PETROLEUM FUEL STATION PROJECTS

II. ENVIRONMENTAL IMPACTS MANAGEMENT AND MONITORING PLAN

II. ENVIRONMENTAL IM Possible	PACTS MANAGEMENT AND MON		Monitoring Parameters/	
Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Implementation	Remarks
Impacts		Cost of preventive/mitigating as well as monitoring cost	integrated in the construction /operation	
LAND				
☑ Consistency with land use	Current land use w/in 1km radius (as per zoning ordinance): Residential Commercial/ Institutional Industrial Agricultural/ Recreational Protected Areas Others, specify Actual land uses w/in 1km	 ✓ See attached proof of compatibility with land use ✓ Limit project activities to what is compatible to the land use ☐ Others, specify 		
	radius: Residential Commercial/ Institutional Industrial Agricultural/ Recreational Protected Areas Others, specify			

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures Monitoring Parameters/ Implementation	Remarks
Impacts		Cost of preventive/mitigating as well as monitoring integrated in the construction /operation cost	i cilial ko
□ Land Tenure / compatibility issue	Land tenure / compatibility issues: CARP CADC/ CADT/ CALC/ CALT ROW Informal settlers Ecologically sensitive or protected area Others, specify	 □ Obtain appropriate clearances/ permits from concerned agencies: □ Regularly monitor presence/absence of complaints □ Regular coordination with LGU or appropriate agencies □ Others, specify □ Resettlement Plan prepared □ Provide relocation/disturbance compensation packages □ Ensure participation of IPs in consultations and dialogues □ MOA prepared/signed □ Provide adequate buffer □ Others, specify 	
☐ Disturbance to wildlife due to vegetation clearing	Existing vegetation in the area: Forestland Marshland Grassland Mangrove Wetland	 Comply with conditions of DENR/LGU SLUP, Tree Cutting Permit, ROW, PCA Permit □ Limit land clearing as much as possible □ Provide temporary fencing for vegetation that will be retained □ Promote restoration of damaged or 	

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts	Daseille Environment	Cost of preventive/mitigating as well as monitoring cost	integrated in the construction /operation	Remarks
☐ Change in surface	☐ Others, specify Slope:	destroyed vegetation where possible (e.g., tree planting); Provide adequate buffer zone Others, specify Considering the natural hazards and	☐ Regular inspection of	
landform/ topography/ terrain/slope Soil Erosion	☐ Flat (0-3%) ☐ Gently sloping to rolling (3-18%) ☐ Steep (>18%) Is the project site located in an area identified by MGB/ PAG-ASA/ PHIVOLCS as hazard prone? ☐ Yes ☐ No	climate projections in the area: Provide erosion control and slope protection measures Designate a spoils storage area, with topsoil set aside for later use and allow maximum re-use of spoils Construction during dry season Stabilization of embankment with grasses or other soil cover Conduct Engineering Geological and Geo-hazard Assessment (EGGA) and implement corresponding recommendation Others, specify	slope protection measures in erosion-prone areas Regular inspection for new eroded areas near the site Others, specify	

Project Name:	
•	

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts	Bussinio Environment	Cost of preventive/mitigating as well as monitoring cost	integrated in the construction /operation	Nomano
☐ Soil/Land contamination due to project operations and improper solid/hazardous waste disposal	Existing soil type in the area: sandy clay sandy-loam Others, specify	☐ Secondary containment (pls specify :	☐ Monitoring of soil petroleum fuel content in soil and other parameters relevant to the potential source of contamination (if any, specify):	
 Depletion of soil productivity/Change in acidity/alkalinity of soil 		☐ Implement proper collection, labeling and storage of hazardous waste☐ Others, specify		
	Soil acidity/alkalinity acidic basic Conduct of soil test/analysis for petroleum fuel content and other parameters relevant to the potential source of contamination (if any, specify):		□ Others, specify	
Building of Structure and Improper solid waste management leading to: Impairment of visual aesthetics	Solid Waste Management Scheme in the area: SLF MRF Composting Regular Collection of Solid	 □ Set-up temporary fence around the construction area ☑ Implement re-use and recycling of waste materials ☑ Implement proper segregation, collection and disposal of domestic wastes in designated area 	Daily inspection of waste handling including segregation in waste/recycling bins. Weekly inspection of waste accumulation and disposal	

