bridges to religious and cultural sites • Improved parking and drainage infrastructure • Location of bus stop and pedestrian crossings in consideration of proximity to access for cultural sites • Implementation of the Chance Find Procedure 	Negligible	Negligible
Living cultural heritage	<ul style="list-style-type: none"> • Include cultural heritage during the public consultation event. i.e., to understand churches mosques, mandirs, or other living heritage sites to understand operating hours and minimize disruptions. 	Negligible	Negligible
Increased pedestrian and vehicle traffic congestion and disruption.	<ul style="list-style-type: none"> • Maintain the traffic and schedule activities, to the extent possible, to be conducted not during peak times (e.g., early in the morning). • Provide advance notice of scheduled construction activities and major traffic constructions via public service announcements (radio, TV, newspaper) • Coordinate the delivery of construction materials at times that minimize impacts to the existing traffic • Deploy traffic, safety, and road detour signs in appropriate language and close cooperation with the authorities. • Maintain one lane of carriageway open at all times to facilitate the flow of traffic • Install beams, retention walls and temporary passageways as needed (e.g., road safety barriers to facilitate safe access during construction) • Site H&S and security will be maintained during the construction phase by fencing will be erected to form a secure construction site to prevent entry by children, members of the public, trespassers and vandals. Warning signage to be placed at strategic points on the perimeter fencing. Information signage to be placed at the site entrance. • Development and implementation of a Traffic and Pedestrian Management Plan in consultation with Police, residents, and NDC. Update the Plan as needed during construction. 	Moderate	Moderate



3.2 Additional Studies

Additional studies, plans, procedures, and evaluations to the ESA have been prepared to help identify the risks and impacts of the Project. Table 3.3 summarizes the additional studies carried out and provides links, where possible, to the respective documents.

Table 3.3 Additional Studies

Additional Studies	Study Description	Link
Gender Annex Guyana	Gender analysis - Program to Support Climate Resilient Road Infrastructure Development for Guyana (GY-L1081)	
Disaster Risk Assessment / Climate Change Vulnerability Assessment	Analysis of the vulnerability of the region to coastal, fluvial, and pluvial flooding events, considering historical conditions and climate change	
Drainage Studies (2014) – includes	Includes information about drainage patterns, topography, tidal conditions, and climate change risks, also includes alternatives analysis related to drainage issues	
Safety Assessment Report (2014)	Examines safety information from the Project Area, including location specific issues	

4.0 ESMS COMPONENT No. 3: MANAGEMENT PROGRAMS

4.1 Introduction

The Environmental and Social Management Program (ESMP) is comprised of Management Plans, mitigation measures, and internal controls that will be executed throughout the Project’s lifecycle, particularly during construction, when most impact will occur. The complete list of Management Plans is shown in Sub-Chapter 4.3.

4.2 Methodology

For each of the risks and impacts identified in Chapter 0: Identification of Risks and Impacts, WSG applied the mitigation hierarchy defined in the ESPF guidelines, to ensure all options to avoid and minimize impacts were considered and resulted in minor residual impacts. The mitigation hierarchy is described in detail below.

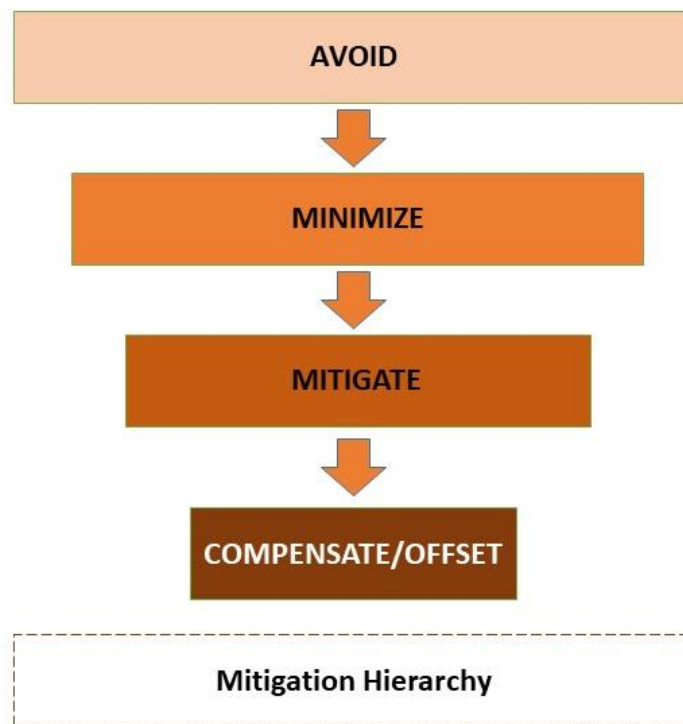


Figure 4-1 The Mitigation Hierarchy



- **Avoidance** will be the preferred form of mitigation. This may involve change in the Project’s location, technology, associated facilities, or other strategies to prevent the impact from occurring on the first place.
- **Minimization** will be implemented when avoidance is not possible. Minimization implies reduction of the impact as much as possible; it reduces the magnitude of the impact.
- **Mitigation** is put in place after avoidance and minimization measures. WSG should identify measures that will reduce the overall significance of the impact. Mitigation measures will consider the ESPF guidelines, World Bank Group, and Guyana Laws and Regulations for all its identified impacts. Mitigation measures are described in the Project Management Programs of the Project.
- **Compensation/offset** occurs when the remedy/offset is done in a place that is physically different from where the impact occurred. Where avoidance, minimization and mitigation are not sufficient to reduce E&S risks and potential impacts to an acceptable level, measures that offset or compensate must be considered.

