Environmental Assessment and Review Framework (Draft)

PUBLIC

July 2024

Philippines: Laguna Lakeshore Road Network Project

Prepared by the Department of Public Works and Highways for the Asian Development Bank (ADB).

CURRENCY EQUIVALENTS

(as of 15 July 2024)

Currency Unit	–	Philippines peso (₱)
₱1.00	=	$0.018
$1.00	=	₱55.39

ABBREVIATIONS

A&D	-	Alienable and Disposable
AAQ	-	Ambient Air Quality
ADB	-	Asian Development Bank
AIP	-	Annual Investment Plan
AQI	-	Air Quality Index
ASEAN	-	Association of Southeast Asian Nations
BFAR	-	Bureau of Fisheries and Aquatic Resources
BMB	-	Biodiversity Management Bureau
BOD	-	Biological Oxygen Demand
BRGY	-	Barangay
BSWM	-	Bureau of Soils and Water Management
CCA	-	Climate Change Adaptation
CCC	-	Climate Change Commission
CDP	-	Comprehensive Development Plans
CE	-	Critically Endangered Species
CEMMAP	-	Contractor's Environmental Management Plan
CENRO	-	City Environment and Natural Resources Office
CENRO	-	Community Environment and Natural Resources Office
CLUDP	-	Comprehensive Land Use and Development Plan
CLUP	-	Comprehensive Land Use Plan
CMR	-	Compliance Monitoring Report
CMVR	-	Compliance Monitoring and Validation Report
CNC	-	Certificate of Non-Coverage
CNO	-	Certificate of Non-Overlap
CP	-	Contract Package
CPDO	-	City Planning and Development Office
CR	-	Critically Endangered
CS	-	Conservation Status
CSO	-	Civil Society Organizations
DA	-	Department of Agriculture
DAO	-	DENR Administrative Order
dB	-	Decibel
dBA	-	A-weighted decibels
DD / DED	-	Detailed Design/ Detailed Engineering Design
DENR	-	Department of Environment and Natural Resources
DENR-EMB-CO	-	Department of Environment and Natural Resources Environmental Management Bureau Central Office
DepEd	-	Department of Education
DIA	-	Direct Impact Areas
DILG	-	Department of Interior and Local Government
DO	-	Dissolved Oxygen

DOE	-	Department of Energy
DOH	-	Department of Health
DOLE	-	Department of Labor and Employment
DOST	-	Department of Science and Technology
DOTC	-	Department of Transportation and Communications
DOTr	-	Department of Transportation
DPWH	-	Department of Public Works and Highways
DRAM	-	DPWH ROW Acquisition Manual
DRR	-	Disaster Risk Reduction
DSWD	-	Department of Social Welfare and Development
DTI	-	Department of Trade and Industry
ECA	-	Environmentally Critical Area
ECC	-	Environmental Compliance Certificate
ECP	-	Environmentally Critical Project
EF	-	Emission Factor
EGF	-	Environmental Guarantee Fund
EGGAR	-	Engineering Geological and Geohazard Report
EIA	-	Environmental Impact Assessment
EIAMD	-	Environmental Impact Assessment and Management Division
EIARC	-	Environmental Impact Assessment Review Committee
EIS	-	Environmental Impact Statement
EISR	-	Environmental Impact Statement Report
EMB	-	Environmental Management Bureau
EMB-MC	-	Environmental Management Bureau Memorandum Circular
EMF	-	Environmental Monitoring Fund
EMoP	-	Environmental Monitoring Plan
EMP	-	Environmental Management Plan
EN	-	Endangered Species
ENRO	-	Environment and Natural Resources Officer
EO	-	Executive Order
EPA	-	Environmental Protection Agency
EPRMP	-	Environmental Performance Report and Management Plan
EQPL	-	Environmental Quality Performance Level
ERA	-	Environmental Risk Assessment
ERP	-	Emergency Response Plan
ESP	-	EIS Summary for the Public
FBI	-	Field Based Investigation
FGD	-	Focus Group Discussion
FMB	-	Forest Management Bureau
FS	-	Feasibility Study
FV	-	Field Validation
GAP	-	Gender Action Plan
GCM	-	Global Climate Models
GCR	-	Greater Capital Region
GDP	-	Gross Domestic Product
GESI	-	Gender Equality and Social Inclusion
GHG	-	Greenhouse Gas

GIS	-	Geographic Information System
GPS	-	Global Positioning System
GRM	-	Grievance Redress Mechanism
GVA	-	Gross Value Added
GW	-	Ground Water
HSE	-	Health, Safety, and Environment
IBA	-	Important Bird Area
IEC	-	Information and Education Campaign
IEE	-	Initial Environmental Examination
IFC	-	International Finance Corporation
IIA	-	Indirect Impact Areas
IPCC	-	Intergovernmental Panel on Climate Change
IPIF	-	Infrastructure Preparation and Innovation Facility
IRR	-	Implementing Rules and Regulations
ISF	-	Informal Settler Families
ITCZ	-	Intertropical Convergence Zone
IV	-	Importance Value
KBA	-	Key Biodiversity Area
LC	-	Least Concern
LGU	-	Local Government Unit
LLDA	-	Laguna Lake Development Authority
LLRN	-	Laguna Lakeshore Road Network
LMO	-	Lake Management Office
LPPCHEA	-	Las Pinas-Paranaque Critical Habitat and Ecotourism Area
LTMO	-	Laguna Traffic Management Office
LTPBM	-	Long Term Performance Based Maintenance
MCX	-	Muntinlupa-Cavite Expressway
MENRO	-	Municipal Environment and Natural Resources Office
MFR	-	Makiling Forest Reservation
MGB	-	Mines and Geosciences Bureau
MH	-	Merchantable Height
MMDA	-	Metro Manila Development Authority
MMFR	-	Mount Makiling Forest Reserves
MMT	-	Multi-Partite Monitoring Team
MOA	-	Memorandum of Agreement
MPSA	-	Mineral Production Sharing Agreement
MRF	-	Materials Recovery Facility
MSL	-	Mean Sea Level
NAAQGS	-	National Ambient Air Quality Standards
NAAQGV	-	National Ambient Air Quality Guideline Values
NAIA	-	Ninoy Aquino International Airport
NAMRIA	-	National Mapping and Resource Information Agency
NAS	-	National Agrometeorological Station
NCCA	-	National Commission for Culture and the Arts
NCCAP	-	National Climate Change Action Plan
NCR	-	National Capital Region
NEDA	-	National Economic Development Authority
NFSCC	-	National Framework Strategy on Climate Change
NGA	-	National Government Agency
NGCP	-	National Gris Corporation of the Philippines

NGO	-	Non-Government Organization
NHA	-	National Housing Authority
NHCP	-	National Historical Commission of the Philippines
NHCS	-	Napindan Hydraulic Control System
NHS	-	National Health Service
NIPAS	-	National Integrated Protected Areas System
NLEX	-	North Luzon Expressway
NPCC	-	National Pollution Control Commission
NRS	-	National Road System
NTP	-	Notice to Proceed
O&G	-	Oil and Grease
OCC	-	Operation Control Center
OCD	-	Office of Civil Defense
ODA	-	Overseas Development Assistance
OGAC	-	Open-graded asphaltic concrete
OSHA	-	Occupational Safety and Health Association
OTS	-	Other Threatened Species
OWS	-	Other Wildlife Species
PA	-	Philippine Army
PAF	-	Project Affected Families
PAGASA	-	Philippine Atmospheric Geophysical and Astronomical Services Administration
PAP	-	Project Affected Persons
PAR	-	Philippine Area of Responsibility
PAWB	-	Protected Areas and Wildlife Bureau
PCG	-	Philippine Coast Guard
PCO	-	Pollution Control Officer
PD	-	Presidential Decree
PDR	-	Project Description Report
PEISS	-	Philippine EIS System
PEM	-	Philippine Earthquake Model
PEMAPS	-	Project Environmental Monitoring and Audit Prioritization Scheme
PENRO	-	Provincial Environment and Natural Resources Office
PEPRMP	-	Programmatic Environmental Performance Report and Management Plan
PHIVOLCS	-	Philippine Institute of Volcanology and Seismology
PMO	-	Project Management Office
PNP	-	Philippine National Police
PNR	-	Philippines National Railways
PNSDW	-	Philippine National Standard for Drinking Water
PO	-	People Organizations
PPE	-	Personal Protective Equipment
PRA	-	Philippine Reclamation Authority
PRECIS	-	Providing Regional Climates for Impact Studies
PSA	-	Philippines Statistics Authority
PSALM	-	Power Sector Assets and Liabilities Management
PSCCA	-	Philippine Strategy on Climate Change Adaptation
PSHA	-	Probabilistic Seismic Hazard Analysis
PWD	-	Persons with Disability

RA	-	Republic Act
RAP	-	Resettlement Action Plan
RCMs	-	Regional Climate Models
ROW	-	Right-of-Way
ROWARAP	-	Right-of-way Acquisition and Resettlement Action Plan
SAFDZ	-	Strategic Agriculture and Fisheries Development Zone
SCM	-	Stakeholders Consultation Meeting
SCTEX	-	Subic-Clark-Tarlac Expressway
SDMP	-	Spatial Development Master Plan
SDP	-	Social Development Plan
SLEX	-	South Luzon Expressway
SMR	-	Self-Monitoring Reports
SPS	-	Safeguard Policy Statement
STP	-	Sewage Treatment Plant
STPP	-	Sucat Thermal Power Plant
TD	-	Tropical Depression
TDS	-	Total Dissolved Solids
TESDA	-	Technical Education and Skills Development Authority
TH	-	Total Height
TIA	-	Traffic Impact Assessment
TNVIA	-	Transit Noise and Vibration Impact Assessment
TOR	-	Terms of Reference
TS	-	Tropical Storm
TSP	-	Total Suspended Particles
TSS	-	Total Suspended Solids
UNDP	-	United Nations Development Program
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
USAID	-	United States Agency for International Development
USD	-	United States Dollar
USEPA	-	United States Environmental Protection Agency
VFS	-	Valley Fault System
VOCs	-	Vehicle Operating Costs
VU	-	Vulnerable Species
WEF	-	World Economic Forum
WHO	-	World Health Organisation
WQG	-	Water Quality Guidelines
WSDI	-	Warm Spell Duration Index

Notes

Table of Contents

I. INTRODUCTION

1. **Project description.** The Laguna Lake Road Network Project (Phase 1) is along the western shorelines of the Laguna Lake. Phase II, not covered in this Framework, will stretch the northern to southern coastline via an eastern route. Phase I - begins from the City of Taguig to the municipality of Calamba in Laguna. The project alignment is a combination of viaduct and embankment. The alignment starts at Brgy. Lower Bicutan in Taguig City and ends at Brgy. Bucal in Calamba City. It has seven (7) interchanges distributed along the course of the alignment and provides access to seven (7) cities/ municipalities in the western side of the lake and thirty-two (32) barangays. The total length of the expressway (mainline) is 37.45km of which the first two northern sections/ contract packages (CP) have a 15.57 kilometer continuous offshore viaduct. The remaining two southern sections are a combination of embankments and viaducts adjacent to the lake shore.