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts		Cost of preventive/mitigating as well as monitoring cost	integrated in the construction /operation	
☐ Devaluation of land values	Wastes Presence of visually significant landforms/landscape/structures? ☐ Yes ☐ No	 ☑ Provide receptacles / bins for solid wastes ☐ Composting of Organic Wastes ☐ Coordinate with the municipal / city waste collectors ☐ Engage third party company for waste collection ☐ Implement landscaping and other beautification measures ☐ Provide adequate buffer ☐ Compensate adjacent property owners ☐ Others, specify 	 □ Regular inspection of landscaping and other beautification activities □ Regular monitoring of buffer zones ☑ Regularly monitor presence/absence of complaints from adjacent property owners □ Others, specify 	
WATER				
 □ Increased siltation due to project activities □ Water quality degradation □ Others, specify 	Specify nearest water body: Distance to nearest water body: □ 0 to less than 0.5 km □ 0.5 to 1 km □ More than 1 km Size of population using	 ✓ Set up proper and adequate sanitary facilities ✓ Ensure strict observance of proper waste disposal/handling and proper sanitation including by the contractor and its workers (if any) ✓ Provision of wastewater treatment facility (e.g., septic tank, oil and water separator, etc.) ✓ Set up silt trap/settling ponds to minimize downstream siltation ✓ Provide ring canals around fuelling tanks/ motor pool/ maintenance areas 	Regular (ocular) inspection of: □ Drainage/canal systems □ Wastewater treatment facility (i.e., grease trap, septic tank, etc.) Regular monitoring of ambient water for the following: □ Parameter Frequency □ pH □ Annual □ Semi-annual □ Quarterly □ Monthly	Cost integrated in the construction/ operation cost

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts		Cost of preventive/mitigating as well as monitoring in cost	integrated in the construction /operation	
	receiving surface water:	☐ Others, specify	☐ TSS ☐ Annual	
	☐ ≤ 1,000 persons		concentra tion Semi-annual	
	☐ >1,000 and ≤ 5,000persons		Quarterly	
	☐ >5,000person		☐ Monthly	
	Classification of nearest water		☐ BOD ☐ Annual	
	body:		☐ Semi-annual	
	☐ Freshwater ☐ Marine/ coastal		☐ Quarterly	
	water		☐ Monthly	
	□ AA □ SA		☐ Color ☐ Annual	
	□ A □ SB		☐ Semi-annual	
	□ B □ SC		Quarterly	
			Monthly	
			☐ Total ☐ Annual ☐ Coliform ☐	
			│	
	Current Water Use:		Quarterly	
	☐ Fishery		☐ Monthly	
	☐ Tourist Zone / Park		Oil and Annual Grease	
	☐ Recreational		Semi-annual	
	☐ Industrial		Quarterly	
	☐ Agricultural		☐ Monthly ☐ Total ☐ Annual	
	Distance of project area to the nearest well used:		Petroleu m Semi-annual Hydrocar bon / BTX	
	0 to less than 0.5 km		☐ Monthly	
	☐ 0.5 to 1 km ☐ More than 1 km			
	U MOIE MAIL I MIII			
	Use of nearest well:			

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Environmental/ Social Impacts Competition in	☐ Drinking/Domestic ☐ Industrial ☐ Agricultural ☐ Others, specify Size of population using	Cost of preventive/mitigating as well as monitoring cost The cost of preventive/mitigating as well as monitoring cost The cost	Implementation integrated in the construction /operation ✓ Regular monitoring for	✓ Cost integrated in the
water use Depletion of water resources	proposed water source: □ ≤ 1,000 persons □ >1,000 and ≤ 5,000 persons □ >5,000 persons Current Use of water source: □ Fishery □ Tourist Zone / Park □ Recreational □ Industrial □ Agricultural Available/nearest water source. □ Deep well □ Water district/LGU □ Surface water □ Others, specify	similar measures as an alternative source of water Observe water conservation measures Careful selection of project site to avoid disruption of traditional water uses Obtain Water Permit from NWRB Improve efficiency of water supply and distribution system Increase storage capacities of water supply structures for resilience to greater climate variations and extremes Others, specify	presence/absence of complaints Regular coordination with concerned agencies Regular monitoring for occurrences of water shortages Others, specify	construction/ operation cost

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Increased occurrence of flooding	Is the project site located in an area identified by MGB/PAG-ASA as flood prone? Yes No	Cost of preventive/mitigating as well as monitoring cost Use appropriate design for project facilities including appropriate drainage mechanism considering the existing local drainage system. Regularly remove debris and other materials that may obstruct water flow Use appropriate technology (e.g., raised hand-pumps) to protect drinking water from flood contamination Others, specify		Remarks Cost integrated in the construction/ operation cost
AIR / NOISE Air quality degradation Nuisance due to	Distance to nearest community: 0 to less than 0.5 km 0.5 to 1 km	Properly operate and maintain all emission sources (e.g. vehicles, pumps, generator, etc.) Install appropriate air pollution control	Regular monitoring for presence/absence of complaints	Cost integrated in the construction/ operation cost
generation of obnoxious/unpleasa nt odor	 ☐ More than 1 km Is the wind direction blowing towards the nearest community most of the year? ☐ Yes ☐ No 	✓ Install appropriate air pollution control device/s:	Regular (ocular) inspection of: Absence of white or black smoke from vehicles, generator, etc. Regularly monitor for presence/absence of	