4.3 Management Programs

Table 4.1 enlists all Management Plans were developed for the construction phase:

Table 4.1 Management Plans of the ESMP of the Project

Management Plan	General contents
Construction Environmental Management Plan	<ul style="list-style-type: none"> ○ Introduction ○ Project Description ○ Project Roles, Responsibilities, and Contacts ○ Training, Awareness and Competency ○ Environmental Management ○ Management sheets for air quality and dust, noise, sediment and erosion, housekeeping and waste. Each sheet has its own Key Performance Indicators (KPIs)



Management Plan	General contents
<p>Construction Health and Safety Management Plan</p>	<ul style="list-style-type: none"> ○ Introduction ○ Project Description ○ Site Conditions and Requirements ○ Policy and Systems ○ Project Roles, Responsibilities, and Contacts ○ Training, Awareness and Competency ○ Personal Protective Equipment ○ Work Permits ○ Complaints ○ General Monitoring Arrangements ○ Emergency Procedures ○ COVID-19 ○ Health and Safety Risk Management <ul style="list-style-type: none"> ▪ H&S Risk assessment template form ○ Key Performance Indicators
<p>Construction Contingency Plan</p>	<ul style="list-style-type: none"> ○ Introduction ○ Emergency Levels ○ Procedures to be Followed During the Implementation of the Contingency Plan ○ Types of Contingencies ○ Phases Considered for Each Event (fire or explosions, spills, falls from heights, cur wounds, electrocution or burns, equipment or infrastructure failure, damage to infrastructure, attacks and sabotage). ○ Key Performance Indicators
<p>Human Resources and Labor Management</p>	<ul style="list-style-type: none"> ○ Forced Labor ○ Child Labor ○ New Employee Safety Orientation <ul style="list-style-type: none"> ▪ ESHS Orientation Checklist



Management Plan	General contents
	<ul style="list-style-type: none"> ○ Workers Grievance Mechanism ○ Code of conduct ○ Key Performance Indicators
<p>Stakeholder Engagement Plan (see Chapter 7.0 of this document)</p>	<ul style="list-style-type: none"> ○ Background and Objectives ○ Regulatory Framework ○ Stakeholder Analysis ○ Completed Stakeholder Engagement ○ Roles, Responsibilities and Resources ○ Grievance Mechanism ○ Monitoring and Reporting
<p>Traffic and Pedestrian Management Plan</p>	<ul style="list-style-type: none"> ○ Introduction ○ Project Description ○ Diversion roads ○ Project Roles, Responsibilities, and Contacts ○ Training, Awareness, and Competency ○ Communication with Relevant Stakeholders ○ Traffic and Pedestrian Management <ul style="list-style-type: none"> ▪ Management sheet for Road intervention Work Area ○ Specific Work Practices <ul style="list-style-type: none"> ▪ Management sheets with mitigation measures and controls for local business impacts, pedestrian safety, vehicle route, vehicle reversing, drivers safe work practices, signalers/banksman practices and construction equipment.
<p>Chance Find Procedure</p>	<ul style="list-style-type: none"> ○ Introduction ○ Objectives ○ Procedure



Management Plan	General contents
	<ul style="list-style-type: none"> ○ Project Roles, Responsibilities and Contacts ○ Training, Awareness and Competency ○ Key Performance Indicators
Livelihood Restoration Plan (see Appendix D of the ESA/ESMP, 2022)	<ul style="list-style-type: none"> ○ Introduction ○ Legal Framework for Livelihood Restoration ○ Methodology ○ Identification of Project Affected Persons and Potential Impacts ○ Entitlement Framework ○ Implementation ○ Public Consultation, Participation and Disclosure ○ Monitoring, Evaluation and Reporting
E&S Monitoring Plan	<ul style="list-style-type: none"> ○ Objective ○ Scope ○ Selection of Key Performance Indicators ○ KPI Assurance and Monitoring Implementation

Management Programs defined in Chapter 7 of the 2022 updated ESA/ESMP follow the Principle of Proportionality⁵ (GL64) for each impact; the correlation between the identified risks and impacts and their corresponding management program is shown in Table 4.2. The table shows the risks and impacts from Chapter 0, and associated management programs. The plans mentioned

⁵ The Principle of Proportionality is the principle whereby the IDB's responsibilities and technical requirements for Borrowers would be proportional to the level of project risk. Projects with greater risk would require more effort and resources than those with lower risk (ESPF, Page 26).



below will be disclosed with workers of the EPC contractor and its subcontractors and will be implemented during Construction. WSG will be supported by a Supervision Consultant to oversight the Project; as part of their tasks, they will assure compliance of all contractors with the ESA/ESMP. The start of construction will occur after the EPC contractor is awarded (end November 2022, tentatively), as well as the supervision consultant. Once selection occurs and contracts are signed, mobilization to the site to start with early works will happen approximately 60 days after signing contracts and while the final design of the Project is ready. Management Plans will be updated as needed based on (i) final design, (ii) consultation meetings, (iii) lessons learned and changes that are part of the continual improvement process and (iv) review and comments from IDB and WSG.