2. The project includes the construction of slip and connecting roads, with a total length of 6.86 and 4.75 kms, respectively. Slip roads link the mainline immediately to the shore while connecting roads provides access to the arterial Manila South Road (MSR). The connecting roads will also serve as haul roads during project construction. Details of the main, slip, and connecting roads are provided in the succeeding Table.

Table 1: Length of Embankment and Viaduct/Bridge per Contract Package (in km)

Section	Embankment	Viaduct/Bridge	Total
Contract Package 1			
· Mainline	1.13	6.81	7.94
· Sucat Slip Road	0.526	0.488	1.01
· Alabang Slip Road	0.906	-	0.91
Contract Package 2			
· Mainline	1.72	5.91	7.63
· Tunasan Slip Road	0.745	0.201	0.95
· Tunasan Connecting Road	0.581	-	0.58
Contract Package 3			
· Mainline	7.50	4.73	12.23
· San Pedro/Binan Slip Road	0.65	-	0.65
· San Pedro/Binan Connecting Road	1.191	-	1.19
Contract Package 4			
· Mainline	6.17	3.53	9.70
· Cabuyao Slip Road	0.277	-	0.28
· Cabuyao Connecting Road	2.896	0.792	2.98
· Calamba Slip Road	2.761	0.296	3.06
TOTAL	**27.05**	**22.76**	**49.11**

Source: Draft environmental impact assessment (May, 2024).

3. The expressway will have dual two lanes, except for the section between Sucat and Sta. Rosa, which has three lanes in each direction. The opposing lanes are separated by a median (New Jersey-Type Barrier) with a base width of 0.90m. and 0.6m marginal strips at each side of the barrier. For road embankment, it has a 3.35m wide vehicular lane and a shoulder 2.5m wide. The shoulder has a margin of 0.50m on each side. Guard rails are provided at the edge of the shoulder margins. The vehicular lanes have a crossfall of 2.0%, and the shoulder is 3.0% for

embankment sections and for viaduct/bridges, the crossfall is 2.0% with 1.5m wide shoulder and concrete barrier at edge. Layby are provided in the viaduct at every 1.5km.

4. **Executing and Implementing Agencies**. The Department of Public Works and Highways (DPWH) is the executing agency while its Unified Project Management Office (UPMO)-Road Management Cluster (RMC) II is the implementing agency. The DPWH is the lead engineering and construction agency of the Government, tasked in ensuring and designing infrastructure developments such as national highways, bridges, flood control, and other related public works.

5. **Financing modality.** The project's outputs will be financed by multi-tranche financing facility (MFF) to achieve its outcome, considering the magnitude of the investment and complexity of the civil works, which will comprise 4 contract packages to be implemented simultaneously. The project is proposed to be financed by an MFF with two tranches, adopting the time-slicing approach for large-scale stand-alone projects, with each tranche financing a group of contracts per indicative tranche schedule based on disbursement projections. The MFF modality allows the government to utilize ADB financing for mega-size civil works projects with relatively simple financing structure and approval process, and the sequential processing and approval of tranches help the government to optimize the financial cost on commitment fees. At the time of the MFF processing, the project design, procurement, environment and social safeguards, and gender aspects was appraised for the entire scope of the MFF.[1] ADB will finance the 29.56 km southern three sections of the expressway (CP2, 3, and 4) with AIIB on a joint financing basis while CP1 will be financed by KEXIM on a parallel co-financing basis with no ADB-administration of the KEXIM component. Tranche 1 of the MFF will finance the first slice of the contract packages under the project (time-slices MFF).

6. **Environmental category.** The MFF large-standalone project was classified as environment category A by the ADB in accordance with the ADB Safeguard Policy Statement (i.e., anticipated to have potentially significant adverse environmental impacts) and an environmental impact assessment was prepared for the entire LLRN 1 project and disclosed as draft in May 2024.[2]

7. The **purpose of this environmental assessment and review framework (EARF)** is to: (i) describe the LLRN project as well as additional components that may be identified during project implementation; (ii) explain the general anticipated environmental and/or social impacts of the components or subprojects to be financed under the proposed project; (iii) specify the requirements that will be followed in relation to subproject screening and categorization, assessment, and planning, including arrangements for meaningful consultation with affected people and other stakeholders and information disclosure requirements and, where applicable, safeguard criteria that are to be used in selecting subprojects and/or components; (iv) assess the adequacy of the borrower's/client's capacity to implement national laws and ADB's requirements and identify needs for capacity building; (v) specify implementation procedures, including the budget, institutional arrangements, and capacity development requirements; (vi) specify monitoring and reporting requirements; and (vii) describe the responsibilities of the borrower/client and of ADB in relation to the preparation, implementation, and progress review of safeguard documents of newly proposed project components.

[1] Packages 1 to 4

[2] Environmental Impact Assessment (draft, accessible here https://www.adb.org/projects/documents/phi-52321-001-eia).

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. ADB Safeguard Policy Statement 2009

8. All projects supported by ADB must comply with ADB's Safeguard Policy Statement (2009).[3] ADB's SPS (2009) sets out the policy objectives, scope and triggers, and principles for environmental safeguard areas to be followed across all aspects of its operations. ADB adopts a set of specific safeguard requirements that borrowers/clients are required to meet in addressing environmental impacts and risks. Borrowers/clients must comply with these requirements during the project preparation and implementation phases. ADB's environmental safeguard requirements are defined in ADB's SPS, Appendix 1 (Safeguard Requirements 1: Environment. Pages 30-40). All environmental safeguard principles and requirements of ADB's SPS are reflected in this EARF.

9. **Categorization.** Per ADB's SPS (2009), the nature and significance of the environmental impacts determine the level of environmental assessment needed. The level of environmental impacts will depend on the type and location of a project component, the sensitivity, scale, nature and magnitude of its potential impacts, and the availability of cost-effective mitigation measures. All project activities must be screened for their impacts significance and classified into one of the 3 categories defined in Table below.

Table 2: ADB Environment Safeguards Categorization System

Category A: A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required
Category B: A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.
Category C: A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.

Source: ADB SPS (2009)

10. **Environmental Standards Application.** In general, ADB and other multilateral donors support the application of national environment, health and safety standards in environmental impact assessment, where these are found to be sufficiently developed to address the particular areas of risk presented by an undertaking, and of at least equivalent stringency to standards specified or commonly referred to by relevant international entities. Where a national standard applicable to project risks does not exist, is insufficiently comprehensive to address the full range of relevant parameters, or is significantly less stringent than standards operational elsewhere, an appropriate stand-in is identified from the selection of known international standards. Standards referenced in the World Bank Group's IFC Performance Standards and Environmental, Health and Safety (EHS) Guidelines are a preferred source of guidance, although in some cases standards developed by agencies in jurisdictions with advanced regulatory frameworks.

[3] ADB. 2009. Safeguard Policy Statement. Manila.

B. Philippines Environmental Legislative System

1. Philippines Environmental Impact Statement System (PEISS)

11. The Philippines Environmental Impact Statement System (PEISS) is a well-defined set of procedural requirements established to guide the consistent, thorough and defensible conduct of environmental assessments in relation to public-sector and private-sector development projects. The foundation of the PEISS is elaborated by the following key instruments:

(i). Presidential Decree No. 1586: Establishing an Environmental Impact Statement 41 System Including Other Environmental Management Related Measures and for 42 Other Purposes (issued 1978);
(ii). DENR Administrative Order 2003-30: Implementing Rules and Regulations (IRR) for the Philippine Environmental Impact Statement System (issued 2003); and
(iii). Revised Procedural Manual for DENR Administrative Order No. 30 Series of 2003 (issued 2007).

12. A key element of the PEISS is the categorization of proposed undertakings, such that assessment procedures appropriate to the scale, complexity, probability, and severity of negative environmental and social impacts can be identified. Proposed projects are considered in terms of both the project characteristics (scale, industrial sector, class of infrastructure) and the characteristics of the environment (interpreted broadly to include both biophysical and social parameters) in which the project will be implemented.

- **Category A** – Projects or undertakings which are classified as Environmentally Critical Projects (ECPs) under Presidential Proclamation No. 2146 (1981), Proclamation No. 803 (1996), and any projects that may later be declared as such by the President of the Philippines.
- **Category B** – Projects or undertakings which are not classified as ECPs under Category A, but which are likewise deemed to significantly affect the quality of the environment by virtue of being in an Environmentally Critical Area (ECA) as declared under Proclamation 2146.
- **Category C** – Projects or undertakings not falling under Category A or B which are intended to directly enhance the quality of the environment or directly address existing environmental problems.
- **Category D** – Projects or undertakings that are deemed unlikely to cause significant adverse impacts on the quality of the environment according to parameters set forth in the Screening Guidelines.

13. The definition of Environmentally Critical Projects (ECPs) and Environmentally Critical Areas (ECAs) is central to categorization of undertakings for environmental assessment purposes.

(i). **Environmentally Critical Projects.** Five broad classes of undertakings, each comprising at least several sub-classes, have been defined under EMB Memorandum Circular 2014-005, as summarized in the succeeding Table. Projects falling within these classes are further delineated based on specific scalar thresholds. Any project that surpasses the highest threshold for its sub-class is considered an Environmentally Critical Project (ECP) for assessment purposes. *For bridges, projects of length 10.0 km or more are automatically classified as ECPs, and are therefore assigned to Category A.*

Table 3: Environmentally Critical Projects

Class	Types of Proposed Undertaking
1	Heavy Industries – Non-ferrous metal industries; iron and steel mills; smelting plants; chemical industries; agri-food processing industries; other processing and manufacturing industries
2	Resource Extractive Industries – Mining and quarrying projects including oil and gas extraction; forestry and agricultural projects; and fisheries and aquaculture projects
3	Infrastructure Projects – Dams, water supply and flood control projects; power plants of all types; reclamation and other land restoration projects; roads and bridges; other transport facilities including airports and ports; buildings including housing, storage facilities and other structures; pipeline and cable projects; waste management projects
4	Golf Course and Other Tourism Projects – Golf course projects; resorts and other tourism/leisure projects (all)
5	Other Projects – Cut flower industry projects; telecommunication projects; energy exploration projects; small business development project facilities; array of cottage industries and service industries

Source: DENR-EMB. 2014. Revised Guidelines for Coverage Screening and Standardized Requirements Under the Philippine EIS System. EMB Memorandum Circular 005, July 2014.

14. **Environmentally Critical Areas**. Twelve categories of sensitive settings and features, or Environmentally Critical Areas (ECAs), have been delineated to guide application of the PEISS. Projects whose footprints will impinge upon, or whose activities will significantly affect, an area or feature in one of the ECA categories are assigned to Category B (unless they are also classified as ECPs, in which case they will be in Category A). If there is any significant doubt as to whether an ECA category is applicable to an undertaking, the category is deemed to apply unless the project proponent can present credible evidence (based on field study, desktop research or formal confirmation by the 14 relevant government agencies) to support an argument that the category should be ruled out.

15. Based on LLRN 1 size, location, and the potentially affected areas and community, the Project is classified as Category A. Being a major infrastructure project and located in an environmentally critical area (ECA), the Project was required to conduct a detailed environmental impact assessment (EIA) and applied for an Environmental Compliance Certificate (ECC) from the DENR. ECC-CO-2201-006 was issued to DPWH on 19 May 2022.

