



Republic of the Philippines  
Department of Environment and Natural Resources

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**DENR Administrative Order**  
**No. 2019- 16**

**NOV 06 2019**

**SUBJECT :           STREAMLINING       THE       ENVIRONMENTAL       IMPACT  
ASSESSMENT (EIA) PROCESS AND REQUIREMENTS FOR  
PROJECTS UNDER THE BUILD BUILD BUILD PROGRAM**

In line with the Build Build Build Program of the Government and consistent with the policy of the State to ensure optimum economic development without compromising the environment, the following streamlined process and requirements for projects under the Build Build Build program are hereby adopted.

### **SECTION 1. COVERAGE**

This Order shall be applicable to all Projects under the Build Build Build Program of the National Government applying for Environmental Compliance Certificate (ECC) pursuant to Presidential Decree (PD) 1586 and the Implementing rules and regulations thereof.

### **SECTION 2. IMPLEMENTING OFFICE**

The EMB Central Office shall process the ECC applications of Environmentally Critical Projects filed by Department of Public Works and Highways (DPWH), Department of Transportation (DOTr) and Bases Conversion and Development Authority (BCDA) within twenty (20) working days.

### **SECTION 3. ECC APPLICATION PROCEDURES**

#### **A. Scoping**

Scoping is a proponent-driven multi-sectoral formal process of determining the Terms of Reference of the EIA Study.

The proponent shall conduct a public scoping and shall be documented properly. Documentation shall include among others the following:

1. Proof of conduct of Information Education Campaign (IEC) and Focus Group Discussions (FGDs)
2. Attendees of the public scoping
3. IEC materials
4. Presentation of the project as used in the public scoping and proof of the conduct thereof.

*Annex A - Scoping Checklist. Shall serve as terms of reference of the EIS/EPRMP to be undertaken.*

## **B. Substantive Review and Evaluation of the Environmental Impact Statement (EIS)/ Environmental Performance Report and Management Plan (EPRMP)**

The official acceptance of the EIS/EPRMP marks the first 1<sup>st</sup> day of the ECC processing timeframe. The EIS/EPRMP shall be filed with the processing office concerned supported by the following:

1. E-copy of the EIS/EPRMP for uploading in the EMB Website
2. E-copy of the Executive Summary for the Public
3. List of Invitees to the Public Hearing
4. Proposed schedule and venue of Public Hearing
5. Proof of payment of the EMB processing fee
6. Proof of publication of the notice of public hearing in a newspaper of general circulation

Upon acceptance of the documents the case handler shall schedule the following:

- a. The first EIA Review meeting shall be conducted within five (5) working days after official acceptance of the documents. The proponent shall be given non extendable period of four working (4) days to submit the additional information (AI) required by the Environmental Impact Assessment Review Committee (EIARC) during the 1st review meeting. Failure to submit the AI to EMB within the four (4) working day period shall automatically result in the return of the ECC application without need of prior notice. The EIS with integrated AI may be re-filed within one (1) year, otherwise, the ECC application shall be automatically dropped and the proponent may file a new ECC application in case the project will still be pursued.
- b. The Public Hearing shall be conducted on the 10<sup>th</sup> working day and site inspection on the 11<sup>th</sup> working day. The public hearing proceedings as required under DAO 2017-15 shall be submitted within two (2) working days after the Public Hearing. Failure to submit will automatically result in the return of the ECC application.
- c. The second (2<sup>nd</sup>) EIA review meeting shall be conducted within four (4) working days from receipt of the Additional Information (AI) but not to exceed the 12<sup>th</sup> working day from official acceptance of its ECC application. The said meeting will be considered as final meeting and the EIARC shall recommend the issuance/non-issuance of ECC by signing the EIARC evaluation sheet. Also, the EIARC Chair shall submit to EMB the EIARC Report on the 13<sup>th</sup> day or within twenty four (24) hours from the final EIARC meeting.

## **C. Decision Making**

The EMB Director shall decide on the EIARC recommendations on the 17<sup>th</sup> day or within four (4) working days from submission of Chair's report and forward to the Office of the Secretary for clearance.

*Annex B - Process flow of ECC application.*

## **SECTION 4. REQUIREMENTS**

ECC Applications shall be accompanied by the following documents:

1. Environmental Impact Statement or Environmental Performance Report and Management Plan
2. Accountability Statements of Proponent and the EIS Preparer
3. Proof of Authority over the project area
4. Copy of previous ECC (if any)

5. Latest Compliance Monitoring Report (if with previous ECC)

**SECTION 5. FEES**

The proponent shall pay filing fees and other charges for ECC application in accordance with prescribed standard costs and fees pursuant to DENR Administrative Order No. 2016-28 before the review of EIS/EPRMP.