Table 4.2 Management Programs corresponding to Identified Risk and Impacts

Factor	Risks and Impacts	Management Plans
Air	<ul style="list-style-type: none"> • Air pollution from emissions during construction and operations. • Air pollution from dust 	<ul style="list-style-type: none"> • Construction Environmental Management Plan • Construction Health and Safety Plan • Stakeholder Engagement Plan (Grievance Mechanism)
Water	<ul style="list-style-type: none"> • Flooding due to alteration of drainage networks • Surface water quality pollution by leaked chemicals, oils, and increased sedimentation 	<ul style="list-style-type: none"> • Construction Environmental Management Plan • Construction Contingency Plan
Land and Soil	<ul style="list-style-type: none"> • Soil erosion due to vegetation clearance 	<ul style="list-style-type: none"> • Construction Environmental Management Plan • Construction Contingency Plan
Flora and Fauna	<ul style="list-style-type: none"> • Increased erosion, reduced nutrient potential due to plant loss • Habitat disruption 	<ul style="list-style-type: none"> • Construction Contingency Plan • Construction Environmental Management Plan
Waste	<ul style="list-style-type: none"> • Soil, air, or water pollution as a result of mismanagement of hazardous waste or substances. • Increased air pollution due to improper dust management 	<ul style="list-style-type: none"> • Construction Contingency Plan • Environmental Management Plan • Construction Health and Safety Plan • Stakeholder Engagement Plan (Grievance Mechanism)



Factor	Risks and Impacts	Management Plans
Traffic	<ul style="list-style-type: none"> • Increase in traffic congestion • Injury or death of community members due to vehicular accidents. 	<ul style="list-style-type: none"> • Traffic and Pedestrian Management Plan • Stakeholder Engagement Plan (Grievance Mechanism)
Climate Change and Natural Hazards	<ul style="list-style-type: none"> • Risk of flooding due to sea level rise 	<ul style="list-style-type: none"> • Construction Contingency Plan • Environmental Management Plan
Occupational Health and Safety	<ul style="list-style-type: none"> • Injury from construction equipment or from excessive noise during operation • Risk due to contact with hazard materials on the job site or through spills or contamination • Worker’s injury or ill-health due to poor conditions at the workplace or lack of training. • Fatigued workers (from excessive overtime). 	<ul style="list-style-type: none"> • Construction Health & Safety Management Plan • Human Resources and Labor Management Plan <ul style="list-style-type: none"> ○ Worker’s grievance Mechanism ○ Worker’s continual training program • Construction Contingency Plan
Noise	<ul style="list-style-type: none"> • Intrusive noise, disruption for residents, occupational health and safety risk for construction workers and nearby residents 	<ul style="list-style-type: none"> • Construction Health & Safety Management Plan • Environmental Management Plan • Stakeholder Engagement Plan (Grievance Mechanism)
Labor	<ul style="list-style-type: none"> • Supply chain concerns • Performance risk related to capacity and training of the workers, including contractors and sub-contractors 	<ul style="list-style-type: none"> • Human Resources and Labor Management Plan <ul style="list-style-type: none"> ○ Code of Conduct ○ Worker’s grievance mechanism
Social	<ul style="list-style-type: none"> • Loss of livelihood and means of living (economic displacement). • Potential for conflicts between workers and residents • Nuisances due to noise, dust, etc. • Impact to residents living in the immediate area through temporary 	<ul style="list-style-type: none"> • Stakeholder Engagement Plan (Grievance Mechanism) • Livelihood Restoration Plan • Traffic and Pedestrian Management Plan • Construction Environmental Management Plan



Factor	Risks and Impacts	Management Plans
	and/or permanent impediments to access residences and businesses	