Table 4: Categories of Environmentally Critical Projects

Category	Type of Sensitive are or feature
1	Areas declared by law as national parks, watershed reserves, wildlife preserves and sanctuaries
2	Areas set aside as aesthetic and potential tourist spots, including certain classes of caves
3	Areas which constitute the habitat of any endangered or threatened species of Philippine wildlife (flora or fauna)
4	Areas of unique historic, archaeological, geological or scientific interest
5	Areas which are traditionally occupied by cultural communities or tribes
6	Areas frequently visited and/or hard-hit by natural calamities (geologic hazards, floods, typhoons, volcanic and seismic activity, etc.)
7	Areas with critical slopes
8	Areas classified as prime agricultural lands
9	Recharge areas of aquifers
10	Water bodies (all natural water bodies regardless of classification)
11	Mangrove areas as mapped or identified by DENR

Category	Type of Sensitive are or feature
12	Coral reefs as mapped or identified by DENR and/or Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFA)

Source: DENR-EMB Memorandum Circular No. 2014-005. Revised Guidelines for Coverage Screening and Standardized Requirements Under the Philippine EIS System. July 2014.

16. **Coverage under PEISS.** A proposed project's assigned category determines whether it is covered under the PEISS. Category A and Category B projects are automatically covered, and Category D projects are automatically not covered. Undertakings initially assigned to Category C are evaluated by DENR-EMB on the basis of project information provided by the proponent on a standard screening form, and then assigned to one of the other categories. The proponent of any project deemed covered under the PEISS is required to apply to DENR-EMB for an Environmental Compliance Certificate (ECC). Proponents of projects judged not to be covered under the PEISS are not required to apply for an ECC, but may optionally apply for a Certificate of Non-Coverage (CNC), should such proof of non-coverage be needed for any purpose, such as due diligence for financing or risk management. As a Category A undertaking, the LLRN 1 is covered under the PEISS, and DPWH, as the proponent, has been required to apply for an ECC.

(i) Environmental Impact Statement (EIS)

17. The EIS is a comprehensive study of the significant impacts of a subproject on the environment. It includes an EMP/Program that the proponent will fund and implement to protect the environment. The EIS is a document, prepared and submitted by the subproject proponent and/or EIA consultant that serves as an application for an ECC.

(ii) Initial Environmental Examination Report (IEER)

18. An IEER is a document like an EIS, but with reduced details and depth of assessment and discussion.

(iii) Initial Environmental Examination Checklist Report (IEEC Report)

19. An IEEC Report is a simplified checklist version of the IEER, prescribed by the DENR to be filled up by the proponent to identify and assess a subproject's environmental impacts and the mitigation/enhancement measures to address such impacts.

20. The IEEC Report forms have been designed to simplify and standardize EIA reports so that minimal technical expertise is required to fill up of the form, which shall serve as the EIS submission for ECC applications. The checklist contains a series of questions that deal with issues and concerns about the proposed subproject and its environment. The checklist also provides information on the proposed subproject's environmental impact, both positive and negative. The information contained in the checklist will serve as a basis for the review and assessment of EMB's Regional Office for the issuance or denial of an ECC application.

21. The IEEC Report is applicable for the following types of subprojects that are covered under the provisions of existing guidelines on the PEISS:

- Batching and Crushing Plants
- Fisheries/aquaculture Projects

- Food & Food By-product and Beverages Manufacturing Plants
- Non-Food Manufacturing (textile, rubber, chemical) Plants
- Subdivisions/Housing Projects
- Building Projects (commercial, institutional, land transportation terminal,
- Motels, hotels, condominiums/apartelles and storage facilities)
- Cemetery and other Funeral Facility Projects
- Livestock /Poultry Projects
- Resorts and other Tourism/Leisure Projects
- Roads and Bridges
- Water Supply Projects
- Irrigation & Flood Control Projects
- Waste Management Projects

(iv) Environmental Compliance Documents

22. **Environmental Compliance Certificate (ECC)**. The ECC is a document issued by the EMB certifying that the proponent has complied with all the requirements of the PEISS and has committed to implement its approved EMP. The ECC also provides guidance to other agencies and to LGUs on EIA findings and recommendations, which need to be considered in their respective decision-making process.

23. **Certificate of Non-Coverage.** The Certificate of Non-Coverage (CNC) is a document issued by the EMB certifying that a project or undertaking is not covered by the PEISS and is not required to secure an ECC.

(v) Stakeholder Participation in the Environmental Assessment Process

24. Stakeholder participation in the environmental assessment process is one of the main criteria against which ECC applications are considered. There are several mechanisms for participation, deployed at different points in the process where the involvement of stakeholders is appropriate and desirable. These are as follows for projects requiring an EIS:

(i) **Information, Education and Communication (IEC) activities –** The proponent is required to carry out a systematic effort to disclose the project's preparation to leaders and members of the public in the LGUs that will be affected by the project. The IEC is an opportunity for preliminary identification of institutional stakeholders and stakeholder groups. IEC methods may include small- and large-format meetings, publicly distributed materials and other methods.

(ii) **Public Scoping –** Public meetings with invited stakeholders, DENR-EMB and members of the EIARC are required to define the substantive and spatial scope of the environmental assessment study. The key output of public scoping is typically a list of concerns and issues that the participants have indicated should be given particular attention in the environmental assessment study.

(iii) **Environmental Assessment Study –** Stakeholders can and should be given the opportunity to provide local knowledge and expertise to the study, as key informants, focus group participants, guides, and so on. Local knowledge is often critical to baseline development and impact analysis.

(iv) **Public Hearings –** The findings of the environmental assessment study must be publicly presented in a format accessible to all interested people, with the study report disclosed in advance to the relevant municipalities, so participants can

prepare statements about issues of concern for presentation in the hearings. The key output of public hearings in each affected municipality is typically a list of concerns that may be reflected in revisions to the EMP, as appropriate.

(v) **Monitoring of EMP Implementation –** A Multi-Partite Monitoring Team (MMT) will be set up to provide oversight of the proponent's self-monitoring with respect to implementation of the project's EMP. Local stakeholders are entitled to participate through their LGU representatives on the MMT, and through community members appointed to the MMT to represent vulnerable sectors of the local population.

2. Permitting and Clearance Requirements

25. The project will be required to secure various clearances by relevant government agencies and local government units (LGUs), as well as environmental permits which must be applied for in advance of the commencement of works and kept current for the duration of construction activity. An indicative list of clearances and permits expected to be required is presented below.

Table 5: Clearances and Permits Required

Clearance	Permit Issuing Authority
Municipal endorsement/Certificate of No Objection	LGU of each directly affected municipality
Endorsement/Certificate of No Objection	Directly-affected Barangay/s
Dumping permit	Directly affected LGUs
Building permits	LGU Office of the Building Official
Fire safety evaluation clearance	Bureau of Fire Protection
Occupancy permit	LGU Office of the Building Official
Electrical connection agreement	LGUs; Meralco; Electric Cooperatives
Certificate of zoning compliance	LGU Zoning Divisions
Land use conversion/reclassification, if relevant	LGU Planning Divisions
Tree-cutting permit	DENR (Biodiversity Management Bureau)
Water use permit	National Water Resources Board
Certificate of Non-Overlap	National Commission on Indigenous Peoples
Civil aviation clearance	Civil Aviation Authority of the Philippines
Fisheries clearance	Bureau of Fisheries and Aquatic Resources (Department of Agriculture)
Registration of Safety Officer	Bureau of Workforce Conditions, DOLE
Registration of Pollution Control Officer	DENR (Environmental Management Bureau)
Hazardous waste generator ID	DENR(Environmental Management Bureau)
Permit to transport hazardous waste	DENR (Environmental Management Bureau)
Wastewater discharge permit	DENR (Environmental Management Bureau)
Permit to operate generator sets	DENR (Environmental Management Bureau)

3. Applicable Environmental Standards

26. The ADB safeguards policy requires adherence to good international practice to pollution prevention and abatement as well as national standards for infrastructure development projects. However, in cases where there are no national standards or when existing ones fall short in addressing project risks compared to international standards, ADB necessitates the utilization of international standards. The following table provides an assessment of the national standards applicable to the project, along with corresponding international standards to substitute for areas where national standards are absent or considered inadequate to mitigate project risks.

Table 6: Determination of Applicable National and International Standards

Substantive Area	Relevant National Standard	Applicable Standard/Benchmarks for LLRN
Ambient air quality	• National Ambient Air Quality Guideline Values (specified in RA-8749-IRR-DAO-2000-81) • Provisional National Ambient Air Quality Guideline for PM2.5 (specified in RA-8749-IRR-DAO-2013-13) • Evaluation: Less stringent than applicable international standards	• World Bank Group Environmental, Health and Safety Guidelines: Air Emissions and Ambient Air Quality (2007)
Water quality (surface water, ground water, effluent)	• Water Quality Guidelines and General Effluent Standards of 2016 (specified in RA-9275-DAO-2016-08 and updated by DAO-2021-19) • Evaluation: Comparable to international standards and most appropriate to national context	• Water Quality Guidelines and General Effluent Standards of 2016 (specified in RA-9275-DAO-2016-08 and updated by DAO-2021-19)
Water quality (drinking water)	• Philippine National Standards for Drinking Water of 2017 (specified in Department of Health Administrative Order No. 2017-10) • Evaluation: Comparable to World Health Organization standards	• Philippine National Standards for Drinking Water of 2017 (specified in Department of Health Administrative Order No. 2017-10)
Noise	• Amendments to Article 1 (Noise Control Regulations), Chapter IV (Miscellaneous Regulations), Rules and Regulations of the National Pollution Control Commission,1978 (in NCCC Memorandum Circular N0. 002 , Series of 1980) • Evaluation: Less stringent than similar international standards	• World Bank Group Environmental, Health and Safety Guidelines: Environmental Noise Management (2007)
Vibration	• No national standards for vibration	• US Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06, May 2006)
Soil quality	• No national standards for soil contamination	• Dutch Target and Intervention Values, 2000. Circular on Target Values and Intervention Values for Soil Remediation, February 4, 2000. Ministry of Housing, Spatial Planning and Environmental Management.
Sediment quality	• No national standards for freshwater or marine sediment quality	• United States National Oceanic and Atmospheric Administration (NOAA) Sediment Quality Guideline screening benchmark values

Substantive Area	Relevant National Standard	Applicable Standard/Benchmarks for LLRN
Occupational safety and health	• Occupational Safety and Health Standards (as amended 1989). Department of Labor and Employment, Bureau of Working Conditions. • Evaluation: Comparable to World Bank Group Environmental Health and Safety Guidelines, and familiar to Philippine regulators, contractors and workers. Do not cover worker accommodations.	• Occupational Safety and Health Standards (as amended 1989). Department of Labor and Employment, Bureau of Working Conditions. • International Finance Corporation/European Bank for Reconstruction and Development Workers' Accommodation Processes and Standards (2009)

Source: Draft environmental impact assessment (May 2024)

III. ANTICIPATED ENVIRONMENTAL IMPACTS

27. Potential Major Impacts and Mitigation Measures: The project was screened to have potential significant adverse risks and impacts on lakeshore flooding exacerbated by climate change; and loss of fish habitat and dredging affecting the biodiversity of Laguna Lake. During construction, adverse impacts are anticipated from noise and vibration, air and water quality deterioration, traffic congestion, and occupational and community health and safety. The impact assessment and mitigation measures built in the design and environmental management plan will be able to avoid, mitigate, or compensate these risks. Residual impacts, if any, are insignificant. An environmental assessment and review framework was prepared to guide environmental assessments, as required, for subsequent tranches or in case of changes to the original project scope.[4]

28. The hydrodynamic modeling of the embankment section with the high density of the flood balancing box culverts confirmed that no apparent impacts on flooding when lake water level is increasing during extreme typhoon or monsoon events.[5] As the lake level recedes[6], there are areas that benefits from less flooding[7] due to the project. However, due to inherent localized drainage conditions, there are areas8 that will experience more flooding[9] unless the tributaries' conveyance capacities are improved through dredging and installation flood walls.

