

## Environmental and Social Management Plan

Name of Road:	<b>Rehabilitation of San Isidro to Pag-oring Nuevo Road</b>
Location:	<b>Libmanan, Camarines Sur</b>
Implementing LGU:	<b>Provincial Government of Camarines Sur</b>
Estimated number of beneficiaries:	<b>22,257 individuals or 4,504 households</b>
New or Rehab:	<b>Rehabilitation</b>
Estimated Total Cost:	<b>Php 44,795,955.00</b>

### A. Site and Design Consideration

1. The Road does not encroach into or traverse any declared protected area of natural habitat;
2. The subproject will not displace, disfigure or render inoperable/inaccessible any monument or physical structure of known cultural and historical significance.

### B. Environmental Issues and Mitigation Measures

#### Environmental and Social Management Plan

Issue	Assessment	Mitigation Measure	Schedule/ Duration of the Mitigation Measures	Instrument of Implementation	Responsible Unit
1. Temporary increase in sedimentation during construction	[x] Cut materials will consist mainly of hard rocks and are unlikely to generate significant sediments	[ ] Earthmoving/ cutting of slopes to be done during dry months [x] Proper disposal and compaction of spoils	320 days construction period	DED/POW; Contract	PEO
2. Potential contamination of surface and groundwater with oil/grease	[x] Waste oil and grease from equipment could contaminate surface water	[x] Proper handling and disposal of waste oil and grease	350 days from start of project plus 1 month after construction	Contract	PEO
3. Potential contamination with human waste	[x] Construction workers would be temporarily housed in a base camp [x] Workers would be mostly locals and are expected to go home to their respective houses after works	[x] Set up adequate latrine/toilet facility at the base camp	320 days construction period	Contract	PEO
4. Potential disruption of traffic flow	[x] The access road and/or segments to be rehabilitated need is vital to daily activities of the residents and farmers and need to be kept open to traffic during construction [x] The construction will not overly affect daily movement of residents and farmers	[x] Keep the road open to traffic flow and minimize disruptions along the access road and/or construction area; Provide adequate warning signs and traffic personnel when necessary; [x] Undertake regular maintenance measures on the passable portions of the roads	320 days construction period	Contract	PEO

5. Potential dust/mud nuisance during construction	[x]Roads could become powdery during dry days and muddy during rainy days of the construction period [x] Access road and/or the construction/ rehabilitation works passes through a populated area	[x] Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas [x]Set up speed limits for vehicles, especially within residential areas	320 days construction period	Contract	PEO
6. Landslide/ erosion of exposed road sides resulting in sedimentation of waterways	[x] The road will traverse a mountainous area necessitating deep cuts on mountainsides. [x] The cut slopes will be hard materials that would resist erosion [x] The road passes through a relatively benign terrain, cuts will be minimal [x] The rehabilitation work does not involve additional road cuts	[x] Include slope protection works at the following stations:  1. Sta. 0+817.9 existing RCPC 0.910 m diameter 2. Sta 0+943.60 existing RCPC 0.910 m diameter 3. Sta 2+730 existing RCPC 2 lanes 0.6m diameter 4. Sta 3+9 3+357 existing RCPC 0.910 m diameter  Proposed 1. Sta 3+660 RCPC 0.910 m diameter  Left Right Sta.0+560-0+620 Sta.0+540-0+600 Sta.0+960-1+000 Sta.0+640-0+700 Sta.1+400-1+460 Sta.0+840-0+880 Sta.1+550-1+570 Sta.0+960-1+060 Sta.1+740-1+800 Sta.1+360-1+480 Sta.2+300-2+380 Sta.1+580-1+620 Sta.2+520-2+560 Sta.1+740-1+800 Sta.2+920-2+980 Sta.2+060-2+240 Sta.3+050-3+070 Sta.2+320-2+380 Sta.3+220-3+280 Sta.2+720-2+780 Sta.3+440-3+520 Sta.3+300-3+540 Sta.3+980-4+000 Sta.3+820-3+880 Sta.4+120-4+200 Sta.3+980-4+010 Sta.4+440-4+460 Sta.4+040-4+220 Sta.4+440-4+480 Sta.4+500-4+540 Sta.4+560-4+660  Segment B Sta.0+290-2+300 Sta.0+080-0+180 Sta.0+410-0+660 Sta.0+230-0+250 Sta.0+280-0+310 Sta.1+000-1+120	320 days construction period	DED/POW  Or (if budget does not permit) LGU Commitment Letter	PEO
7. Inadequate drainage resulting in flooding or ponding	[x] The road will block runoff, resulting in flooding on one side of the road during rainy days.	[x]Installation of cross drain, line canals, and repair of inlet/outlet stations:  Canal:  Left Right Sta.1+120-1+140 Sta.1+120-1+140 Sta.3+100-3+160 Sta.3+100-3+160 Sta.4+020-4+040 Sta.4+380-4+420 Sta.4+540-4+560 Sta.4+680-4+740 Sta.4+680-4+740  Segment B  Sta.0+240-0+280  RC Pipes 2+680-2 lines 0.9P- 2 Hw/ww	60 days	DED	PEO