5.0 ESMS COMPONENT No. 4: ORGANIZATIONAL CAPACITY AND COMPETENCY

5.1 Introduction

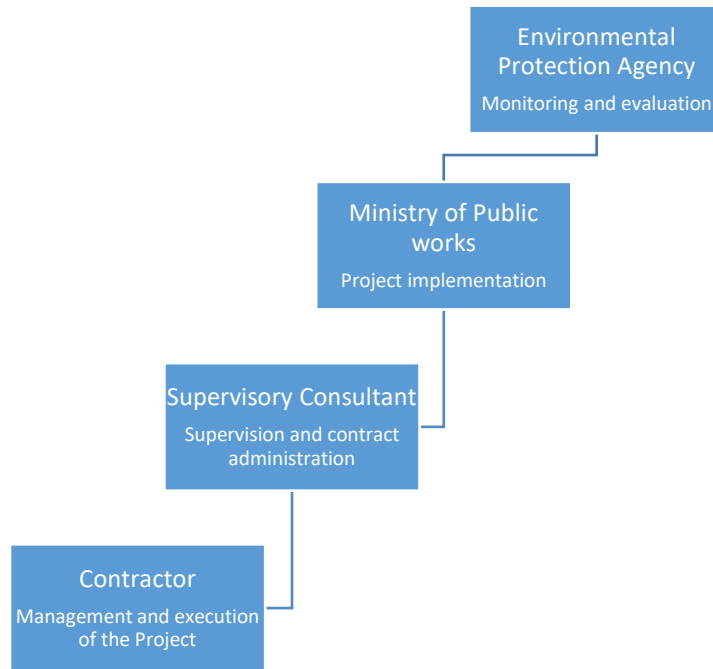
Personnel are assigned with roles and responsibilities for each Program at each phase of the Project. These responsibilities are assigned to temporary and permanent staff, depending on the Project's needs. WSG ensures its operation has the competence and capacity to address and manage E&S aspects of the Project. It has been identified that WSG might require additional support in the social sector and should consider assigning a social specialist to the team to ensure full capability of handling E&S responsibilities. WSG has experience with previous Bank policies but the ESPF will be a learning curve. When necessary, WSG will engage with external consultants or experts to address specific or highly specialized issues (i.e., economic displacement, social engagement).

5.2 Organizational Capacity and Competency of the Project

WSG is responsible for the overall project implementation, the Supervisory Consultant is responsible for contract administration and supervision on site, including enforcing implementation of the ESA/ESMP. The EPC Contractor is responsible for the execution of the constructions work and overall management of the Project and they will abide by the ESA/ESMP, align with its lower-tier contractors. Finally, the Environmental Protection Agency (EPA) is responsible for monitoring the project for compliance with the ESMP and regulations. The organizational chart with roles and responsibilities of key participants in the implementation of the Project is presented in Figure 5-1 below.



Figure 5-1 WSG Organizational Chart



5.3 Roles and Responsibilities

The Project requires certain specialized roles, each with discrete responsibilities. The WSG organization structure consists of eight districts with a dedicated engineer to oversee projects in each. The organizational structure does not include dedicated environmental or social departments, however there are environmental specialists that work across the various departments. Assigning a dedicated environmental and social specialist to assure compliance with the ESMS is an opportunity for improvement of WSG’s organizational structure; therefore WSG will hire a supervision firm to close those gaps. Primary roles within the organization are as follows (detailed descriptions found on the Stakeholder Engagement Plan, 2022):

Table 5.1 Roles and Responsibilities of WSG, Supervision Firm and EPC Contractor

Role	Responsibility
Executing Agency WSG	
Director of Operations	Responsible for the overall management of the project and liaising with the GOG and IDB



Role	Responsibility
Project Supervisor	Oversees the operations of the project, liaising with the Supervisory Engineering Firm, Contractor's Project Management Team, the MSC, and other stakeholders
Procurement Officer	This person is responsible for procuring goods and services and for transparent accounting of the Loan funds related to the Project.
Environmental Engineer	Responsible for ensuring that the project complies with legal and other environmental standards and prescriptions. The Environmental Engineer interacts with the Supervisory Engineering Firm and Contractors' project management teams, carries out inspections, keeps a record of incidents requiring corrective action, and checks to ensure that follow-up action has been taken and the project is in full compliance. The Environmental Engineer would attend regular meetings with the Supervisory Engineering Firm and Contractors, the EA's Social Specialist and the Project Community Liaison Officer.
The Supervisory Engineering Firm	
The Project Manager or Resident Engineer	Responsible for the overall quality of Supervision. He/she should be a full member of the MSC and attend MSC meetings.
Social Specialist (also referred to as the Community Liaison Officer)	Primary point of contact responsible for coordination of the Supervisor and Contractors SEP activities, stakeholder communication. A member of the MSC meetings and table reports within the Supervisors monthly progress report. The PCLO will oversee the functioning of the Grievance procedures, risk analysis, investigations and carry out site inspections and ensure appropriate follow up.
Contractor	
Construction Firm Project Manager	This person has overall responsibility for the construction of the road and environmental and social safeguards and should attend all MSC meetings.
Contractors Environmental and Social Specialist (sometimes referred to as Environmental Manager in ESMP)	These persons are responsible for ensuring that the Contractor meets the requirements of the ESMP and SEP.
Experienced Community Liaison Officer included in Contractor's management	These persons are expected to work in close collaboration with the Supervisors Project Community Liaison Officer (PCLO) and the Environmental and Social Specialist/ Environmental Inspector (ESS/EI) and the EA Environment and SS.



Role	Responsibility
Construction Site Foreman (and supervision Team)	This person supervises the works on the ground and should attend MSC and contractors quarterly open forums

All roles are involved in regular project meetings to outline the schedule of upcoming construction and proposed activities and review the activities of the previous week. During the course of construction, the Environmental Engineer maintains written and photographic records or all mitigation activities, compensation works, and construction task assessments. Summary reports of these findings are submitted to the Supervisor’s Representative. The Environmental Engineer also assesses the compliance of Project activities. If non-compliant activity is detected or reported, the Engineer works with the Contractor to bring activity back to compliance. The Contractor, in consultation prepares a prevention plan to prevent reoccurrence of non-compliant activities. Table 5.2 below provides a list of names and job titles of personnel designated to the monitoring and supervision of the social and environmental management of the Project. Positions will be hired by either the supervision firm or directly by WSG and will retain consultant status for the duration of the project.