29. The ecosystem services[10] provided by the lake are significant despite its degraded[11] condition and will continue if the project's impacts are not mitigated. The Laguna Lake is considered a critical habitat with the presence of three rare fish and two endemic species, and meets the threshold as a highly threatened habitat with high priority for conservation. Unmitigated, the anticipated impacts to the lake's biodiversity are: (i) habitat and species loss and degradation from increased sedimentation during construction, likely to be significant and adverse; (ii) habitat loss and degradation associated with the relocation of 8 million m3 of dredged sand, likely to be

[4] Environmental Assessment and Review Framework (Annex 3).
[5] Typhoon Ondoy (2019) and Habagat (2012) resulted to lake levels of 13.85m and 13.86m, respectively. The only time these levels were exceeded was in 1919.
[6] The Laguna Lake basin measures 3,280 square kilometers and drains more than 100 flowing rivers and serves as an important flood-detention storage of the region including Metro Manila.
[7] Expressed in terms of flood height and duration.
[8] These areas include Bigaa and Marinig in Cabuyao and Bucal in Calamba.
[9] From 0.2-1.0m height and 2-5 days duration.
[10] Includes water, food, and transport.
[11] Degradation is caused by pollution (particularly effluent release), eutrophication and increased turbidity, siltation, overfishing, commercial fishing and overfeeding, invasive species, and proximity to high population (Metro Manila).

significant and adverse; (iii) creation of stagnant shallow water or marsh in the shore-side of the new embankment due to changes in water flow, increased sedimentation and increased contamination; (iv) direct habitat loss during construction; and (v) direct and indirect impacts from increased pollutants and runoff, likely to lead to a loss and degradation of habitat and species.

30. To address these impacts, a biodiversity action plan forms part of the project design with the following key features: (i) development of two new green (bioremediation) filters and associated research and communication; (ii) supporting the growth and expansion of the Ecology Youth Camp (training, capacity building & education); (iii) assessment of whether the invasive water hyacinth can be used as an energy from waste; and (iv) a biodiversity strategy for long-term, sustainable management. In the interim and prior to the mobilization of the construction supervision consultants, the DPWH will continue studies to complete the ecosystem services assessment, develop long-term habitat and species monitoring, and work with the Calamba City Government to engage the Calamba City Baywalk Nature Reserve on biodiversity management.

31. Key anticipated impacts and related mitigation measures are described in the table below.

Table 7: Key anticipated environmental impacts, mitigation measures

Environmental Aspect	Potential Impact	Mitigation Measure/s
Pre-Construction/Construction Phase		
Fragmentation and habitat loss to fauna -Threat to abundance, frequency and distribution of species; abundance of ecologically and economically important species	Clearing areas intended for the project right of way which may include access roads, slip roads, temporary depot sites, and temporary basins, among others will require vegetation removal to give way for the development of the road project. In this connection, it is necessary to delineate areas that need to be remained vegetated as natural support and buffer systems, especially along the ROW, project boundaries, and or designated areas by DENR. Maintaining such vegetation cover may help sustain the stability of the soil and water recharge, and serve as a natural carbon sink, natural windbreak, gene pool, abode to remaining fauna species, and others.	-Land clearing should be confined to designated sites only. Vegetation to be cleared should be delineated to avoid unnecessary clearing. A 100% tree inventory should be conducted before tree cutting/earth balling is implemented, within the proposed development. By identifying the number of affected trees, it is easier to determine the number of seedlings for replacement, especially of similar species to be cut. Replacement and replanting should be conducted next to the project area or as per the advice of DENR. -Affected species along the alignment of the proposed road network could temporarily relocate in nearby, less affected parts of the Laguna Lake. Therefore, actual loss of any species is very unlikely. -Designate areas for vegetation enhancement as a natural buffer zone and fauna habitat to be maintained and protected in response to climate change mitigation and promotion of climate resiliency of the project. It is important to get the support of LGU/DENR in the selection of appropriate rehabilitation areas. - During construction, it is necessary that the contractor shall prohibit its workers to engage in any mode of wildlife collection and/or hunting. It is also necessary for the contractor to participate in the conservation and protection of remaining wildlife species. Installation of warning signage in strategic areas for public information and warning is among the strategies.

Environmental Aspect	Potential Impact	Mitigation Measure/s
Soil	-Significant change and alteration of the surface landform is expected during construction involving, cut & fill works (removal of topsoil, and scraping and grading of the ground), and slope modification to the ideal slope gradient. -soil disturbance due to transport of dredge materials to basins/disposal area -soil contamination caused by leaks and accidental spills of fuels and lubricants from construction vehicles, machineries and other construction equipment	-Identify a site for the disposal of demolition wastes away from sensitive receptors; -Provide barriers / security measures on temporary storage areas of demolition wastes to prevent scavenging activities which may compromise the safety of scavengers - land clearing shall be restricted to only what is necessary, - excavation on erodible soil surfaces be conducted during the dry season - excavated soil be collected and preserved for future reuse - soil erosion control be properly implemented - enhancing vegetation cover in appropriate areas to hold soil and minimize further erosion.
Water Quality	-Possibility of Water Quality Degradation by Temporal and Permanent Structures During the construction works of the project, water quality of receiving streams especially of Laguna Lake will be affected such as increase in TSS and TDS, color and turbidity. Hence, physical properties, such as pH, temperature and DO will also show alterations if significant contamination is present in the waters. This is primarily due to the disturbances during soil excavation activities. -Siltation, erosion and resuspension of particles in the water resulting from the construction works would negatively affect the water quality particularly in terms of increase in turbidity and TSS. This may aggravate during project land clearing, dredging, including the construction of temporary facilities, the embankment, and viaducts. Particles displaced from land may also lead towards sources of water via surface runoff and/ or excavation dewatering. -Spillages onsite if left unmanaged will also find its way in water streams, leading to possible increase in presence of heavy metal as well as excessive oil and grease and other particulate materials. In addition, increase in organic	-To prevent or minimize the water quality degradation by dredging and disposing used soils for temporally structures, the following methods is proposed to be implemented. First, soft soil of the surface later of the certain target area is cut out and bring on the top of neighboring site and then the layer will be filled in the area after dredging the sand of the target area. The same will be applied one after another to minimize the effects of dredging by preventing unnecessary stirring the surface layer which might contain pollutants while no heavy metals or any contaminants was detected from the samples in possible dredging sites. -Apply appropriate siltation control measures within the buffer of construction areas to prevent any pollution and silt disturbance due to construction activities near the lake; -The project shall be equipped with oil-water separator to remove oil from effluents prior to discharge to the water bodies; -Waste oils, oily water and other hazardous wastes will be collected and disposed offsite by an accredited third-party waste hauler and treater -The lake water trapped inside piles/ casing / cofferdam will be pumped out to sedimentation tank or settling devices before discharge to reduce the water quality impacts to the lake; - A closed sewage treatment system including soak pits and septic tank will be constructed to treat the effluent from the construction/labor camps

Environmental Aspect	Potential Impact	Mitigation Measure/s
	contaminants such as BOD, ammonia, phosphorus will be observed if domestic wastes from construction site is left unaccounted	-oil and grease traps, oil interceptors or equivalent and fuel platforms to be provided at maintenance, motorpool, refueling, washdown locations -Stockpiles should be distant from the waterways and covered in order to avoid contamination caused by rain washing the solids into the water body and increasing sedimentation
Flooding and climate change	An increase of about 19-30 hectares of land will be flooded due to the embankment road.	Conduct of more robust hydrodynamic modeling to supplement the MIKE 2D overland flow with the intention of updating the drainage design to ensure no additional flooding will result from the project construction and operation. The assessment will include sea level rise in Manila Bay, 20% increase in annual maximum rainfall, and operation of the Paranaque Spillway.
Disposal of dredged materials	An estimated 7.795MCM of dredge materials will be generated to allow vessel navigation in the transportation of construction materials to the project site. Siltation, erosion, and resuspension of particles in the water resulting to water quality degradation. Significant habitat disturbance. The physical disturbance caused by dredging, including the movement of sediments and the operation of heavy machinery, can lead to the displacement of aquatic species. Disposal may destroy or modify benthic communities of the lake ecosystem in the areas affected by deposition of dredged material.	Installation/implementation of silt control scheme that will include expansive silt screen Site assessment of the receptor location or locations for this sand, to ensure no adverse impacts like habitat loss particularly if the area(s) comprises is comparatively healthy benthic communities.
Air Quality	-Construction of temporary facilities (construction camps, casting yard, laydown/storage areas, batching plants), hauling and transport of vehicles may result to short term air quality deterioration. At the construction yard, the dust levels are also expected to increase due to unloading of construction materials. It shall be ensured that most of the excavated material will be used within the project. -Large scale earthworks, transporting, dumping large quantities of dredge materials, demolition works etc. will generate and increase dust emissions in and around the construction zones.	-Regular water sprinkling or spraying activity shall be done every three hours and at a higher frequency, if necessary, at all construction sites to minimize dust emissions. Good construction practices (such as keeping stock piles downwind and away from communities) shall be maintained. - Fuel-efficient and well-maintained haulage trucks/vehicles shall be employed to minimize exhaust gas emissions; periodic maintenance of all construction vehicles, machinery, generators, compressors and vehicles used during construction works -Transport, loading and unloading of loose and fill materials through covered vehicles with tarpaulin;