Further, the proponent shall shoulder the cost of the review of the EIS/EPRMP and cost of publication of the notice including conduct of Public Hearing.

**SECTION 6. INSTITUTIONAL MECHANISM**

The EMB shall create a team to review and evaluate the ECC applications of projects under the Build Build Build Program. The team shall prioritize the review and evaluation of these projects.

**SECTION 7. SEPARABILITY CLAUSE**

If any clause, sentence or provision of this Order is held or declared to be unconstitutional or invalid by a competent court, the remaining parts of this Order shall not be affected thereby.

**SECTION 8. TRANSITORY PROVISION**

This Order shall be applicable to Build Build Build Projects applying for new ECC after its effectivity.

**SECTION 9. REPEALING CLAUSE**

All other existing orders and related issuances inconsistent with this Order shall be repealed and modified accordingly.

**SECTION 10. EFFECTIVITY**

This Order shall take effect fifteen (15) days after its publication in any newspaper of general circulation and upon acknowledgement of receipt of a copy hereof by the Office of the National Administrative Registrar (ONAR) and the UP Law Center.

  
**ROY A. CIMATU**  
Secretary



PUBLICATION: The MANILA TIMES  
December 16, 2019

Acknowledgement: January 06, 2020

## ANNEX A

**Table 1. Checklist of Documentary Requirements**

*Boxes and blanks in the first column are to be filled-up during scoping and the rest, upon submission of EIS for screening*

Check required EIA Report <sup>1</sup>	
<input type="checkbox"/> Environmental Impact Statement (EIS)	
<input type="checkbox"/> Environmental Performance Report and Management Plan (EPRMP)	
<i>(include photographs or plates of project site, impact/affected areas and communities and land-use plan showing compatibility of the proposed project)</i>	
Proof of Authority over the Project Site	
<input type="checkbox"/> TCT <input type="checkbox"/> Lease Agreement	
<input type="checkbox"/> Others: _____	
Tenurial Instruments/Clearance	
<input type="checkbox"/> FLA <input type="checkbox"/> PAMB Clearance (in case the proposed project is located within NIPAS)	
<input type="checkbox"/> FLAg <input type="checkbox"/> SAPA Endorsement (in case the proposed project will be located within a declared Protected Area)	
<input type="checkbox"/> Area Clearance Endorsement (in case there is a reclamation component)	
<input type="checkbox"/> Others: _____	
Accountability Statements of Preparers & Proponent (see Annexes 2-21 & 2-22 of Revised Procedural Manual for DAO 2003-30)	
For EPRMP, Copy of previous ECC	
For EPRMP, Proof of compliance in the submission of monitoring reports	

**Table 2. EIS/EPRMP Annotated Outline**

Sections / Subsections	Content	Page #
Project Fact Sheet	Summary of Project Description <i>(For EPRMP, Include comparative matrix of the existing project components vis-à-vis the proposed changes)</i>	
Process Documentation	Documentation of the process undertaken in the conduct of EIA <i>(EIA Team, EIA Study Schedule &amp; Area, description of key EIA Methodologies including sampling and measurement plan, Scoping and Public Participation)</i>	
EIA Summary	<ul style="list-style-type: none"> <li>• Summary of alternatives considered in terms of siting, technology selection/operation processes and design</li> <li>• Concise integrated summary of the main impacts and residual effects after applying mitigation</li> <li>• Risks and uncertainties relating to the findings and implications for decision making</li> </ul>	
1.1 Project Location and Area	a) Map showing sitio, barangay, municipality, province, region boundaries, vicinity, proposed buffers surrounding the area and Primary & secondary impact areas	
<i>For EPRMP, discussions should be in the context of the proposed modification/changes</i>	b) Geographic coordinates (shape file data) of project area (use WGS 84 datum - GPS setting)	
	c. Describe the vicinity and the accessibility of the project site/area	