Table 5.2 Designated technical staff supporting ESMS implementation

Name	Company	Position
		Project Supervisor
		Environmental Engineer
		Social Specialist
		Construction Project Manager
		Contractors Environmental and Social Specialist
		Community Liaison Officer

5.4 Specialized consultants



For the Project, the WSG has contracted the following consultants and experts, responsible for the duties of the “Engineer” as specified in the Design-Build Civil Works Contract and has assigned them the responsibilities described in Table 5.3.

Table 5.3 Responsibilities of the consultants and experts contracted for the Project

Specialization	Contracted (y/n)	Contracted by (Supervision firm/WSG)	Responsibilities	Terms of Reference (Link)
Environmental and Social Assessment and Management Plans	Yes		Preparing updates to the E&S documents and assuring alignment with IDB frameworks	
Engineering, Procurement and Construction (EPC) contractor	No		Responsible of the design rehabilitation of the road	
Community Liaison Officer	No		First contact with community, on site stakeholder engagement	
Team Leader/Resident Engineer	No			
Pavement and Material Engineer	No			
Bridge Design Engineer	No			
Contract Specialist	No			
Highway Design Engineer	No			
Geotechnical Engineer	No			
Environmental and Social Officer	No			
Road Safety Engineer	No			
Climate Risk Analyst	No			
Transport Economist	No			

Training programs for engineers contracted by WSG will be held in Georgetown, Guyana for a period of 15 days covering the following topics:

- Construction supervision
- Quality assurance
- Modern technologies in construction
- Construction methods



- Contract management
- Project monitoring
- Monitoring activities during design and construction
- Monitoring activities during operations

Key Metrics of the Asset	Methodology/Equipment to be used
Surface Defects of Pavement (Cracking, Potholes, Rutting, Bleeding, Ravelling etc.)	Visual Inspection
Roughness of Pavement using International Roughness Index (IRI) for acceptable rating of 2.0	Class I Laser Profiler*
Road Signs and Road Markings (MUTCD compliant)	Retro Reflectometer*
Defects on Cross Drainage Structures, Retaining Walls and other structures	Visual Inspection

* to be provided as part of the civil works contract.

5.5 Contractors and subcontractors

The WSG ensures that personnel and third parties with direct responsibility for activities relevant to environmental and social performance are competent and have the necessary knowledge and skills to perform their work. This includes up-to-date knowledge of Guyanese regulatory requirements and regulatory requirements applicable to IDB’s ESPF 1 to 10. Currently, WSG is including in E&S requirements as part of the bidding documents for the EPC contractor and the supervision firm, and such provisions will also become part of the contract. As part of the onboarding process, all contractors will have a debrief of WSG’s ESMP (All topics are enlisted in the Human Resources and Labor Management Plan, which is part of the ESA/ESMP, 2022).

5.6 Training

All employees directly and in-directly involved in the Project are adequately trained. The key objective of the training program is to train and familiarize workers with the ESMP, the implementation of the plan, and the application of the mitigation measures as well as current IDB ESPF. Additionally, regular health and safety trainings occur to ensure that accidents are



minimized where possible. WSG discloses, provides training and evaluates training on the implementation of management programs with regularity, with a minimum of once per annum.

5.7 Management Resources and Budget

A summary of management resources and budget allocated to carrying out environmental and social functions is provided in the table below.

Table 5.4 Management Resources and Budget

Resource	E&S Function	Budget
Monitoring equipment	Equipment Maintenance	G\$
E&S officers	Supervision of implementation of the ESMS	G\$
External auditor	Environmental Compliance Audit	G\$
Livelihood Restoration	Compensation package	G\$



6.0 ESMS COMPONENT No. 5: EMERGENCY PREPAREDNESS AND RESPONSE

6.1 Introduction

Similarly, to other components of the ESMS, the approach to Emergency Preparedness and Response (EPR) falls in line with the Project's Risks and Impacts. The Construction Contingency Plan (CCP) on the ESMP ensures that all members of the Project team are prepared to respond to accidental and emergency situations associated with the project in a manner that is appropriate to prevent and mitigate any harm to people or the environment.

The overall objective of this plan is to establish procedures to provide an immediate and effective response during emergencies during the construction stage of the Project. The general objectives are:

- Protect the safety and well-being of site employees and their families, as well as members of nearby communities;
- Protect the property and reputation of WSG;
- Minimize damage to the environment;
- Maintain and/or restore activities during and after an emergency;
- Provide effective communication with stakeholders; and
- Comply with applicable laws and align with lender E&S standards

Main scenarios considered in the CCP are fire and explosion, fuel spills and accidents (falls from heights, cut wounds, electrocution and burns).

6.2 Construction Contingency Plan

The CCP contains general guidelines to respond before an emergency. However, the selected EPC contractor will complement the CCP with its own CCP or its Emergency Preparedness and Response Plan (EPRP) prior to the start of construction. Currently the EPC contractor has not been selected but WSG's minimum requirements to complement the CCP are displayed in Table 6.1.