Environmental Aspect	Potential Impact	Mitigation Measure/s
	-Potential sources of particulate matter emission during pre and construction activities include earthworks (dirt or debris pushing and grading), exposed surfaces, exposed storage piles, truck dumping, hauling, vehicle movement on unpaved roads, combustion of liquid fuel in equipment and vehicles, land excavation, and concrete mixing and batching.	-Provision of washing area for construction vehicles to remove mud and dirt from tires; wash down of construction vehicles before leaving the site
Noise	The potential sources of noise during the preparation, construction, and worksite closure phases include equipment, machinery, and transportation used for the construction activities. The equipment used for construction will be the major source of noise. The construction works will use high volume of trucks, generators, excavators which may generate noise. The movement of heavy vehicles, loading, transportation and unloading of construction materials produces significant noise during the construction stage. However, these increased noise levels will prevail only for a short duration during the construction phase.	· Scheduling and limiting loud activities during construction and maintenance of the road at nearby settlements. Work that requires use of noisy machine/ equipment shall be at maximum of 2 hours per day (for 8-hour work, duty cycle should be 1:4); · Minimize schedule/activity during nighttime. Preferably during morning & day time only · Schedule the use of the roadway or alternative routes if the time is too late in the evening or outside the construction work hours to be agreed upon by the proponent, LGU, and contractor · Use of modern machines with acoustic designed technology that will generate low noise levels · A temporary noise barrier is also recommended to deflect and minimize noise impact to adjoining areas, when necessary.
Vibration	Exposure to hand-arm vibration from equipment such as hand and power tools, or whole-body vibrations from surfaces on which the worker stands or sits, should be controlled through choice of equipment, installation of vibration dampening pads or devices, and limiting the duration of exposure. Limits for vibration and action values. Exposure levels should be checked on the basis of daily exposure time and data provided by equipment manufacturers	Other sources of vibration at construction site are rollers, compactors or any loose part of machinery exposure which may cause serious injury or workplace sickness. No equipment and machinery with loose or vibratory parts will be allowed to work. Such issues will be fixed through maintenance of the machinery on periodic basis. Use of rollers for land grading will be carried out during day times and with intermittent intervals to reduce the impacts of vibration on surrounding environment.
People · Land Acquisition and Resettlement Along the alignment	-Displacement of settlers, -Relocation of Project Affected Persons (PAPs) -Change/Conflict of land ownership (legal PAFs) -Agricultural lands in some identified areas that will be traversed by the mainline will potentially be affected.	-Preparation of DED Resettlement Plan (RP). The RP will be based on the final detailed design of the project to avoid involuntary resettlement; -Implementation of the approved RP of the Project in accordance with the applicable government process and directives; -Due payment to all land owners must be paid before mobilization of construction contractors; Compensation at replacement cost will be provided to all PAPs losing land/or assets due to land acquisition and ROW

Environmental Aspect	Potential Impact	Mitigation Measure/s
		clearing of the project; compensation will be accompanied with assistances as outlined in RP report.
· Disturbance of properties and loss of livelihood of PAPs		-Compensation Package, livelihood program and restoration for PAPs -Prepare and implement livelihood and income restoration for PAFs whose present means of livelihood is temporary, or permanent loss -Prepare and implement Social Development Program (SDP) including livelihood training for fisherfolks, business owners, vendors, agricultural landowners etc. affected by the project
Traffic	-Traffic congestion in barangay and main roads; - Increase in traffic due increase in vehicles; movement of trucks, vehicles to and from the project site especially in narrow roads; -Near-missed and road accidents -blocking of existing access roads	-Strategic traffic Management Plan based on results of Traffic Impace Assessment and Road safety shall be developed with LGUs; it shall be prepared in consultation with concerned traffic agencies, LGUs, local officials and general public.It shall include identification of traffic diversion, management, traffic schedules, traffic arrangements showing all detours, necessary barricades, warning/advisory signs and road signs. -Hire traffic aide/enforcer to ensure traffic management is implemented; -additional road safety signages especially in residential, school areas and other vulnerable areas; set and enforce speed limit along barangay roads -regular meeting, evaluation of actual traffic problems, revisit measures and possible doable solutions to ease the problem. -Provision of diversion route with appropriate health and safety measures; -In case of complete blockage of access due to project activities, without any alternate access to a business, compensation for lost income for the period of disrupted access will be provided -Assignment of traffic aide to provide assistance to the road users
Local Employment	Job opportunity to skilled and non-skilled workers within the project sites; -hiring of local workers should be a priority	-Contractor should prioritize and hire local skilled and unskilled laborers within the cities affected -Close coordination with host LGUs regarding hiring of temporary workers; -Provide skills training to PAFs under livelihood and income generation program based on RP

Environmental Aspect	Potential Impact	Mitigation Measure/s
Gender (Vulnerable groups, women)	-Displacement of families/ individuals may disproportionately affect the women & vulnerable groups because of the greater responsibility that they have in looking after the needs and ensuring the welfare of household members. They may also have greater difficulty in coping with the disruption caused by the displacement compared to their male counterparts. -Construction activities are expected to cause disturbance to surrounding communities.	-Prepare and implement Gender Equality and Social Inclusion (GESI) Plan to ensure that gender equality and needs of vulnerable groups are addressed including gender sensitive livelihood and skills training program -Employ workers in consideration to gender equality.
Operation Phase		
Road Usage and Transport	-Increased fossil fuel emissions from the vehicles that utilize the highway -Frequent passage of transportation vehicles -increase probability of road accidents due to increased traffic and higher speed limit on the bridge/viaduct	Safety briefings, giving importance to personal and environmental implications. Ensure the proper use of personal protective equipment (PPE) based on Occupational Safety and Health Association (OSHA) guidelines -plant trees in between project site and local communities to reduce their exposure to these emissions as the vegetation act as a buffer -proper and efficient use of fuel powered equipment for air pollution reduction Road-safety signages should be installed and visible especially in areas where are there sensitive receptors (e.g., no blowing of horn signs) -secure CCTVs along the alignment with speed limit monitoring

Source: draft environmental impact assessment (May 2024)

IV. ENVIRONMENTAL ASSESSMENT PROCEDURE

32. The EIA conducted in 2024 covered all construction packages. The following procedure is to be followed in the environmental screening, assessment, and implementation of future tranches when components or changes in scope not identified at project appraisal stage or significant unanticipated impacts becomes apparent during project implementation. Environmental screening will be undertaken following both ADB's SPS 2009, as well as the PEISS.

A. Subproject Eligibility Criteria

33. The following criteria shall be followed for the selection of new components and projects for inclusion in the future tranches of the MFF, or in case of major changes to the project scope:

(i). The LLRN will not finance any activity or project listed on the Prohibited Investment Activities List of SPS (Appendix 1).

(ii). Only activities included in the MFF will be considered;
(iii). Activities that are within a legally protected area or critical habitat area,12 that will have direct adverse impacts on cultural heritage sites, or will affect critically endangered or endangered species will be avoided to the extent possible. If these activities are unavoidable, necessary biodiversity assessments and biodiversity action plans will be carried by the DPWH consistent with the ADB requirements including stakeholder engagement and public disclosure; and
(iv). Activities or new components will demonstrate alignment to the Paris Agreement and conduct climate risk assessment to ensure necessary adaptation measures and decarbonization opportunities are integrated.

B. Screening, Categorization and Assessment

1. Screening and Environmental Categorization

34. Tranche 1 was classified as category A for environment. Tranche 2 will be screened and categorized in accordance with ADB procedures for time-sliced MFF. Tranche 2 is tentatively categorized as A for environment but this shall be confirmed as part of the Periodic Request for Financing (PRF) following ADB OM/D14.

35. In case of new components being added that were not considered and appraised as part of Tranche 1, the DPWH will propose the categorization of such components by filling up project specific information in the Rapid Environmental Assessment (REA) Checklist (Appendix 2). The REA Checklist which also includes a checklist for preliminary climate risk screening, and environmental categorization form will be accomplished by DPWH for review and approval of ADB for each proposed component or activity.

2. Preparation of Initial Environmental Examination (IEE) and/or Environmental Impact Assessment (EIA)

36. DPWH will ensure that environmental assessment documents prepared for all new components to be funded under the LLRN project will meet both ADB and Philippine government requirements, to streamline the environmental procedures required by both ADB and the government.

37. The environmental assessment report will be based on ADB SPS 2009 as well as the PEISS. The report shall detail the new components scope, the baseline environmental conditions in the covered under new components project area, the legal framework applicable to the new components, the activities that will generate potential impacts, analysis of alternatives, the anticipated potential impacts, the environmental management plan to address the environmental impacts, the institutional arrangement to implement EMP and environmental monitoring plan (EMoP), the grievance redress mechanism to address complaints and concerns about the project, and the disclosure policy to be implemented. Further guidance on the environmental assessment and related aspects are found in Appendix 1 (Safeguards Requirements 1: Environment) of the ADB SPS 2009.

[12] The Laguna Lake meets the critical habitat thresholds for 5 species: i) *Neostethus ctenophores*, ii) *Cephalocassis manillensis*, iii) *Leioptherapon plumbeus*, iv) Sundathelphusa suquadratus, and v) *Paracercion pendulum*. The lake itself also meets critical habitat threshold as highly threatened habitat (areas of high priority for conservation).

3. Due Diligence of Existing Tranches

38. As required under SPS 2009, DPWH will carry out environmental due diligence of existing Tranche 1 while preparing Tranche 2 or processing changes in scope. The due diligence report will be submitted to ADB as part of documentation for approval of the next tranche (i.e. as appendix to the tranche report, to be submitted to the ADB Board for its decision to authorize the ADB President to covert Tranche 2 to a loan).

4. Review of IEEs/EIAs

39. Since the EIA prepared in 2024 covered the entire project, the ADB may not require the DPWH to submit draft IEE/EIA for review, clearance and posting on ADB website before approval of tranche 2 or approval of a new component or major scope change. Only when additional project components or significant unanticipated impacts becomes apparent will the ADB require the DPWH to submit a new draft IEE/EIA. In any case, if the entire scope of the MFF remains unchanged since the approval of Tranche 1, the EIA and EARF covering the entire scope for the MFF are assessed for validity. If valid, the same documents are used; otherwise, the documents are updated and disclosed.

40. In case an ECC is required for Tranche 2 based on Government requirements, DPWH will ensure that EIAs/IEEs will be submitted to the Environmental Management Bureau (DENR-EMB). The ECC application will follow the Philippine EIA process. It is the responsibility of the DPWH to ensure that new components or major scope change comply with the environment- related legal framework, whether at the national or local level.

5. Project Implementation

41. No works contract for a new component with environmental impacts shall be awarded before: (i) the IEE or EIA has been endorsed by DPWH; (ii) the IEE or EIA has received the final approval from DENR-EMB and clearance from ADB; (iii) the IEE or EIA is cleared by ADB's Office of Safeguards and disclosed on the ADB website per ADB SPS requirement, and 120 days (for draft EIA) prior to ADB Board approval; (iv) the provisions of the EMP have been reflected in bidding documents and the contracts.

V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. Public Consultation

42. Meaningful stakeholder consultation and participation is part of the project preparation and implementation strategy. Meaningful consultation pertains to a process that (i) begins early in the project preparation stage and is carried out on an ongoing basis throughout the project cycle; (ii) provides timely disclosure of relevant and adequate information that is understandable and readily accessible to affected people; (iii) is undertaken in an atmosphere free of intimidation or coercion; (iv) is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups; and (v) enables the incorporation of all relevant views of affected people and other stakeholders into decision making, such as project design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.

43. Comprehensive public consultation was conducted during preparation of the EIA and documented in Chapter 7 of the draft EIA in compliance to the PEISS and SPS 2009. Stakeholders were systematically identified (see succeeding table). Potentially affected people

and key stakeholders were consulted through perception surveys, meetings, public hearings, public scoping, and focus group discussions, confirming the public's general support for the project.