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts	Baseline Environment	Cost of preventive/mitigating as well as monitoring cost	integrated in the construction /operation	Kemarks
		Control vehicle speed to lessen suspension of road dust	complaints Regular monitoring for	
		 Conduct water spraying to suppress dust sources and minimize discomfort to nearby residents 	obnoxious odor	
		☐ Control vehicle speed to lessen suspension of road dust		
		 Use covered vehicles to deliver materials that may generate dust 		
		Regular clean-up and good housekeeping practices		
		☐ Use of environment-friendly deodorizer or odor masking substances		
		☐ Spraying natural / microbial disinfectants		
		☐ Provide adequate buffer and/or planting of trees		
		☐ Others, specify		

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts	baseine Environment	Cost of preventive/mitigating as well as monitoring cost	integrated in the construction /operation	Remarks
□ Nuisance due to noise generation □ Gas Emission		 □ Properly operate and maintain all noise sources (e.g., vehicles, pumps, generator, etc.) □ Install, when applicable, the appropriate noise control device/s (e.g., mufflers, silencer, sound barriers, etc.) □ Implement appropriate operating hours □ Provide adequate buffer and/or planting of trees □ Others, specify □ Regular and efficient maintenance of mechanical equipment	Regular monitoring for presence/absence of complaints Regular monitoring of buffer zones Monitor for gas leak	Cost integrated in the construction/ operation cost
		sa. squ.pmon		
PEOPLE				

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts		Cost of preventive/mitigating as well as monitoring cost	integrated in the construction /operation	
 □ Displacement of residents including indigenous people (if any) in the project site and within its vicinity □ Enhanced employment and/or livelihood opportunities □ Reduced employment and/or livelihood opportunities □ Increased revenues for LGU □ Disruption/Competiti on in delivery of public services (e.g., education, peace and order, etc.) □ Enhanced delivery of public services (e.g., education, peace and order, etc.) □ Increase in traffic volume and worsening of traffic flow 	Size of population of host barangay:	 □ Provide relocation/disturbance compensation packages ☑ Prioritize local residents for employment ☑ Promptly pay local taxes and other financial obligations ☑ Regular coordination with LGU □ Prior consultation and coordination to minimize disruption of daily domestic activities IP rights and cultural practices □ Ensure participation of IPs in consultations and dialogues and consider IP rights and cultural practices in the provision of relocation/disturbance compensation packages □ Provide appropriate traffic/warning signs, lighting, etc. □ Others, specify 	Regular monitoring for presence/absence of complaints Regular coordination with LGU Others, specify	
	the host barangay: Schools (e.g.			

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
		Cost of preventive/mitigating as well as monitoring integrated in the construction /operation cost		Kemarks
	elementary, high school, college) Health facilities (e.g., clinics, hospitals, etc.) Peace and order (e.g., police outpost, Brgy. Tanod, etc.) Recreation and sports facilities Others, specify			
☐ Destruction/disturban ce of physical cultural resources. (✓ if project site has been identified to have such by NM, NHCP, NCAA and LGUs)	Physical Cultural resources within the vicinity of the project site:	☐ Implement appropriate protocols based on NM, NHCP, NCAA and LGU guidelines including those for chance finds (if any). Specify:	Regular coordination with NM, NHCP, NCAA and LGU	

Possible Environmental/ Social	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Remarks
Impacts		Cost of preventive/mitigating as well as monitoring integrated in the construction /operation cost		Remarks
 Impacts on community health and safety Safety Risks ✓ Fire ✓ Explosion 	Source of risks Explosive substances:	Explosive substances: □ Provide appropriate warning signs, lighting and barricades, whenever practicable □ Observe proper housekeeping □ Provide on-site medical services for	complaints Regular monitoring of	Cost integrated in the construction/ operation cost
Release of toxic materials Structural failure	✓ Flammable substances:	 any emergency. □ Participate in public awareness programs on health and safety □ Implement appropriate safety programs for both community and workers ☑ Strictly comply with fire, safety and similar regulatory requirements 	Regular submission of reports to concerned agency Others, specify	
	☐ Toxic substances	☐ Strictly comply with requirements of RA 6969☐ Others, specify		
	☑ Oil spills ☐ Others, specify			