Table 6.1 Emergency Preparedness and Response Plan Components

Component	Example of Tools to prepare the component
Roles and Responsibilities for implementing the EPRP.	<ul style="list-style-type: none"> Organizational chart of the EPRP Names and contact information (email, telephone, fax) of personnel responsible.
Identification of emergency scenarios	<ul style="list-style-type: none"> Hazard Identification (HAZID)
Establishing affectation radii/areas	<ul style="list-style-type: none"> Modelling (i.e., Fire and Explosion radii, water pollution). Consultation with workers, external experts and affected communities through workshops.
Emergency tiers	<ul style="list-style-type: none"> Description within the EPRP Tier 1, 2 and 3 Emergencies and the procedure triggered on each case.
Specific emergency response procedures	<ul style="list-style-type: none"> Management Programs related to emergencies identified.
Trained emergency response teams	<ul style="list-style-type: none"> Training materials for emergency preparedness; trainings can be internal and external. Training schedule. Hiring external specialists or experts as needed.
Communication systems	<ul style="list-style-type: none"> List of internal and external emergency contacts. Communication systems (VHF⁶, satellite telephone, landline) available at the Project site Protocols including communication with project-affected people where necessary.
Interaction with government authorities such as emergency, health, and environmental as part of WSG's strategy to address emergencies	<ul style="list-style-type: none"> Agenda and Plan for interaction with government authorities. Appointment of focal points where appropriate.
Permanently stationed emergency equipment and facilities (e.g., first aid stations, firefighting equipment, spill response equipment, personal protection equipment for the emergency response teams).	<ul style="list-style-type: none"> Procurement of emergency equipment. Inventory of emergency equipment for each facility/Project Appointment of responsible personnel for regular maintenance of emergency equipment
Protocols for the use of emergency equipment and facilities	<ul style="list-style-type: none"> Copy of the manufacturer protocols or manuals for each piece of equipment. Preparation of simplified 'read and do' protocols for the use of emergency equipment

⁶ Very High Frequency Radio



Component	Example of Tools to prepare the component
Clear identification of evacuation routes and muster points	<ul style="list-style-type: none"> • Signs at the facility or construction site. • Maps of emergency routes at different points within the facility.
Emergency drills and their periodicity based on assigned emergency levels or emergency tiers	<ul style="list-style-type: none"> • Drills Topics/Agenda. • Drills Schedule. • Drill report (documenting the drill and lessons learned/areas of opportunity identified).
Decontamination procedures and means to proceed with urgent remedial measures to contain, limit and reduce pollution within the physical boundaries of the project site to the extent possible	<ul style="list-style-type: none"> • Procuring spill kits and spill-related gear or equipment. • Hiring external decontamination/spill recovery companies, whenever necessary.
Protocols for managing epidemics and pandemics	<ul style="list-style-type: none"> • i.e., COVID-19 protocol, as defined by the Government of Guyana
Monitoring and review	<ul style="list-style-type: none"> • Procedures to review and update the EPRP and any of its protocols, procedures and programs. • Internal and external audits (See Chapter 7.5 for details).

Disclosure of the EPRP with affected communities—as required by ESPS 10—is done through workshops or meetings. External communication and addressing affected parties’ concerns on emergencies are handled through the Stakeholder Engagement Plans, described on Chapter 7.0.

In the event of an emergency situation, WSG will communicate with the appropriate entity to manage and respond the incident in a timely and effective manner.

Entity	Phone Number
Police	911 or +592-225-8196
Medical Assistance	913
Firefighters	912 or +592-226-2411



7.0 ESMS COMPONENT No. 6: STAKEHOLDER ENGAGEMENT

7.1 Introduction

For this Stakeholder Engagement Plan (SEP), the primary tenets that underpin the strategy are commitment, respect, transparency, inclusivity, and effective communication.

The first public consultation occurred May 2014. In the initial consultation phase, IMC Worldwide, on behalf of the Ministry of Public Works, undertook around 530 engagements with national and community stakeholders to identify social and implementation risks and corresponding mitigation measures related to the Project. Since the time of the initial consultation, several housing communities have been established along the East Bank, developing a more distinct presence along the Public Road. As a result of the changes and reinvigoration of the project, a new Stakeholder Engagement Plan was produced by Nexus GDN, based on consultancy that ran from January 13 to February 10, 2020. The consultancy was based on a combination of document analysis, stakeholder interviews, focus group discussions, and public meetings. Another consultation event will take place August 19, 2022 to support the updated ESA/ESMP for the Project. Results of this consultation event will be observable in one of the Appendices of the 2022 ESA/ESMP. The key steps before conducting the consultation are:

1. Preparation of consultation materials (invitations, Power Point presentations, posters, brochures, or other visual materials).
2. Notification to the nearest Neighborhood Democratic Council (NDC) that WSG will hold a Public Consultation event about the Project.
3. Hold a meeting between IDB, WSG and external consultants as needed, regarding the agenda of the event and participants
4. Conduct the Public Consultation event to inform stakeholders of the Project. Stakeholder feedback will be registered and considered for the ESA/ESMP
5. Issue updates to the general Public at least quarterly about the progress of the Project. These can be in form of brochures, public announcements (in radio or newspapers, website) or bulletins, detailing the progress of the construction in non-technical language.