Table 8: List of Stakeholders Identified

Stakeholder Class	Stakeholders
GOVERNMENTAL AND QUASI-GOVERNMENTAL STAKEHOLDERS	
Proponent	Department of Public Works and Highways (DPWH)
Relevant national government agencies	Department of Environment and Natural Resources (DENR) - Environmental Management Bureau - Biodiversity Management Bureau Laguna Lake Development Authority
Provincial government agencies	National Capital Region DENR Laguna Provincial DENR (PENRO)
Local governments	Cities and barangays of: - Taguig - Muntinlupa Municipalities and barangays: - San Pedro - Binan - Sta Rosa - Cabuyao - Calamba
CIVIL SOCIETY ENTITIES	
Local representative entities	Fisherfolk associations Faith-based groups Youth groups Homeowners' associations Women's groups
Quasi-governmental local councils	Fisheries and aquatic resources management councils (FARMCs) Municipal-level community forestry programs
Academe	Laguna State Polytechnic University University of the Philippines Los Banos and Diliman University of Santo Tomas
Non-governmental organizations	Southeast Asian Limnological Network International Lake Environment Committee Foundation World bank Group BioFin. The Biodiversity Finance Initiative (UNDP) Wetland International Society for the Conservation of Philippine Wetlands Wetlands International
INDIVIDUAL STAKEHOLDERS	
Local people in project area	Landowners Small business owners Fisherfolk Farmers Residents of project area

Source: Draft environmental impact assessment (May 2024)

44. **Future public consultation.** During IEE/EIA preparation for new components or changes in scope proposed after approval of the MMF and Tranche 1, additional stakeholder engagements will be conducted involving local government officials, residents, affected people and groups from communities traversed or potentially affected by the new scope to: (i) inform them of the proposed component and potential environmental impacts, and (ii) to document concerns/issues that people may have on the project. Consultations will have the following indicative agenda:

(i). Presentation of the proposed works under the new component/subproject;
(ii). Presentation of subproject objectives and expected positive and negative environmental impacts, covering the construction phase and operational impacts;
(iii). Invitation for feedback in respect of environment-related concerns that the public may have, and suggested means to resolve issues;
(iv). Disclosure of and feedback on the Grievance Redress Mechanism (GRM)

45. For the consultations, the dates, venues, attendance sheets, topics covered, issues raised, project's response to issues concerns raised will be documented and included in the IEE/EIA.

B. Information Disclosure

46. For each new component or proposed change in scope, DPWH will endorse and submit the following documents to ADB for disclosure on its website:

(i). final IEE;
(ii). draft and final EIA (i.e. at least 120-days prior to ADB consideration of the new component or PRF);
(iii). a new or updated IEE/EIA and corrective action plan prepared during project implementation;
(iv). semi-annual environmental monitoring reports; and
(v). annual external environmental monitoring reports (for Category A).

47. The draft EIA will need to be publicly disclosed at least 120 days before the new component or proposed change in scope is approved and implemented. The final IEE/EIA needs to be cleared by ADB before a new component is implemented.

C. Grievance Redress Mechanism

1. Objectives

48. The Grievance Redress Mechanism (GRM) is an effective tool for early identification, assessment, and resolution of complaints on projects. The design of a GRM aims for simplicity and consistency, so the process of filing a complaint is understandable to all and is the same for everyone, no matter their education, social status, or political affiliation. The GRM should be:

(i) Physically accessible (complainants should be able to submit grievances locally);
(ii) Functionally accessible (verbal complaints should be accepted and responded to just as for written ones so even people of limited literacy can lodge a complaint);
(iii) Free to use (no complainant should be required to make payment of any kind for grievance submission or resolution);
(iv) Gender-responsive (complainants should have the opportunity to have their grievances heard and responded to by a person or persons of their gender if desired);
(v) Culturally appropriate (complainants should be heard and responded to in their own language whenever possible); and

(vi) Time-bound (timelines for responses should be publicized and strictly observed so complaints are never left languishing, unresolved).

2. The GRM

49. The Project Grievance Redress Mechanism (GRM) is a platform for the Department of Public Works and Highways (DPWH) RMC II- UPMO to engage constructively and proactively with the affected persons, communities, and stakeholder groups in addressing their concerns/grievances with reference to the involuntary resettlement, environment, and project related activities. The GRM addresses concerns pertaining to the project and its impacts on the people and the environment. The GRM will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project. The GRM is not intended to bypass the government's inbuilt redressal process, nor the provisions of the statute, but rather it is intended to address affected persons concerns and complaints promptly, making it readily accessible to all segments of the affected persons and is scaled to the risks and impacts of the project.

50. Grievances refer to any concerns, issues, or conflicts resulting from land acquisition, involuntary resettlement, or in the resettlement plan implementation. They may include issues on the compensation for various types of APs, application of eligibility criteria for compensation and entitlements, relocation of non-titleholder APs, impact to the livelihoods, or quality of services at a relocation site. The GRM will address concerns and grievances of APs regarding land acquisition, eligibility and entitlements, physical and economic displacement, and other project impacts, and facilitate their resolution with particular attention to the vulnerable groups. The GRM will provide an accessible and trusted platform for receiving and facilitating the resolution of affected persons' grievances related to the project.

51. The existing system in place at DPWH to resolve complaints will also be available to the affected persons or any other stakeholder. People can visit the DPWH Public Assistance and Complaints Desk and fill up the walk-in form located at the front desk of all DPWH offices to register complaint, or can send an email to dpwh_feedback@yahoo.com or call 165-02 the DPWH 24/7 call center hotline or access the Stakeholder Relation Service (SRS) hotline or post on DPWH social media accounts – Department of Public Works and Highways, Philippines Facebook page and @DPWHph on Twitter.

52. DPWH will establish for LLRN project a three level GRM to receive, evaluate, and facilitate the resolution of affected persons' concerns, complaints, and grievances about the social and environmental performance.

3. First Level - Local Help Desk (Barangay)

53. The Local Help Desk will function at the Barangays to address concerns of the aggrieved person. The Barangay office will receive and record all complaints and provide an acknowledgement with a control number to the complainant. The Local Help Desk Committee will meet once every week, to hear the complainant and address the complaint. The committee will be headed by the Barangay Captain, and the other two members will be (i) the IROW Agent of the concerned DEO, and (ii) the Representative of ROW Task Force. The timeline to address the complaints will be 7 working days and any unresolved complaint will be referred to the Second Level Committee.

4. Second Level – Grievance Redress Committee (GRC)

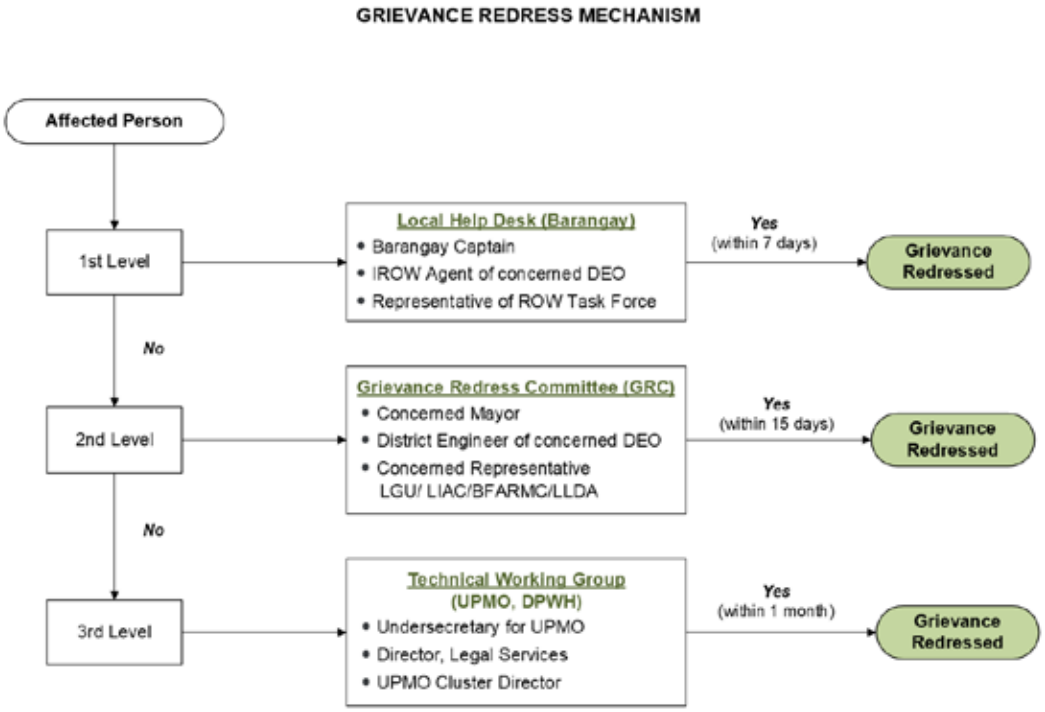
54. The unresolved complaints or complainants not satisfied with the decision of the first level Local Help Desk can approach the Grievance Redressal Committee headed by the concerned Mayor and having District Engineer of the concerned DEO and concerned Representative of the LGU/LIAC/BFARMC/LLDA as its members. The committee will meet twice a month and will address complaints received within 15 working days. The committee will hear the complainant and address the complaints placed before the committee.

5. Third Level – Technical Working Group (UPMO, DPWH)

55. The Technical Work Group, UPMO, DPWH will function as an appellate body to address complaints escalated to it by affected persons, or other stakeholders. The three-member committee will include (i) the Under Secretary for UPMO, (ii) Director Legal Services, and (iii) UPMO Cluster Director. The timeline to address the complaints will be 30 working days.

56. The three level of the GRM is presented in the following Figure 1

Figure 1: Grievance Redress Mechanisms



57. **Record-keeping**. The Local Help Desk (Barangay), Grievance Redress Committee (GRC), and the Technical Working Group will designate a person in their respective offices to maintain records of grievances received, including contact details of the complainant, the date the complaint was received, date on which acknowledgement was issues, the nature of the grievance, action taken, and the date these were effected, and communicated to the aggrieved person. A summary of the number of grievances recorded and addressed, categorized by the nature of the grievance, will be compiled by the Environmental and Social Safeguards Unit

(ESSU), RMCII-UPMO, for reporting in the monitoring reports submitted to ADB on a semi-annual basis.

58. The ESSU, RMCII-UPMO, DPWH is responsible for overseeing the functioning of the GRM and in ensuring the required resources are made available in a timely manner to the committees. The ESSU will be responsible for the following:

(i) To conduct overall monitoring and tracking of grievance cases across all levels dealt with by the three level committees, so that the grievances are addressed properly and promptly.
(ii) To acknowledge all grievances received via DPWH existing complaint mechanism and forward them to the Local Help Desk for their consideration.
(iii) To manage, maintain, and consolidate the complaints received and the corresponding actions and decisions.
(iv) To provide information and guidance to the committees on eligibility and entitlements and wherever required ensure the committee has access to technical expertise.
(v) To provide input and share information for the preparation of the project quarterly monitoring reports regarding the status of grievances.
(vi) To conduct capacity-building training for committee members of the GRM to improve their understanding project entitlements.
(vii) To provide inputs as required for internal and external monitoring activities.

59. **Costs.** All costs involved in resolving the complaints (meetings, consultations, communication and reporting/ information dissemination) will be borne by the project.

60. **Legal Remedy**. Despite the GRM, APs can also approach the jurisdictional Courts to redress their grievances. They can approach the Court at any stage of the GRM process irrespective of its decisions.

