

**Philippine Rural Development Project
Environmental and Social Management Plan**

Name of Road : Rehab/Concreting of Barangay Making – Kalutan - Makasandag FMR

Location : Brgy. Making and Makasandag

Implementing LGU : Municipality of Parang, Maguindanao

Estimated number of beneficiaries : 622 Population

New or Rehab : Rehabilitation

Estimated Total Cost : P 25,491,169.57

Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
1. Temporary increase in sedimentation during construction	<input type="checkbox"/> Topography of the road alignment necessitate massive earthmoving and cutting of clayey or loose top soils <input type="checkbox"/> Cut materials will consist mainly of hard rocks and are unlikely to generate significant sediments	<input type="checkbox"/> Earthmoving/ cutting of slopes to be done during dry months <input type="checkbox"/> Proper disposal and compaction of spoils <input type="checkbox"/> No measures required	DED/POW; Contract
2. Potential contamination of surface and groundwater with oil/grease	<input type="checkbox"/> Waste oil and grease from equipment could contaminate surface water <input type="checkbox"/> There will be no or insignificant amount of waste oil/grease	<input type="checkbox"/> Proper handling and disposal of waste oil and grease	Contract

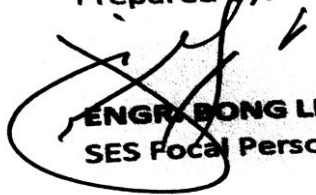
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3. Potential contamination with human waste	<input type="checkbox"/> Construction workers would be temporarily housed in a base camp <input type="checkbox"/> Workers would be mostly locals and are expected to go home to their respective houses after works	<input type="checkbox"/> Set up adequate latrine/toilet facility at the base camp	Contract
4. Potential disruption of traffic flow	<input type="checkbox"/> 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 <input type="checkbox"/> The construction will not affect daily movement of residents and farmers	<input type="checkbox"/> 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; <input type="checkbox"/> Undertake regular maintenance measures on the passable portions of the roads <input type="checkbox"/> No measures needed	Contract
5. Potential dust/mud nuisance during construction	<input type="checkbox"/> Roads could become powdery during dry days and muddy during rainy days of the construction period <input type="checkbox"/> Access road and/or the construction/ rehabilitation works passes through a populated area <input type="checkbox"/> Access road and/or construction/ rehabilitation does not pass through any populated area	<input type="checkbox"/> Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas <input type="checkbox"/> Set up speed limits for vehicles, especially within residential areas <input type="checkbox"/> No measures needed	Contract

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6. Landslide/ erosion of exposed road sides resulting in sedimentation of waterways	<p><input type="checkbox"/> The road will traverse a mountainous area necessitating deep cuts on mountainsides, particularly between station ____ and ____, etc (check DED for deep cuts)...</p> <p><input type="checkbox"/> The exposed slopes will likely consist of highly erodible loose materials</p> <p><input type="checkbox"/> The cut slopes will be hard materials that would resist erosion</p> <p><input type="checkbox"/> The road passes through a relatively benign terrain, cuts will be minimal</p> <p><input type="checkbox"/> The rehabilitation work does not involve additional road cuts</p>	<p><input type="checkbox"/> Include slope protection works at the following stations:</p> <p>_____</p> <p>_____</p> <p>..etc..</p> <p>(Specify the type/s of slope protection to be applied at each section- Consult with the Municipal Engineer:</p> <p><input type="checkbox"/> Bioengineering with geomat and cover crop</p> <p><input type="checkbox"/> Fast growing shrub species</p> <p><input type="checkbox"/> Riprap</p> <p><input type="checkbox"/> Gabions</p> <p><input type="checkbox"/> Terracing</p> <p><input type="checkbox"/> Concrete protection wall</p> <p><input type="checkbox"/> Others _____)</p>	<p>DED/POW</p> <p>Or (if budget does not permit)</p> <p>LGU Commitment Letter</p>														
7. Inadequate drainage resulting in flooding or ponding	<p><input type="checkbox"/> The road will block runoff, resulting in flooding on one side of the road during rainy days.</p> <p><input type="checkbox"/> Drainage issues unlikely</p>	<p><input type="checkbox"/> Installation of cross drain between station:</p> <p>RCPC LINE CANAL</p> <table border="1" data-bbox="760 1524 1117 1852"> <thead> <tr> <th data-bbox="764 1530 906 1619">Station</th> <th data-bbox="911 1530 1112 1619">Culvert Size/Dimension</th> </tr> </thead> <tbody> <tr> <td data-bbox="764 1625 906 1661">Sta. 0+247</td> <td data-bbox="911 1625 1112 1661">912 mm Ø RCPC</td> </tr> <tr> <td data-bbox="764 1667 906 1703">Sta. 0+380</td> <td data-bbox="911 1667 1112 1703">912 mm Ø RCPC</td> </tr> <tr> <td data-bbox="764 1709 906 1745">Sta. 0+310</td> <td data-bbox="911 1709 1112 1745">912 mm Ø RCPC</td> </tr> <tr> <td data-bbox="764 1751 906 1787">Sta. 1+465</td> <td data-bbox="911 1751 1112 1787">912 mm Ø RCPC</td> </tr> <tr> <td data-bbox="764 1793 906 1829">Sta. 1+600</td> <td data-bbox="911 1793 1112 1829">912 mm Ø RCPC</td> </tr> <tr> <td data-bbox="764 1835 906 1852">Sta. 1+600</td> <td data-bbox="911 1835 1112 1852">912 mm Ø RCPC</td> </tr> </tbody> </table>	Station	Culvert Size/Dimension	Sta. 0+247	912 mm Ø RCPC	Sta. 0+380	912 mm Ø RCPC	Sta. 0+310	912 mm Ø RCPC	Sta. 1+465	912 mm Ø RCPC	Sta. 1+600	912 mm Ø RCPC	Sta. 1+600	912 mm Ø RCPC	<p>DED</p>
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8. Potential increase use of pesticides due to intensification of cash crop production in the area	<input type="checkbox"/> There is an ongoing IPM program of DA in the service area <input type="checkbox"/> Farmers in the service area have not been trained on IPM	<input type="checkbox"/> DA to continue to support IPM program <input type="checkbox"/> LGU to Coordinate with DA on IPM training	Capacity Building Plan O&M Plan; Capacity Building Plan
9. Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production	<input type="checkbox"/> 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. <input type="checkbox"/> The road connects only lowland farms to the market	<input type="checkbox"/> DA to coordinate with LGU for the introduction of sustainable upland farming systems in the area <input type="checkbox"/> No measure required	O&M Plan; Capacity Building Plan
10. Potential increased in encroachments of human activities into the nearby public forest	<input type="checkbox"/> The proposed road will improve human access to the nearby public forest, resulting in increase slash and burn cultivation, illegal logging and poaching. <input type="checkbox"/> The proposed road does not improve access to a public forest	<input type="checkbox"/> Coordinate with DENR for the enactment of ordinance deputizing the local community to enforce forestry laws <input type="checkbox"/> No measure required	O&M Plan; Capacity Building Plan
10. Local employment	<input type="checkbox"/> Construction will provide local	<input type="checkbox"/> Hiring priority shall be given to qualified local	Contract

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	employment opportunities	residents; Implement RI Manual on local hiring	

Prepared by:


ENGR. DONG LEE
SES Focal Person

Noted By:


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