Feedback will be recorded in a matrix with Stakeholder's description of their concern, question or comment and responses when applicable, by WSG.

This first meeting will be open to the general public, it is expected that people living or having economic activities along the road will attend. The agenda of the first meeting will focus on the following.

- Presentation of the Project
 - Background and project description in non-technical language
- Tentative schedule of activities
- Main risks and impacts
- Controls and mitigation measures; general description of the ESA/ESMP
- Description of the External Grievance Mechanism and its channels.
- Next steps (start of construction, future meetings, how will the Project provide updates to the community)
- Questions and Answers (Q&A) session.

Stakeholder Engagement and Stakeholder meetings will continue during construction. At least one meeting will be held once the EPC contractor is selected prior commencement of activities and additional meetings will be scheduled as needed. Section 7.5.2 details the methodology for future consultation events during the construction phase, which will occur as needed.

7.2 Stakeholder Analysis and Engagement Planning

The first stages of engaging with relevant stakeholders involved identifying them and defining the direct and indirect areas of influence. Stakeholder identification and mapping began with reviewing assessments of negative impacts from the Project and determining which people, organizations, or other parties are affected by these impacts. For this SEP, stakeholders were divided into two groups: community stakeholders and non-community stakeholders. Community stakeholders included residents and businesses within the Grove, the Golden Grove/Diamond Place Neighborhood Democratic Council, and the Diamond/Grove and Grove police stations. Non-community stakeholders included the MPW, the contractor, the utility companies, the EPA, the media, the Central Housing & Planning Authority (CHPA), residents of neighboring communities and regional authorities. The Stakeholder Map is still not available as it is being prepared; a key



stakeholder are business owners, who will be subject of compensation for temporal economic displacement. Once ready, WSG will continue to monitor and update the Stakeholder Engagement Map over the course of the Project, as the relevance of individual stakeholders may change.

7.3 Disclosure and dissemination of information

The SEP seeks to provide an appropriate communication and engagement strategy based on both the needs of the project and the stakeholders. The SEP functions as a tool to provide stakeholders with access to relevant information on (i) the purpose, nature and scale of the operation; (ii) the duration of the proposed activities of the operation; (iii) the potential risks and impacts on those communities and relevant mitigation measures; (iv) the intended stakeholder engagement process; (v) the grievance mechanism; and (vi) the potential opportunities and benefits of development (paragraph 31 of ESPS 1). WSG will regularly disclose the following documents:

- Environmental Management Measures.
- Updates of the Project's progress in non-technical language (and in multiple languages for population that does not speak English, which could be the case for Chinese and Spanish-speaking business-owners).
- Participation programs that could benefit the community (i.e., programs to recruit women).
- Resolved grievances (these will be directed to group or person who raised the concern; if anonymous, grievances can be disclosed through consultation meetings).

7.4 External grievance mechanism

The external Grievance Mechanism (GM) is part of the SEP and describes how WSG will answer to questions and address concerns of affected parties. The GM is targeted to communities and stakeholders different from workers of the Project (as workers will have their own GM). Grievances will be received by the Community Liaison Officer (CLO). Grievances can be received by email, telephone, letter, fax, outreach, meeting or other mediums. They will be logged into a grievance log and formally acknowledged within five business days of receipt and resolved within fifteen days of receipt. Grievance will be resolved in the following ways: (i) receipt and acknowledgement, (ii) allocation, (iii) investigation, (iv) solution identification, (v) solution



implementation, (vi) resolution, and (vii) closure. Affected parties who are unsatisfied with the handling of their grievances can request that they be escalated. The points of contact for the Project have not been assigned.

Figure 7-1 illustrates the grievance procedure from the Project’s perspective.