<sup>1</sup> Please refer to attached checklist of EIS/EPRMP Contents

Sections / Subsections	Content	Page #
<p>1.2. Project Rationale</p> <p><i>For EPRMP, discussions should be in the context of the proposed modification/changes</i></p>	<ul style="list-style-type: none"> <li>• Cite and focus on the need for the project based on national and regional/local economic development in terms of contribution to sustainable development agenda or current development thrusts.</li> <li>• Describe the justification for the Project with particular reference made to the economic and social benefits, including employment and associate economic development, which the project may provide. The status of the project should be discussed in a regional and national context.</li> </ul>	
<p>1.3. Project Alternatives</p> <p><i>For EPRMP, discussions should be in the context of the proposed modification/changes</i></p>	<p>a) Cite criteria used in determining options for facility siting, development design, process/technology selection, resource utilization and discuss how the decisions on the preferred options were made.</p> <p><u>Siting</u>: Present the process and criteria for the selection of the alignment. Discuss alternative project locations including factors significant to the selection such as severity of impacts, perception of affected communities with regards to project, ancestral domain issues, land classification, etc.</p> <p><u>Technology Selection/Operation Processes and design Selection for storage</u>: discuss alternative technologies, operation processes, and measures to minimize wastes, prevent adverse impacts such as air and water pollution, groundwater and land contamination, and for the prevention/control of emergency events (eg. fire, explosion, leaks, spills) including factors significant to the selection.</p> <p><u>Resources</u>: Alternative sources of power, water, raw materials and other resources needed including factors significant to the selection such as supply sustainability and climate change projections</p> <p><i>Likewise contextualize the determination of preliminary options in terms of project site factors significant to the selection such as supply sustainability and susceptibility to:</i></p> <ul style="list-style-type: none"> <li>• <i>Liquefaction, Ground Shaking, Ground Rupture, Earthquake induced Landslides Volcanic eruptions, tsunami (PHIVOLCS)</i></li> <li>• <i>Rain-induced landslide and flooding (MGB)</i></li> <li>• <i>Storm surge, and flooding as well as extreme climatologic conditions (PAGASA)</i></li> </ul>	
<p>1.4 Project Components</p> <p><i>For EPRMP, discussions should be in the context of the proposed modification/changes; boundaries of current project area should be delineated from the proposed expansion area, if any</i></p>	<p>b) Discuss the consequences of not proceeding with the project or no project option</p> <p>a) General layout of facilities;</p> <p>b) Maps showing in particular, the location and boundaries of project area, location and footprint of main facilities, storage and support facilities, and proposed buffers.</p> <p>c) Identification and general description of major components such as materials, capacity, number, safety features , etc.</p> <p>c) Identification and description of support facilities and infrastructure requirements such as energy/power generating facility (if any) or energy source, water supply/storage, storm water drainage, sewerage, telecommunications, safety devices/emergency facilities, accommodation and similar facilities</p> <p>e) Identification and description of pollution control devices and waste management system for the waste materials: wastewater, air emissions, domestic wastes, toxic and hazardous wastes, non toxic and non hazardous wastes, etc.</p>	
<p>1.7 Project Size</p> <p><i>For EPRMP, include discussion/compariso</i></p>	<p>Total Project Area in sq.m. or hectares</p>	

Sections / Subsections	Content	Page #
<i>n of existing and proposed modifications or expansion</i>		
<p>1.8 Development Plan, Description of Project Phases and Corresponding Timeframes</p> <p>For EPRMP, discussions should be in the context of the proposed modification/changes</p>	<p>Phases to be described in terms identifying specific activities (w/ special attention on those with significant environmental impacts as well as climate change adaptation options relevant to the project and project activities) and corresponding projected implementation timeframes:</p> <ul style="list-style-type: none"> <li>• <b>Pre-construction</b> (e.g. planning, acquisition of rights to use land, etc.)</li> <li>• <b>Construction</b> (e.g. land/site clearing, temporary housing, transport of materials, health and other services for the workforce, discussion of temporary facilities including the progress of works/milestones and the number workers required per milestones)</li> <li>• <b>Operation</b> (projected period of start-up/commissioning/full operation of various project components) include discussion on the operation of various components (as identified above) in terms of raw materials, fuel requirements, waste management and infrastructure requirements</li> <li>• <b>Decommissioning/Abandonment/Rehabilitation</b></li> </ul> <ul style="list-style-type: none"> <li>- projected life of the project and alternatives for the future use of the project area which should be consistent with long term zoning and land use development plan of the municipality;</li> <li>- Abandonment Plan (general) to include management plan for the remediation of contaminated soil and water resources, land restoration, proper dismantling/abandonment of facilities/equipment and other necessary activities</li> <li>- Demobilization plan to include proper dismantling/abandonment of temporary facilities/ equipment and other necessary activities</li> </ul>	
1.8. Manpower	<p>Tabulate the following per project phase (pre-construction, construction, operation and maintenance):</p> <ul style="list-style-type: none"> <li>• manpower requirements;</li> <li>• expertise/skills needed;</li> <li>• nature &amp; estimated number of jobs available for men, women, and indigenous peoples (if in IP ancestral land);</li> <li>• scheme for sourcing locally from host and neighboring LGUs</li> </ul>	
1.9. Project Cost	Indicative Project Investment Cost (Philippine Peso)	
2. Assessment	<p style="text-align: center;">of Environmental Impacts</p> <p>See Table 3 for the list of key environmental impacts which shall be subjected to assessment. The assessment shall done using the prescribed approach/method and in relation to the corresponding baseline characterization in the primary and secondary impact areas (<i>as determined using the Guidelines in Annex 2-2 of the Revised Procedural Manual (RPM) for DAO 2003-30 or succeeding issuances</i>). The sampling and measurement plan used shall be discussed. Likewise, the assessment should be done for the various phases of development (i.e. pre-construction, construction and operation) and should consider climate change projections and disaster risks based on existing natural hazard information. <u>For all maps</u>, include overlays of project area footprint, show sensitive/critical receptors and sampling points for baseline data (indicate geographical coordinates). In conclusion, the residual and cumulative impacts shall be assessed.</p> <p>For EPRMP, the result of the proponent's monitoring shall be used as baseline. The assessment of environmental impacts of proposed modification shall be discussed in relation to the actual impacts of existing project operations which shall be presented from a summary of the results of compliance monitoring (in matrix and graphical form) as described in 6.1.</p>	