61. **ADB's Accountability Mechanism**. In addition to the project GRM which is the responsibility of a project executing agency, ADB's Accountability Mechanism (May 2012) also applies to the project, for which ADB is responsible. The accountability mechanism provides opportunities for people (two or more complainants) that are adversely affected by ADB-financed projects to express their grievances, seek solutions, and report alleged violations of ADB's operational policies and procedures, including safeguard policies. ADB's accountability mechanism comprises of (i) consultation led by ADB's special project facilitator to assist people adversely affected by ADB assisted projects in finding solutions to their concerns, and (ii) providing a process through which those affected by projects can file requests for compliance review by ADB's Compliance Review Panel.

62. ADB's accountability mechanism can be considered a last resort mechanism. The affected people are first expected to exhaust the grievance handling mechanisms described in this LARP and the ADB operations department concerned (ADB Philippines Country Office) before lodging a complaint with ADB's Accountability Mechanism. Details of the Accountability Mechanism can be found at https://www.adb.org/documents/accountability-mechanismpolicy-2012.

VI. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

A. EARF Implementation Arrangement

63. **DPWH Unified Project Management Office – Roads Management Cluster II.** DPWH has five Unified Project Management Offices (UPMOs) to develop and implement different classes of infrastructure projects. The LLRN1 project has been proposed and set up under the auspices of the UPMO for the Roads Management Cluster II (Multilateral Projects), or UPMO-RMC II. As Proponent and Executing Agency, DPWH will have ultimate responsibility for ensuring that the project is implemented in accordance with applicable national laws, in compliance with the project's ECC, and in line with environmental covenants under the ADB loan. DPWH will be responsible for allocating adequate resources for implementing the EARF, and for securing any coordination agreements with other agencies and entities necessary to ensure timely and effective implementation of the EMP, including monitoring and reporting.

64. **The Environmental and Social Safeguards Division (DPWH-ESSD)** is responsible for guidance of safeguards implementation in relation to all DPWH projects. The DPWH-ESSD primarily has a review function and is involved in all stages of the EIA/EMP and LARP processes of each DPWH project, from early scoping and formulation through to oversight of monitoring in the construction phase. During the pre-construction and construction phases, the DPWH-ESSD's main roles will be the review and endorsement of the EIA and other safeguards documents; verification of the procurement of all necessary permits, clearances and agreements; confirmation of the integrity of monitoring activities carried out by contractors and other designated parties; providing operation guidance for the project's Multi-Partite Monitoring Teams; review and approval of the consolidated monitoring reports prepared for submission to DENR-EMB and ADB; and supporting the DPWH-PMO as needed to address emerging safeguards compliance concerns, including major grievances. The DPWH-ESSD will also have a role in helping and advising the DPWH-PMT to manage coordination with DENR-EMB, other regulatory agencies, and ADB.

65. **The DPWH Environment, Health and Safety Officers** (DPWH-EHSOs) will be dedicated full-time positions stationed at the works sites. In some cases, it may be appropriate for a DPWH-EHSO to be assigned to multiple closely grouped minor works sites, but a frequent presence on each site will be a standard expectation. The DPWH-EHSOs will be trained environmental professionals capable of assessing environmental processes and conditions on-site; performing confirmatory monitoring of contractors' compliance monitoring; verifying performance of appropriate environmental sampling by Primary Contractors; supervising supplementary sampling by an outside sampling contractor when needed for verification or problem investigation; and providing guidance as needed to contractors and sub-contractors regarding implementation of best management practices and corrective action.

66. **The Construction Supervision Consultant (CSC)**. The Construction Supervision Consultant (CSC) will approve the CEMP ensuring that the provisions stipulated in the draft EMP are considered. The CSC is responsible in managing for ensuring that the environmental risk management processes are properly implemented throughout the duration of the project. The CSC will prepare reports to be submitted to DPWH in compliance to the requirement of ADB and DENR-EMB.

67. **Primary Contractors (PCs).** Within 30 days of the commencement date, the contractor shall prepare and submit the Contractor's Environmental Management and Monitoring Action Plan (CEMMAP) to the CS Consultant for approval. The CEMMAP shall detail how the environmental

management plan will be implemented during civil work construction. The CEMMAP shall detail how the Contractor will mitigate the construction impacts and monitor as scheduled. The CEMMAP will be updated as the need arises or at least semi-annually. Prepare the required reports/documents i.e., monthly self-monitoring report, Semi-Annual Environmental Monitoring Report (SEMR), etc. The Contractor shall hire an accredited Pollution Control Officer (PCO) to ensure sound environmental management during civil work construction. CS Consultant or Contractor shall designate a Managing Head in accordance with DENR Administrative Order 2014-02. The managing head will oversee the overall implementation of environmental management and pollution control.

68. The CEMMAP shall cover all aspects of the PC's responsibilities under the EMP, including the permits it must obtain; the specialized management plans it must prepare and implement (e.g., Biodiversity Action Plan, Waste Management Plan, Construction Traffic Management Plan, Construction Camp Management Plan, Soil Erosion Prevention Plan, etc.); and responsibilities for self-monitoring and reporting to DPWH. The CEMMAPs must be prepared and approved by the CSC before the PC can begin any work.

69. The Contractor shall provide CSC with a monthly status/progress report on the implementation of the CEMP for the duration of the Contract. Reports shall include details of all environmental aspects of the Contract including: construction update summary; environmental issues; mitigation measures implemented; effectiveness of control measures; maintenance of controls; results of monitoring against project criteria; audit results and corrective action; environmental induction and training; complaints summary; and other relevant information relative to the implementation of the EMP and EMoP.

70. PCs' Environmental Management Officer is responsible for:

(i) implement the Contractor's Environmental Management Plan;

(ii) ensure compliance with recommended conditions in the contract, ECC, and CEMP;

(iii) review the effectiveness of the mitigation measures for proper management of construction risks and uncertainties,

(iv) review the effectiveness of environmental management plan for the construction activities,

(v) recommend modifying or halting construction activities, or developing mitigation measures in case of unpredicted harmful effects on the environment or if environmental monitoring determine construction works pose environmental concern,

(vi) identify resources and equipment for environmental purposes,

(vii) ensure the provision of training to improve awareness/knowledge of environmental and social management issues,

(viii) conducts quarterly training,

(ix) ensure project operations are performed in accordance with statutory requirements,

(x) secure and renew permits and clearance for all pollution control facilities,

(xi) must also be an accredited Pollution Control Officer (PCO),

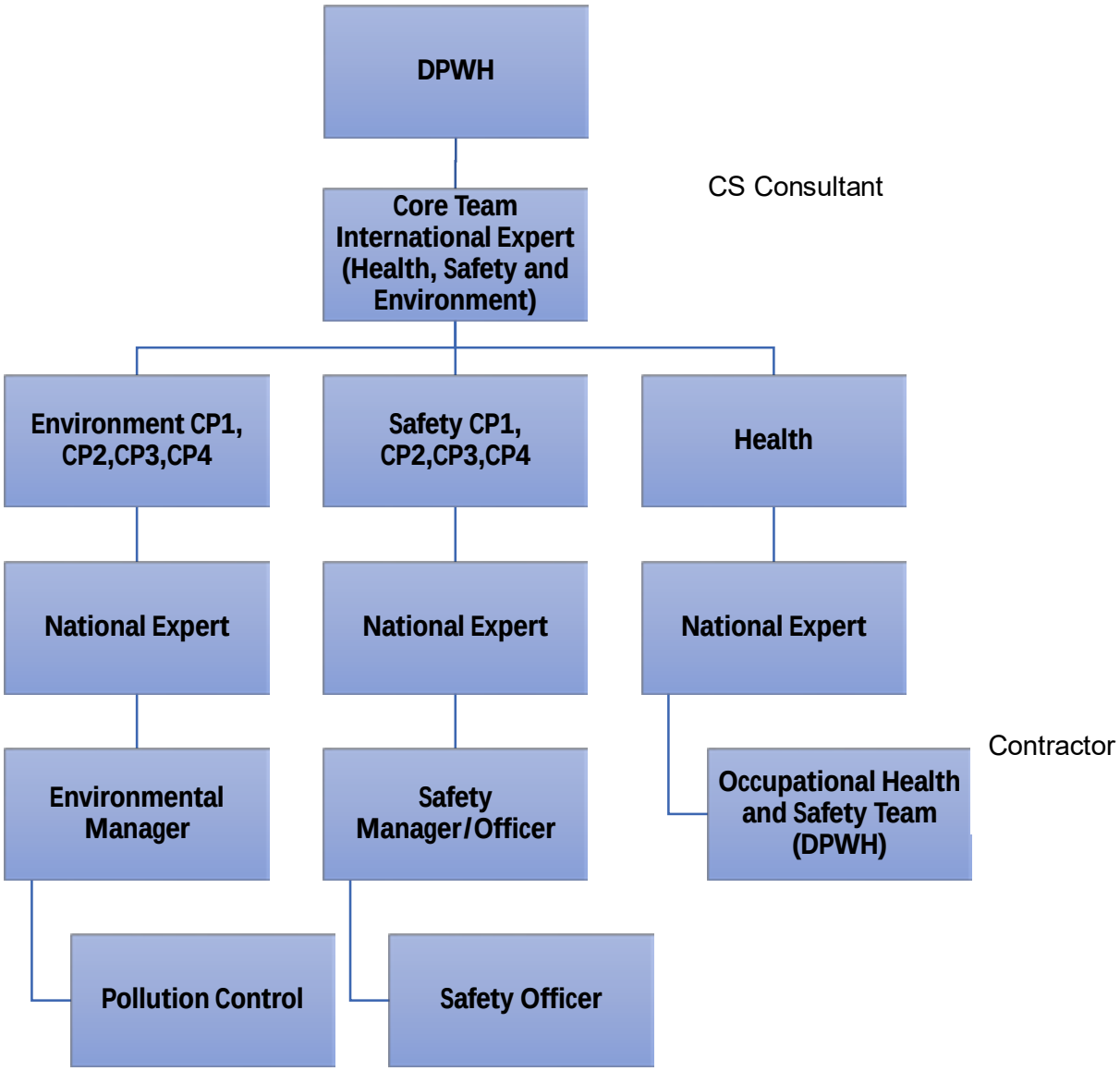
(xii) conducts quarterly and/or semi-annual water, air, and noise tests,

(xiii) submit to CSC the Self Environmental Report (SEMR) for submission to ADB; and.

(xiv) submit to CSC the Compliance Monitoring Reports (CMR) and Self-Monitoring Report (SMR) for submission to the DENR-EMB.

71. **PCs Occupational, Health, and Safety (OHS) Team**. All Safety Officers are responsible for the maintenance of safety in their respective units by ensuring the implementation of safety, risk management processes and associated risk control methods. Communicate to all workers all established policies, programs, operating procedures, safety findings and violations through toolbox meetings, safety meetings etc. Security Officer shall be in-charge of Peace and order including security risk management and emergency responses.

Figure 2: Health, Safety and Environment Organization



CP1 = Contract Package 1, CP2 = Contact Package 2, CP3 = Contract Package 3, CP4 = Contract Package 4;
DPWH = Department of Public Works and Highways
Source: LLRN DED Study Team

B. Multi-Partite Monitoring Team (MMT)

72. A Multi-Partite Monitoring Team (MMT) for the project will be formed during construction only, based on the requirements of DENR Administrative Order 2003-30, Annex 3-4 and ECC conditions.