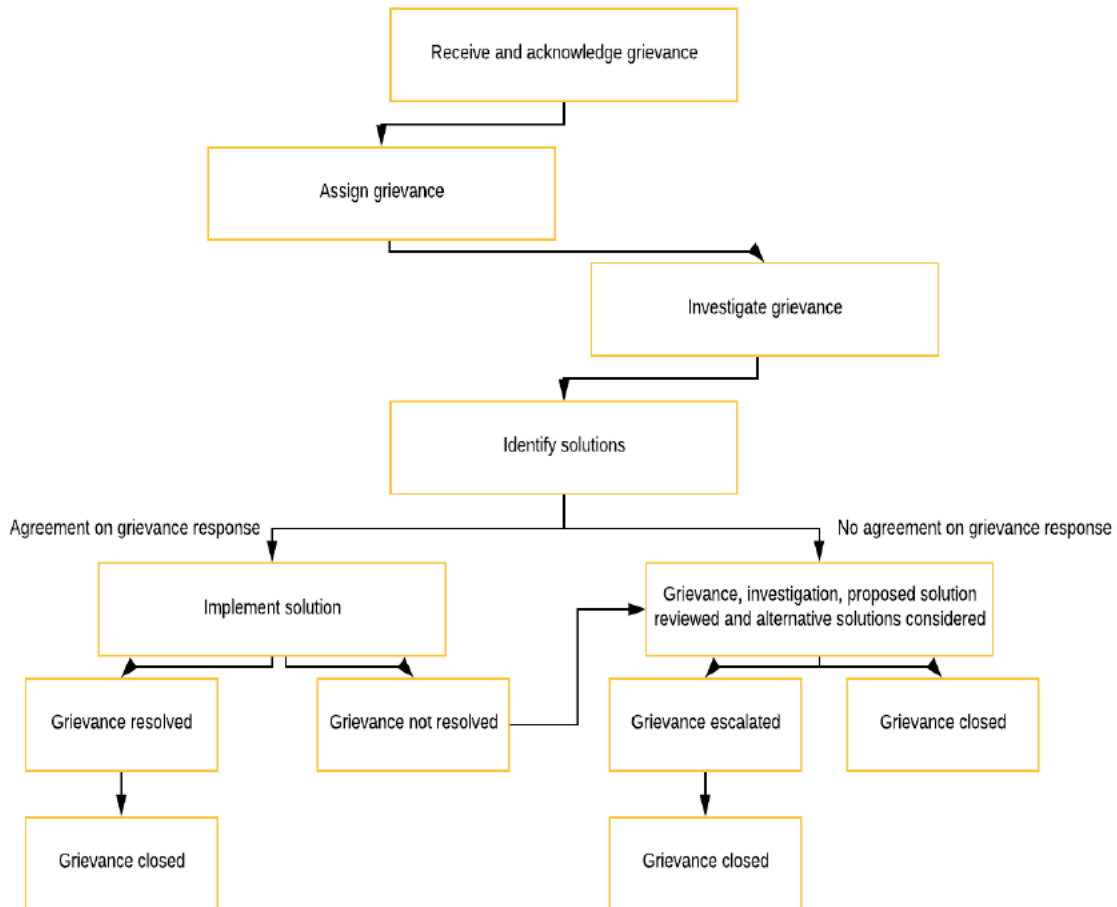


Figure 7-1 Project-Facing Grievance Process (Source: Nexus GDN Stakeholder Engagement Plan 2020)

7.5 Workers Grievance Mechanism

The Workers Grievance Mechanism is part of ESPS 2 (not ESPS 1, as the external GM), however, it is a way to obtain feedback from persons affected by the project, in this case, workers.

The worker’s GM is an internal procedure through which workers can express concerns about the workplace, including unsafe working conditions, environmental nonconformities, and issues of



gender-based violence. The internal grievance mechanism is targeted to workers of the project including all subcontractors. Grievances will be received via contractor and subcontractor and must be reported to WSG for Project-wide tracking. Grievances can be received verbally or through a written form. Any temporary or permanent employee, as well as any consultant, contractor, subcontractor, or supplier can submit a claim to their immediate manager, the human resources department or a worker representative. Claims can be categorized as (i) readily resolvable, in which case the claim is directly addressed and recorded in an Internal Grievance log, or (ii) sensitive, in which a special point of contact will be provided for the claimant. The points of contact for the Project have not been assigned yet.



8.0 ESMS COMPONENT No. 7: MONITORING, REVIEW AND REPORTING

8.1 Introduction

Effective implementation of the ESMP is confirmed through monitoring. As with other sections of this document, the monitoring plan uses the risk and impact assessment as its basis. For this Project, key factors to monitor throughout the construction process include air quality, erosion, water quality, and sedimentation.

8.2 Monitoring plan and mechanisms

During the construction phase, Environmental Engineer serves as the primary role in the monitoring program. The Engineer will visit all construction areas on a daily basis to ensure that mitigation actions are implemented where required and assess the effectiveness of environmental management programs. The social Specialist and the CLO will do the same for social aspects. The reports that will be issued during the Construction of the Project are the following:

- EPC contractor will report weekly to WSG progress and applicable KPIs per ESMP.
- Supervision firm will report monthly to WSG.
- WSG will report to the IDB semi-annually, with an Environmental and Social Compliance Report (ESCR).

The EPC weekly summary reports will be created detailing the number and type of work assessments, recommendations and follow-ups, unanticipated activities, proposed design changes, summary of meeting issues, and other environmental issues. Monthly reports will detail the construction works to date, outstanding environmental construction works, quality of work and mitigation recommendations, environmental assessment work project for the upcoming month, proactive measure taken to protect the environment, communications with environmental agencies, and other environmental issues. The Project Team will also maintain consistent communication with environmental agencies to ensure that monitoring and mitigation proceeds, as necessary. A channel of communication will also keep representatives of project affected



peoples and stakeholders informed. Periodic performance reviews will be conducted and mechanisms for registering performance feedback and comparison between indicators will be implemented. The ESMP has KPIs to measure performance of the management measures; these will be tracked by the Environmental Engineer, which will report to WSG implementation of the ESMP. Any lessons learned or identification of improvement areas will lead to changes on the ESMP based on these assessments, adapting to support both corrective and preventative actions in collaboration with third parties. A corrective action plan is necessary if non-compliances are identified.

All administrative, technical, or financial problems that occurred during the preceding month will be outlined and provided with recommended actions for closing the issues. The report will include status of payment to the contractor, all costs and time extensions. The engineering consultant will also issue ESHS Compliance Reports, Road Safety Compliance Reports, Quarterly and Period Reports, and Engineering Reports in accordance with the Terms of Reference prepared by WSG.



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