Initial Environmental Examination

June, 2015

VIE: INTEGRATED RURAL DEVELOPMENT SECTOR PROJECT IN THE CENTRAL PROVINCES (Additional Financing)

SUBPROJECT: UPGRAGDING PHO LAI - THANH CAN - NAM DUONG - CO THAP DIKE CUM ROAD, THUA THIEN HUE PROVINCE

Prepared by Central Project Management Unit – Agriculture Project Management Board - Ministry of Agriculture & Rural Development for the Asian Development Bank

CURRENCY EQUIVALENTS

(as of 25 September 2014)

Currency unit	–	Vietnamese Dong (VND)
VND 1.00	=	$0.0000471
$1.00	=	VND 21,245

ABBREVIATIONS

ADB	Asian Development Bank
AP	Affected persons
CEP	Commitment on Environmental Protection
CPC	Communal People's committee
CPMU	Central Project Management Unit
DARD	Department of Agriculture and Rural Development
DONRE	Department of Natural Resources and Environment
DPC	District People's Committee
EIAR	Environmental Impact Assessment Report
EMDF	Ethnic Minority Development Framework
EMP	Environmental Management Plan
DARD	Department of Agriculture and Rural Development
FPD	Forest Protection Department
IEE	Initial Environmental Examination
IPM	Integrated Pest Management
IRDPCP	Integrated Rural Development Project in Central Provinces
LIC	Loan Implementation Consultant
MONRE	Ministry of Natural Resources and Environment
PC	People's Committee
PPC	Provincial Peoples Committee
PPMU	Provincial Project Management Unit
RF	Resettlement Framework
SIR	Subproject Investment Report
TPC	Town People's Committee
UXO	Unexploded Ordnance

WEIGHTS AND MEASURES

km	–	kilometer
kg	–	kilogram
ha	–	hectare
m	–	meter

NOTE

In this report, "$" refers to US dollars.

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1. INTRODUCTION

1. Loan 2357(SF) for the Integrated Rural Development Sector Project in the Central Provinces (IRDSPCP) was approved by ADB on 15 October 2007. The total cost of the Project was estimated at $168.2 million and is jointly financed by ADB and Agence Francaise de Developement (AFD). The IRDSPCP focuses on upgrading and rehabilitating rural infrastructure (rural roads and irrigation systems, flood control, markets and other key infrastructure). To date, 129 subprojects have either been completed or are nearing completion. Review missions had determined that the quality of construction of subprojects was good. The executing agency (EA) has developed the expertise needed to effectively implement the project and significant benefits are already accruing.

2. At the request of the Government, the potential for additional financing was investigated during the Mid-Term Review in 2011 and two review missions in 2012. About 39 new subprojects were found eligible for consideration in the additional financing. The amount of $70 million has been recommended and included in the country program for ADB Board consideration in 2013. The IRDSPCP – Additional Financing (the Project) aims to rehabilitate and upgrade deteriorated critical productive rural infrastructure in support of the Government of Viet Nam's new National Target Program for Rural Development (NRD).

3. In consultation with the relevant provincial government and field investigation by the CPMU, a total of 23-24 eligible subprojects were initially identified based on 7 screening criteria which are focused on social economic development, safeguards, integrated development model, feasibility and sustainability. The types of subprojects are as follows:

   (i) Small & medium-sized dam and reservoir improvements e.g., spillways, head-works, reservoir walls, and leakage control;

   (ii) Rehabilitation of primary and secondary irrigation canals and river bank stabilization. Wherever possible key strategic investments such as the lining of critical lengths of canal or the reinforcing of existing water control structures will be chosen; and

   (iii) Rehabilitation of commune to district, and inter-commune roads to improve linkages between higher level alignments (provincial and national routes) and lower level commune to village and inter-village roads. In addressing key issues of sustainability, designs will take into account the increased intensity and frequency of climatic hazards anticipated to result from global climate change, the local geology and terrain, potential change in utilization patterns (type and volume of traffic), and the longer-term availability of recurrent expenditure for operations and maintenance (O&M).

4. As part of the IRDPC, UPGRADING PHO LAI - THANH CAN - NAM DUONG - CO THAP DIKE CUM ROAD subproject will be implemented at Quang Vinh commune, Quang Dien district, Thua Thien Hue province.

5. This Initial Environmental Examination/Commitment on Environmental Protection (IEE/CEP) document has been prepared to meet the environmental safeguards requirements of the ADB[1] and GOV[2]. The IEE/CEP contains the following information:

[1] ADB Safeguard Policy Statement (2009)

[2] Law on Environment Protection (Revised) 2006; Decree 29/2011/ND-CP and Circular 26/2011/TT-BTNMT

(i) Section II contains a description of the subproject;

(ii) Section III contains a description of environmental conditions in the vicinity of the subproject;

(iii) Section IV contains a describes potential environmental impacts of the subproject;

(iv) Section V contains the environmental management plan including mitigation measures, monitoring system and cost estimation for Environmental Monitoring System (EMS) implementation;

(v) Section VI contains activities description on community consultation and subproject disclosure;

(vi) Section VII contains conclusion and recommendation including summarization of main impacts and typical mitigation measures in the subproject's implementation.