Sections / Subsections	Content	Page #
3. Environmental Management Plan	<p>Appropriate mitigation/management measures should be specified for each of the identified key impacts (Table 3). Appropriate climate change adaptation and disaster risk reduction measures/options shall likewise be thoroughly discussed. The impact management plan should be summarized using at the minimum, the format in Annex 2-17 of RPM for DAO 2003-30</p> <p>For EPRMP, the proposed impact management plan to be discussed shall consider review of performance of existing project based on the Environmental Quality Performance Levels (EQPLs) set. Also include change in adaptation measures / options and remediation of contaminated soil and water resources, land restoration proper dismantling, if any.</p>	
4. Environmental Risk Assessment (ERA) & Emergency Response Policy and Guidelines	<p>The level of coverage and type of document required shall first be determined based on Annex 2-7e of RPM for DAO 2003-30.</p> <p>For EPRMP, discuss status of implementation of the safety policies/guidelines and any proposed changes. Include last three (3) years of safety statistics. Also include incidence such as spills, near spills and similar incidents such as accidents and emergency. Discuss actions taken.</p> <p>See Table 4 for details</p>	
5.1 Social Development Program (SDP)	Community development or livelihood programs/activities, projected beneficiaries, partner institutions, timeframe of implementation as well as source and amount allotted per activity/component (See Annex 2-18 of RPM for DAO 2003-30)	
5.2. Information and Education Campaign (IEC)	Target sector, key messages, scheme/strategy/methods, Information medium, timelines and frequency, cost (See Annex 2-19 of RPM for DAO 2003-30)	
6.1 Environmental Performance (for EPRMP only)	<ul style="list-style-type: none"> <li>• Results of compliance monitoring in matrix and graphical form showing and explaining the trend in environmental conditions</li> <li>• Analyze performance based on the Environmental Quality Performance Levels (EQPLs) set</li> <li>• Discuss compliance to ECC conditions and performance against the originally approved Environmental Management and Monitoring Plan, MMT requirements/commitments, third party audits (if any)</li> <li>• Discuss implementation of appropriate and effective environmental impact remedial actions in case of exceedances</li> <li>• Discuss operationalization of complaints management system</li> </ul>	
6.2. Self-Monitoring Plan	<p>The monitoring plan shall be summarized using Annex 2-20 of RPM for DAO 2003-30 or succeeding issuances as template.</p> <p>For EPRMP, the original and proposed additional/changes in sampling sites/stations shall be discussed and shown in map/s. Proposed reduction in or additional parameters especially for air and water shall likewise be identified. The proposed changes in parameters and/or sampling stations which shall be based on the results of the impact assessment reported in Chapter 2 shall be discussed in this section.</p>	
6.3. Multi-Sectoral Monitoring Framework	Discussion on the necessity of creating a Multi-Partite Monitoring Team (MMT). If deemed necessary, describe the proposed scope of MMT responsibilities and activities and tabulate the list of proposed stakeholder-members of the MMT, basis of selection and proposed role. (DAO 2017-15)	

Sections / Subsections	Content	Page #
6.4 Environmental Guarantee and Monitoring Fund Commitments	<ul style="list-style-type: none"> <li>• Discussion on the necessity of putting up an EGF. If deemed necessary, present a proposed amount of EGF indicating the basis for the estimate (per guidelines in annex 3-6 of RPM for DAO 2003-30) <ul style="list-style-type: none"> <li>• If MMT is deemed necessary, present a proposed amount of EMF (based on a draft AWWP in following the format in Annex 3-4 and consistent with guidelines in DAO 2017-15);</li> </ul> </li> </ul>	
7. Decommissioning / Abandonment / Rehabilitation Policy	<p>Statement on Proponent's policies to implement the abandonment plan described in Item 1.7 and to formulate and submit procedures for Rehabilitation/ Decommissioning/ Abandonment within a timeframe specified in the ECC.</p> <p>For EPRMP, present approved plan/program, if any, and proposed changes.</p>	
8. Institutional Plan for EMP Implementation	<p>Present the organizational scheme of the proponent including line of command and reporting procedures as well as manpower complement and relationships with other operating departments.</p> <p>For EPRMP, discuss status of implementation and any proposed changes in the plan to cover modification/expansion if any.</p>	