1. MMT Formation

73. The following comprised the proposed MMT but not limited to.

(i) DENR PENRO Laguna – Team Leader
(ii) DENR – CENRO Laguna and CENRO-NCR
(iii) Environmental Management Bureau Regional Office CENRO/PENRO (NCR and Region IV -A)
(iv) DPWH /CSC/ Contractor
(v) Provincial Government of Laguna, PG-ENRO
(vi) LGU Representative -CENRO, 7 cities
(vii) Barangay Captain
(viii) NGO Representatives (fisherfolks association, women's group, youth sector, academe, etc.) preferably vulnerable sector or academe
(ix) Laguna Lake Development Authority (LLDA)
(x) Other government Agencies (e.g., Bureau of Fisheries and Aquatic Resources - BFAR)

74. The Executive Management Committee (MMT Execom) shall consist of the following members:

(i) DENR Regional Executive Director, Region IV-A as Chair
(ii) Provincial Government of Laguna, PG-ENRO
(iii) LLDA
(iv) DPWH/CSC

2. MMT Functions

75. The following are functions of the MMT:

(i) monitor project compliance with the conditions stipulated in the ECC and commitments made in the Environmental Management Plan (EMP),
(ii) review and validate proponent's progressive report and other reports (e.g., third party audits) and submits compliance monitoring and validation report to DENR-EMB,
(iii) prepare, integrate, and disseminate simplified monitoring reports and recommendations to the DENR,
(iv) validate and implement IEC, social development and other programs,
(v) interface with proponent, third party auditors and other parties, or engage the services of other expects as deemed necessary,
(vi) Initiate popularization of M&E results for community consumption,
(vii) prepare the MMT Manual of Operations (MOO), Work and Financial Plan, and other plans/reports based on the proponent's EMP,
(viii) institutionalize best practice for Environmental Management Fund (EMF) management and administration; and

(ix) receive complaints/requests from the public-at-large for transmittal to the proponent and the DENR-EMB and be able to recommend immediate measures against the complaint.

VII. MONITORING AND REPORTING

A. Monitoring Entities and Processes

76. The environmental monitoring for the LLRN project will involve multiple processes and be carried out by the following entities.

1. Construction Phase Monitoring

77. Five interwoven monitoring process streams can be delineated for the construction phase of the LLRN project. These are described below:

- ***Proponent's Self-Monitoring:*** As the project proponent, DPWH will implement a self-monitoring process to ensure that the implementation activities under the project are in compliance with the EMP and the ECC, and report the results to the DENR-EMB ROs in quarterly Self-Monitoring Reports (SMRs) and semi-annual ECC Compliance Reports (CMRs). DPWH will also prepare Semi-Annual Environmental Monitoring Reports (SEMRs) for submission to ADB. The SMRs, CMRs and SEMRs will be prepared by the DPWH-PMO, with guidance and review provided by DPWH-ESSD.

- ***Contractors' Self-Monitoring:*** To support its quarterly reporting, DPWH will require each of the PCs to monitor sites under its control, including those operated by its sub-contractors. Each PC's CEMMAP shall include provisions for preparation of monthly CEMMAP implementation monitoring reports, to be submitted to the DPWH-PMO in conjunction with regular monthly progress reporting on implementation of the civil works. The monthly monitoring reports prepared for submission to the DPWH-PMO shall include the findings of both compliance monitoring (i.e., confirmation that prescribed measures are being implemented) and effects monitoring (i.e., confirmation that emissions and effluents generated are not violating relevant environmental quality standards). The PCs will have the option of conducting effects monitoring in-house or out-sourcing it to a qualified monitoring firm, but in either case, associated laboratory analysis must be carried out by a DENR-accredited laboratory.

- ***Proponent's Confirmatory Monitoring of Primary Contractors.*** Contractors may perceive a strong incentive to cut corners on their self-monitoring to cover up lax performance and save resources, and monitoring activity on the part of the Proponent is typically necessary to help counteract this (close scrutiny of received monitoring reports is also critical in this regard). The DPWH-PMO, with the guidance of the CSC and DPWH-ESSD, will conduct confirmatory monitoring of each PC's monitoring activity to ensure monitoring integrity through. The objective of confirmatory monitoring is not to duplicate the monitoring activity of the PCs. Rather, a more limited sampling approach to monitoring is appropriate, in which monitoring is conducted at lower frequency for most parameters, with the spot check being an important modality. Monitoring at the site level will be carried out by the DPWH-EHSOs. The DPWH-PMO will need to develop a refined monitoring protocol for the works of each PC, based on the monitoring plan contained in the PC's CEMMAP; the CSC shall provide guidance and assistance in this regard, including for

development of checklists and appropriate frequencies for regular and spot checks. The confirmatory monitoring activity of the DPWH-EHSOs should include observation environmental sampling activity carried out by the PC or its sampling contractor; this can enable effective oversight without expensive duplication of field sampling and laboratory analysis. However, DPWH-PMO may find it necessary to conduct independent field sampling on occasion to investigate issues that emerge at times between the PC's sampling scheduled sampling dates (perhaps in response to complaints from people affected by impacts), or to counteract any coordination between construction activity and sampling dates on the part of the PC. For this reason, the DPWH-EU should allocate resources to engage an outside sampling contractor on an occasional as-needed basis. As a rough estimate and basis for a monitoring allocation, such sampling monitoring activity is assumed to amount to about one tenth of the environmental sampling effort and expense of the monitored PC. The DPWH-EHSOs shall facilitate access to project sites by the outside contractor when such spot sampling is arranged.

- ***Monitoring by Multi-Partite Monitoring Teams (MMTs).*** The MMT will be set up to conduct verification monitoring of the Proponent's performance and the integrity of its self-monitoring activity, on behalf of project stakeholders. The MMT will report their findings to the DENR-EMB ROs for their respective regions in semi-annual Compliance Monitoring and Validation Reports (CMVRs).

- ***Monitoring by DENR-EMB ROs.*** The regional offices of DENR-EMB (Regions NCR and IV) will conduct field monitoring as they deem appropriate to verify the quality of the proponent's self-monitoring, and to investigate particular concerns brought to light by monitoring results, stakeholder complaints, or other means. The DENR-EMB ROs will submit semi-annual Compliance Evaluation Reports (CERs) to the DENR-EMB CO on the proponent's compliance with the ECC.

- ***Monitoring by External Monitoring Agent (EMA).*** The EMA will conduct monitoring of the overall performance of the project in relation to the EMP and EMoP. The specific scope, nature and frequency of the EMA's monitoring activity will be determined through discussions between DPWH and ADB prior to preparation of a Terms of Reference and selection of the firm or NGO that will serve as the EMA.

2. Operation Phase Monitoring

78. Project implementation activity—and the scope and scale of impacts—will change dramatically with the end of the construction phase, and monitoring activity will evolve accordingly. The configuration of monitoring activity for the project's operation phase is shown in the succeeding Figure.

- ***Proponent's Self-Monitoring.*** During the operation phase, the DPWH-PMO, unless otherwise replaced, will continue to be the project's implementing body, and responsible for self-monitoring activity and attendant reporting. The DPWH-PMO will submit quarterly SMRs to the DENR-EMB ROs of Regions NCR and IV, unless the Proponent applies for and is granted relief from the ECC during the operation phase.

- ***Monitoring by Multi-Partite Monitoring Teams (MMTs).*** The MMT will continue monitoring project impacts and the Proponent's compliance with the ECC and reporting on a semi-annual basis unless the Proponent applies for and is granted relief from the

ECC during the operation phase, or the members of the MMTs and/or the respective DENR-EMB ROs determine that continued monitoring and reporting are not warranted.

ADB PROHIBITED INVESTMENT ACTIVITIES LIST

The following activities do not qualify for the Asian Development Bank financing:

(i) Production or activities involving harmful or exploitative forms of forced labor[13] or child labor[14];

(ii) (Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phase-outs or bans, such as (a) pharmaceuticals[15], pesticides, and herbicides[16], (b) ozone-depleting substances[17], (c) polychlorinated biphenyls[18] and other hazardous chemicals[19], (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora[20], and (e) transboundary trade in waste or waste products[21];

(iii) Production of or trade in weapons and munitions, including paramilitary materials;

(iv) Production of or trade in alcoholic beverages, excluding beer and wine[22];

(v) Production of or trade in tobacco;

(vi) Gambling, casinos, and equivalent enterprises;

(vii) Production of or trade in radioactive materials[23], including nuclear reactors and components thereof;

(viii) Production of, trade in, or use of un-bonded asbestos fibers[24];

(ix) Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests; and

(x) Marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

---

[13] Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty

[14] Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org)

[15] A list of pharmaceutical products subject to phaseouts or bans is available at http://www.who.int.

[16] A list of pesticides and herbicides subject to phaseouts or bans is available at http://www.pic.int.

[17] A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at http://www.unep.org/ozone/montreal.shtml

[18] A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985

[19] A list of hazardous chemicals is available at http://www.pic.int.

[20] A list is available at http://www.cites.org.

[21] As defined by the Basel Convention; see http://www.basel.int.

[22] This does not apply to subproject sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a subproject sponsor's primary operations.

[23] This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

[24] This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%

RAPID ENVIRONMENT ASSESSMENT (REA) CHECKLIST

Instructions:

(i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to ADB.

(ii) (This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Subproject/Component Name:

SCREENING QUESTIONS	Yes	No	REMARKS
A. PROJECT SITING IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
▪ CULTURAL HERITAGE SITE			
▪ PROTECTED AREA			
▪ WETLAND			
▪ MANGROVE			
▪ ESTUARINE			
▪ BUFFER ZONE OF PROTECTED AREA			
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY			
B. POTENTIAL ENVIRONMENTAL IMPACTS WILL THE PROJECT CAUSE…			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ degradation of cultural property, and loss of cultural heritage and tourism revenues?			
▪ alteration of surface water hydrology of waterways crossed by the alignment, resulting in increased sediment in streams affected by increased soil erosion at construction site?			

SCREENING QUESTIONS	Yes	No	REMARKS
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ water resource problems (e.g. depletion/ degradation of available water supply, deterioration for surface and ground water quality) and pollution of receiving waters?			
▪ overpaving leading to lowered ground water table, leading to land subsidence, etc.?			
▪ road blocking and temporary flooding due to land excavation during rainy season?			
▪ traffic disturbances due to construction material transport and wastes?			
▪ increased local air pollution due to earth works and other activities during construction?			
▪ Noise and vibration from construction and operation activities?			
▪ noise and vibration due to blasting?			
▪ social conflicts between construction workers from other areas and local workers?			
▪ hazardous driving conditions where construction interferes with pre-existing roads?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?			
▪ creation of temporary breeding habitats for mosquito vectors of disease?			
▪ dislocation and involuntary resettlement of people living in right-of-way?			

Preliminary Climate Risk Screening Checklist

Country/Project Name:
Subproject Name:
Location:

Screening Questions		Score	Remarks[1]
Location and Design of project	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?		
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea- level, peak river flow, reliable water level, peak wind speed etc)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s) ?		
Performance of project outputs	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered lowrisk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high risk project.

Result of Initial Screening (Low, Medium, High):_____
Other Comments:_

Prepared by: ____ Designation/Agency:_____ Date: _____

[1] If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.