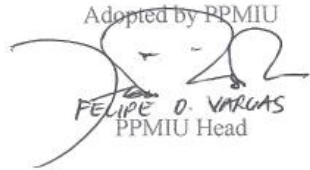
		2+740 - 2 Hw/ww 3+120 - 2 Hw/ww 3+660-1 line - 2 Hw/ww 4+000 - 2 Hw/ww 0+817.9 - 2 Hw/ww 0+943.6 - 2 Hw/ww			
8. Potential increase use of pesticides due to intensification of cash crop production in the area	[x] There is an ongoing IPM program of DA/PAO in the service area	[x] DA/PAO to continue to support IPM program	Year round	Capacity Building Plan O&M Plan; Capacity Building Plan	MAO/ OPA
9. Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production	[x] The proposed road will connect to the market an upland/hilly area where farmers are currently practicing erosive farming techniques. The road could help accelerate the denudation of the upland/hillsides rendering them unproductive in a few years.	[ ] DA to coordinate with LGU for the introduction of sustainable upland farming systems in the area		O&M Plan; Capacity Building Plan	MAO
10. Local employment	[x] Construction will provide local employment opportunities	[x] Hiring priority shall be given to qualified local residents; Implement I-BUILD Manual on local hiring	320 days	Contract	PEO
11. Disposal of excess excavation	[x] There will be excess excavated materials	[x] Disposal sites have been identified [x] Authority from lot owner secured	60 days	Contract	PEO
12. Road Safety and safety of workers during construction	[x] Workers may be exposed to hazardous conditions and other work-related risks	[x] Personal protective equipment should be provided to workers as part of the protocol [x] Provisions of traffic personnel at both ends of the FMR	300 days	Contract	Contract PEO M&E
13. Road signs installations near school and sheer portions	[x] Some portions of the road necessitate installation of road signs	[x] Installation of appropriate road signs as necessary	300 days	Contract	Contract PEO M&E
14. Construction noise mitigation	[x] Heavy Equipments will entail a lot of noise during construction	[x] Activities will be confined to daytime	300 days	Contract	Contract or
15. Possible discovery of artifacts, bones and other objects of interest during construction of the processing plant	[x] Discovery of the artifacts, bones and other objects of interest within the 10 meter radius [x] Discovery of the artifacts, bones and other objects of interest outside the 10 meter radius	[x] Suspension of the activities and immediately report to the PLGU and RPCO SES Focal Person	During construction period	Contract/ Chance Finds Procedure	Contract or
16. Conflict between project implementers and other stakeholders/ Grievance during implementation	[x] There is an acceptable Grievance Redress Mechanism in place	[ ] The project implementers to ensure that all grievances are properly addressed	Before and during project implementation	Grievance Redress Mechanism Framework Contract	PPMIU/ Contract or

Prepared by:



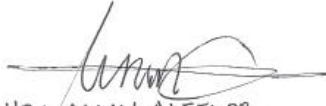
RENZ GONZALO REFE  
I-BUILD Head

Adopted by PPMIU

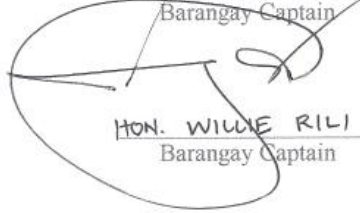


FELIPE D. VARGAS  
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Noted by the local community



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Endorsed by:



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