**Table 3. Key Environmental Impacts to be included in the Assessment and Formulation of Management and Monitoring Plan to be reflected in the EIS/EPRMP**

				✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP				
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks	
			Page	Page	Page	Page		
<b>1. Land</b>								
<b>1.1. Land Use and Classification</b>								
1.1.1 Impact in terms of compatibility with existing land use	Description & Map showing the project area in relation to existing land use.	Assessment of the compatibility of the proposed project vis-a-vis actual land use and the approved comprehensive land use plan/zoning classification, ECA Classification and/or the coastal resource management plan of the LGU if any.						
1.1.2 Impact on compatibility with classification as an Environmentally Critical Area (ECA)	Identify ECA where the project is located or near the project area.  Identify areas vulnerable/susceptible to natural hazards where the project is located or near the project area (include map/s).	Identify and assess impact in terms of land tenure issues in relation to project implementation						
1.1.3 Impact in existing land tenure issue/s	Determine if the project area is under CARP or with CADC / CADT / CALC/ CALT, with IFMA/CBFMA, within COC, within MPSA or other tenorial instruments and identify corresponding existing tenure issues including presence of informal settlers.	Identify and assess impact of the project on these visually significant landforms/landscape/structures						
1.1.4 Impairment of visual aesthetics	Visually significant landforms/ landscape/structures							
<b>1.2 Geology/Geomorphology</b>								
1.2.1 Change in surface landform/geomorphology / topography/ terrain/slope	Slope and Elevation/Topographic Map;	Identify and assess project impact in terms of the changes in surface landform/topography/terrain/slope including existing hazard as maybe aggravated by climate change as projected by PAGASA						
1.2.2 Change in sub-surface geology/underground conditions	Regional/General Geological Map  Natural Hazard Map (sub surface)	Identify and assess project impact in terms of the changes in sub-surface geology and inducement of						

					✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP			
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks	
			Page	Page	Page	Page		
1.2.3 Inducement of subsidence, liquefaction, landslides, mud / debris flow, etc.	Geological Map as needed.; hazard maps (NAMRIA, NDRRMC, MGB, PHIVOLCS, PAGASA)	subsidence, liquefaction, landslides, mud/debris flow to the environment including the possibility of aggravating existing natural hazards  Discuss and assess the impacts of geologic hazards and planned earthworks on the project facilities (e.g., landslides, mudflows, subsidence, ground shaking from earthquake, liquefaction, flooding, etc.). Note in the discussion how climate change can aggravate the hazards and impacts. The geologic hazards map must consider the hazards/exposure/vulnerability/ risk maps of Section 1.1.2.						
1.3 Pedology								
1.3.1 Soil erosion / Loss of topsoil/overburden	<ul style="list-style-type: none"> <li>• Summary of Soil Investigation Report on soil type and quality</li> <li>• Soil map showing soil types, sampling stations, topography, streams, built-up areas, and planned project features</li> <li>• Sediment sources, and</li> <li>•</li> </ul>	Describe capability of the land to accommodate the proposed development with minimal or without soil erosion/loss of topsoil/overburden  Describe the physical properties and erodibility potential of the soil, ongoing erosion processes and assess the erosional impacts of the project.						
1.4 Terrestrial Ecology								
1.4.1 Vegetation removal and loss of habitat	<ul style="list-style-type: none"> <li>• Map showing land cover; sampling sites; location of observed important, endangered, and keystone species; ecologically sensitive sites; planned land development works</li> <li>• Flora and fauna species inventory or survey report to cover species listing, abundance, richness, dominance, diversity,</li> </ul>	To establish baseline, <ul style="list-style-type: none"> <li>- Use quadrat sampling for flora to cover all land cover types</li> <li>- Use transect walk , mist nets, traps, for fauna</li> </ul>						

				✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP				
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks	
			Page	Page	Page	Page		
	evenness, ecological status, and uses;	- show survey locations in a map						
1.4.2 Threat to existence and/or loss of local species	Summary of endemicity / conservation status	Relate discussions to estimated GHG emissions and possible carbon sequestration program/s						
1.4.3 Threat to abundance, frequency and distribution of species	<ul style="list-style-type: none"> <li>• Summary of abundance, frequency and distribution</li> <li>• Economic importance and uses of significant flora and fauna</li> </ul>							
1.4.4 Hindrance to wildlife access	Survey map in relation to the project site							
<b>2. THE WATER</b>								
2.1 Hydrology/Hydrogeology								
2.1.1 Change in drainage morphology/ inducement of flooding/ Reduction in stream volumetric flow	Drainage map (also showing local drainage system/infrastructures); Historical flooding/drought occurrences, stream flow measurements/estimates; Delineation of watershed /sub-watersheds/ floodplain; and identification of aquifers if any	Identify and assess project impact on the change in drainage morphology/local drainage system and resulting effects of flooding pattern in the project area and surrounding. Include climate projections effects on flooding.  Relate discussions to item 3.1.1						
2.1.2 Change in stream, lake water depth	Regional hydrogeological map	Identify and assess project impact in terms of change in stream, lake water depth						
2.1.3 Depletion of water resources / competition in water use	Current / projected water use (groundwater/surface water) in the area and adjacent areas  Inventory of water supply source including springs and wells( indicate depth of water table) and show location in a map of appropriate scale	Identify and assess project impact on the existing water resources and the resulting competition in the water use using analysis/estimation of water availability. Include discussions taking into consideration the PAGASA medium to long term projections						
2.2 Oceanography (applicable to projects with jetty/port and/or subsea structures that will change the bathymetry in the area)								

					✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP			
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks	
			Page	Page	Page	Page		
2.2.1 Change/disruption in water circulation pattern, littoral current, and coastal erosion and deposition	<ul style="list-style-type: none"> <li>• Bathymetric survey and map</li> <li>• Measurement of water currents</li> <li>• Analysis of available proximate tides data</li> <li>• Hydrodynamic modeling</li> <li>• Particle dispersion modeling and map</li> <li>• Storm surge hazard, exposure, vulnerability, risk maps</li> </ul>	<p>Identify and assess project impact on the degree of change/disruption of circulation pattern and the potential for coastal erosion</p> <p>Build a hydrodynamic model based on the measured bathymetry and currents and tidal analysis and then validate the model. A public domain software like the United States Environmental Protection Agency Environmental Fluid Dynamics Code (EFDC) may be used. Through the validated hydrodynamic model, assess the impacts of the project on water circulation, littoral current, and coastal erosion and deposition. Use the modeling results of Sec. 1.3.1 and 2.1.1. Discuss how the impacts may be affected by climate change especially sea level rise.</p>						
2.2.2 Change in bathymetry	Bathymetric map;	<p>USLE / similar modeling when applicable</p> <p>Use the hydrodynamic model to assess the impacts of the bathymetric changes. Discuss how the impacts may be affected by climate change. Compare projected new bathymetry as a result of the project with the existing</p>						
2.3 Water Quality								
2.3.1 degradation of groundwater quality	<p>Physico-Chemical characterization of water:</p> <p><input type="checkbox"/> pH</p> <p><input type="checkbox"/> BOD5</p>	<p>Identify and assess project impact in terms of degradation of groundwater, coastal surface water and coastal/marine water</p>						

					✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP			
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks	
			Page	Page	Page	Page		
2.3.2 degradation of surface water quality	<input type="checkbox"/> Oil and grease <input type="checkbox"/> TSS <input type="checkbox"/> fecal / total coliform  <input checked="" type="checkbox"/> sampling site map	quality. Use DENR standard methods and procedures for sampling and analysis.  Assess impact on siltation of surface and coastal/marine waters.  Show in a map, sampling sites for monitoring purposes based on the above assessment.						
2.3.3 degradation of coastal/marine water quality								
2.4 Freshwater Ecology								
2.4.1 Threat to existence and/or loss species of important local and habitat	<ul style="list-style-type: none"> <li>• Summary of endemicity / conservation status</li> <li>• Abundance of ecologically and economically important species (fishes, benthos, planktons);</li> <li>• Presence of pollution indicator species;</li> <li>• sampling site map</li> </ul>	Identify and assess project impact in terms of threats to existence/and or loss of species, abundance frequency and distribution species and include discussions on overall impact to freshwater ecology.  Relate discussions to air and water  Show in a map, sampling sites for monitoring purposes based on the most significant threats identified.						
2.4.2 Threat to abundance, frequency and distribution of species								
2.5 Marine Ecology (applicable if project involves activities, discharges and structure in marine waters)								
2.5.1 Threat to existence and/or loss of important local species and habitat	<ul style="list-style-type: none"> <li>• Abundance/densities/distribution of ecologically and economically important species (mangroves, fishes, benthos, planktons, coral reefs, algae, seaweeds, sea grasses);</li> <li>• Presence of pollution indicator species;</li> <li>• marine resource map</li> <li>• sampling site map</li> </ul>	Quadrat, transect, line intercept, spot dive, manta tow, marine resource characterization (e.g. municipal and commercial fisheries data) for baseline gathering.  Identify and assess project impact in terms of threats to existence, loss of important local species, threat to abundance, frequency and distribution and include discussions on overall impact to marine ecology. Relate						
2.5.2 Threat to abundance, frequency and distribution								

					✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP				
List of Key Impacts	Baseline Data Requirements	Parameter	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks	
				Page	Page	Page	Page		
			discussions to air, water and oceanography  Show in a map, sampling sites for monitoring purposes based on the most significant threats identified.						
<b>3.0 THE AIR</b>									
<b>3.1 Meteorology/Climatology</b>									
3.1.1 Change in the local micro-climate e.g. local temperature	Monthly average rainfall and temperature of the area; Climatological normals/extremes; Wind rose diagrams; Frequency of Tropical cyclones		Identify and assess project impact in terms of change in the local micro-climate change. Also discuss effects of climate change using PAGASA medium to long term projections						
3.1.2 Contribution in terms of greenhouse gas emissions (or GHG mitigation potential)	Data on Greenhouse gasses (i.e. carbon dioxide, nitrous oxide);		Estimate projected greenhouse gases (GHG) (i.e. carbon dioxide, nitrous oxide) using IPCC guidelines; include mitigation and/or sequestration for both construction and operation phases.						
<b>3.2 Air Quality (&amp; Noise)</b>									
3.2.1 Degradation of air quality	Characterization of ambient air quality: <input type="checkbox"/> TSP <input type="checkbox"/> PM10 <input checked="" type="checkbox"/> sampling site map		Use DENR standard methods and procedures for sampling and analysis. Relate selection of sampling locations using data collected in 3.1.1  Identification and assessment of impact of the project to the identified parameters including VOCs and odor through air dispersion modeling (as may be applicable)  Show in a map, sampling sites for monitoring purposes based on the above assessment.  <i>Compare changes in air quality over time using statistical tools e.g.</i>						

			✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP				
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks
			Page	Page	Page	Page	
		<i>across sampling sites over time, and test for significant changes</i>					
3.2.2 Increase in ambient noise level	Characterization of ambient noise level  sampling site map	Use DENR standard methods and procedures for sampling and measurement.					
<b>4.0 THE PEOPLE</b>							
4.1 Displacement of settler/s  Displacement / disturbance of properties  Change/conflict in land ownership  Change/conflict Right of way  Impact on Public Access	Demographic data of impact area: - Number of households and household size - Land area, - Population, - Population density /growth - gender and age profile, - literacy rate, profile of educational attainment - settlements map  Focus Group Discussion covering various population sectors (women, men, youth, elderly and others as applicable) shall be undertaken in the impact area/s to gather perception data	Identify and assess project impacts on demography of affected communities. Use assessment in the formulation of SDP/IEC  Assess availability of alternative public access and housing options for displaced settlers For project with displacement/ disturbance of properties/settlers, change/conflict in land ownership and change/conflict right of way, formulate resettlement framework plan or RAP					
4.2 In-migration  proliferation of informal settlers	Census of population / property that will be displaced / disturbed  Housing ownership profile / availability of housing/ number of informal settlers	Identify and assess project impact due to in-migration patterns including proliferation of informal settlers					
4.3 Cultural/Lifestyle change	Demographic data on Indigenous People (if any) and existing Culture/Lifestyle that may be significantly affected	Identify and assess project impact in terms of Culture/Lifestyle that may be affected and/or introduced					
4.4 Impacts on physical cultural resources	Inventory and description of physical cultural resources and landscapes that have archaeological, paleontological, historical, religious, aesthetic, or cultural significance: Movable or immovable objects, below	Identify all potential project impacts in an integrated manner considering the type, significance, and value/importance of the physical cultural resource/s					

					✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP			
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks	
			Page	Page	Page	Page		
	<p>ground or under water, sites, structures, groups of structures, and natural features</p> <p>Classify cultural interest value/ importance into local, provincial, national, or international level</p> <p><i>Sources of information: UNESCO, National Museum (NM), National Historical Commission of the Philippines (NHCP), National Commission for Culture and Arts (NCCA) and the Local Government Units (LGUs) in the project area and other UN or National Publications</i></p>	<p>Identify risks in terms of capacity and commitment in managing the impacts</p> <p><i>(protocols in handling chance finds shall be implemented)</i></p>						
4.5 Threat to delivery of basic services /resource competition	<p>Availability of public services in terms of:</p> <ul style="list-style-type: none"> <li>• Water supply</li> <li>• Power supply</li> <li>• Communications /transportation</li> <li>• Conflict</li> <li>• education facilities</li> <li>• recreational facilities / sports facilities</li> </ul>	<p>Identify and assess project impact in terms of threats to delivery of basic services including potential for resource competition in the area including effects of in-migration</p>						
4.6 Threat to public health and safety	<p>Availability of public services in terms of: health resources (Government and Private)</p> <p>Statistical data / information related to public services:</p> <ul style="list-style-type: none"> <li>• Morbidity and mortality rates (infants and adults - 5-year trend)</li> <li>• Common diseases in the area including endemic diseases;</li> </ul> <p>Environmental Health and Sanitation Profile</p>	<p>Identify and assess specific threats to public health and safety due to project impacts. Relate discussions to land, air and water (Item 1 to 3)</p> <p>Analysis of the impact of project implementation on existing disease profile including weather sensitive diseases and impact aggravation as a result of climate change as projected by PAGASA</p>						
4.7 Generation of Local Benefits from the project  Enhancement of employment and livelihood opportunities	<p>Socioeconomic data:</p> <ul style="list-style-type: none"> <li>• Main sources of Income</li> <li>• Employment rate/ profile</li> </ul>	<p>Identify and assess local benefits of the project in terms of enhancement of employment and livelihood opportunities, increased business</p>						



				✓ For completeness, page numbers should be provided upon submission of the EIS/EPRMP			
List of Key Impacts	Baseline Data Parameter Requirements	Required Assessment Methodology/Approach	Baseline Conditions	Impact Analysis	Mgmt. Plan	Monitoring Plan	Remarks
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Increased business and associated economic activities Increased revenue of LGUs	<ul style="list-style-type: none"> <li>Poverty incidence of sources of livelihood</li> <li>commercial establishments and activities</li> <li>banking and financial institutions</li> </ul>	opportunities and associated economic activities and increased revenue of LGU					
4.8 Traffic congestion	Road network/ systems Existing Transportation/traffic situation	Identify and assess project impact on the traffic situation in the area including congestion based on existing capacity of road system					

**Table 4. Environmental Risk Assessment to be included in EIS/EPRMP**

		✓ For completeness during procedural screening; page numbers should be provided upon submission of the EIS/EPRMP			
Level of Coverage & Type of Risks	CONTENTS OF ERA AS PART OF EIS/EPRMP For the identified safety risks in column 1	ERA	ERP	Monitoring Plan	REMARKS
		Page	Page	Page	
Level of Coverage: Refer to Annex 2-7e of the RPM for DAO 2003-30 <input type="checkbox"/> Level 2 (QRA Required) <input type="checkbox"/> Level 1 (Emergency Plan based on hazard analysis) <input type="checkbox"/> Risk Screening Level	<p>For EPRMP, include HAZOP or QRA for existing facilities and compare with that for the expansion. Also include discussions on safety incidents/records/history (in relation to environmental risks) classified into first aid, medical attention cases, days away from work cases, fatalities (including contractors), record of drills (fire, spills, explosion, among others) and any experience in implementing the ERP</p> <p>For EIS, check type of report to be submitted prior to Operation:</p> <input type="checkbox"/> Quantitative Risk Assessment(QRA) <input type="checkbox"/> HAZOP				
Safety Risks Type: <input type="checkbox"/> Fire <input type="checkbox"/> Explosion <input type="checkbox"/> Release of toxic substances	<input checked="" type="checkbox"/> Description of conditions, events and circumstances which could be significant in bringing about identified safety risks <input checked="" type="checkbox"/> Description & assessment of the possible accident scenarios posing risk to the environment <input checked="" type="checkbox"/> Description of the hazards, both immediate (acute effects) and				

	<p>delayed (chronic effects) for man and the environment posed by the release of toxic substance, as applicable</p> <p><input checked="" type="checkbox"/> The safety policy and emergency preparedness guidelines consistent with the regulatory requirements. Emergency Preparedness should also consider natural hazards to the infrastructures and facilities.</p> <p>For EPRMP, present actual Emergency Response Policy, record of drills and recorded events.</p>				
<p><input type="checkbox"/> Physical Risks (Failure of Structure w/c could endanger life, property and/or the environment)</p>	<p><input checked="" type="checkbox"/> Description of conditions, events and "trigger" which could be significant in bringing about identified physical risks</p> <p><input checked="" type="checkbox"/> Description &amp; assessment of the possible accident scenarios posing risk to the environment</p> <p><input checked="" type="checkbox"/> Description of the hazards both immediate (acute effects) and delayed (chronic effects) for man and the environment posed by the failure of structure, as applicable</p>				

ANNEX B ECC Application Process Flow