2. PROJECT DESCRIPTION

Table 1. General information of subproject

DATA ITEM	SUBPROJECT DATA
GENERAL INFORMATION	
Subproject Name	Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum road
Subproject Type	Improvement and upgrading
Executing Agency	People's Committee of Thua Thien Hue Province
Sub-project owner	Department of Agriculture and Rural Development, Thua Thien Hue Province
Sub-project Management Unit	PPMU of IRDPCP, Thua Thien Hue Province
Address of PPMU's office	7 Dong Da, Hue City, Thua Thien Hue province
Name and Title of Head of Project owner	Ho Sy Nguyen Title : Director
Telephone, fax and email details of Project owner	Tel : 054.3834957; FAX : 054.3834922
Name of Environmental Officer of PPMU	Diep Minh Phong
Telephone, fax and email details of PPMU Environmental Officer	0905979676
SUBPROJECT DESCRIPTION	
New project or rehabilitation project	Improvement and upgrading project
Grade of traffic road (*Technical Standard)*	Rural road at class A in plain area
Designed velocity (km/h)	15 Km/h
Length and width of road (km)	Upgrading of road with a length of 11.54 km; Width: B road-bed = 5.0m; B road-surface = 3.5m
Road surface *(paving asphalt, concrete,*	Concrete

DATA ITEM	SUBPROJECT DATA
soil, etc.)	
Number and length of bridge	New construction of a concrete bridge: Nam Duong Bridge Slab bridge, length = 43.8 m; steel reinforced concrete;
Number and dimension of culvert	Round culvert with a diameter of 75-100cm: 44 pcs; box culvert with a dimension of 100x100cm to 250x250cm: 16 pcs. Culverts are steel reinforced concrete;
Width of land clearance area:	Width of existing road varies in 3 - 9m range while the width of designed road is 5 m. Thus, width of clearance area is approximately 0.0 – 2.0 m along the route;
Number of other road cutting the subproject road	Road No.11; 23 concrete roads and 09 earth roads of villages; The route is connected to road No.11A at 03 points including K1+673, K3+133 and K5+043; the rest cut 32 residential roads;
Number of flows running through road - River - Lake - Other flows	 Pho Lai River Not any More than 05 canals
Number of hills and mountainous running roads - Hills - Mountains	 Not any Not any
Auxiliary Works	04 pumping station with a capacity of 250-720 m3/h Canals with a length of 328 m and a dimension of 0.3m x 0.4 to 0.74m x 0.9m
CONSTRUCTION ACTIVITIES[3]	
Commencement date (month/year)	July 2016 (as expected)
Completion date (month/year)	June 2018 (as expected)
Number of workers	About 50 persons
Necessary camps (Yes/No)	Yes, 01 main camp at the proposed bridge and 02-03 camps along the proposed road
Construction in rainy season (Yes/No)	No
Asphalt/concrete mixing plant	No
Location and area of borrow area or description of material source	- Filled soil will be taken from Dong Hoc hill borrow pit in Phong An commune located at a distance of 12.73 km from the subproject site. The borrow pit is operated in accordance with decision no. 2289/QD-UBND issued by Thua Thien Hue PPC on the 22nd of November 2010. - Stone will be taken from Truong Son quarry. It is far from the subproject area about 8 Km. This quarry is operated in

[3] Source: Basic Design Explanation of Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum road Subproject

DATA ITEM	SUBPROJECT DATA
	accordance with the decision no. 2595/QD-UBND issued by Thua Thien Hue PPC on the 21st of November 2007. - Sand and gravel will be taken from An Lo mine. It is far from the subproject area about 4.2 Km. An Lo mine is operated in accordance with decision no. decision no. 936/QD-UBND issued by Thua Thien Hue PPC on the 29th of May 2012. - Steel will be taken form Hue city located at a distance of 19 km from the subproject area. - Cement will be purchased from Van Xa factory located 6.2km from the beginning of the route or Hue city.
Method on management and balance of excavated soil/surplus soil	The route is upgraded based on the existing one, therefore, the quantity of excavated soil along the route will not great if compared with the compactness soil which is used for upgrading; Cutting soil: 36,604.28 m^3; Filling soil: 76,346.31 m^3; Surplus soil: 7320.86 m^3; (20% of excavated soil estimated) It is expected that the vast majority of this discarded soil will be re-used for leveling off low land in the communities or leveling off ground in other projects The rest will be transported to the regulated landfill of Quang Dien town. The area of the landfill is about 3ha and the depth of a cell ranges from 5m to 7m. It is far from construction sites about 7km. An agreement of transportation and disposal construction and domestic waste for the subproject should be prepared and signed by the contractors and the authority before commencing construction;
Type and approximate quantity of raw construction materials	Concrete, estimated volume: 8378.23 m^3; Stone: 9478 m^3 Steel: 56.300 tons
Quantity of solid waste generated from construction (calculated monthly following m^3) - Soil, sand, debris, etc - Domestic waste	Estimated soil, sand volume: 7320.86 x 10%/ 24= 30.5 m^3/month which will disposed at the agreed disposal area (proposed at Quang Dien disposal area, the agreement with local authority will be obtained during detail design phase) Domestic waste: 0.5 kg/person/day x 50 people x 30 = 750 kg/month
Number and conditions construction vehicles and equipment	04 bulldozers; 04 excavators; 04 rolling machines; 20 tip trucks, 03 concrete mixers. All vehicles and machines are in good conditions and have registration of periodical

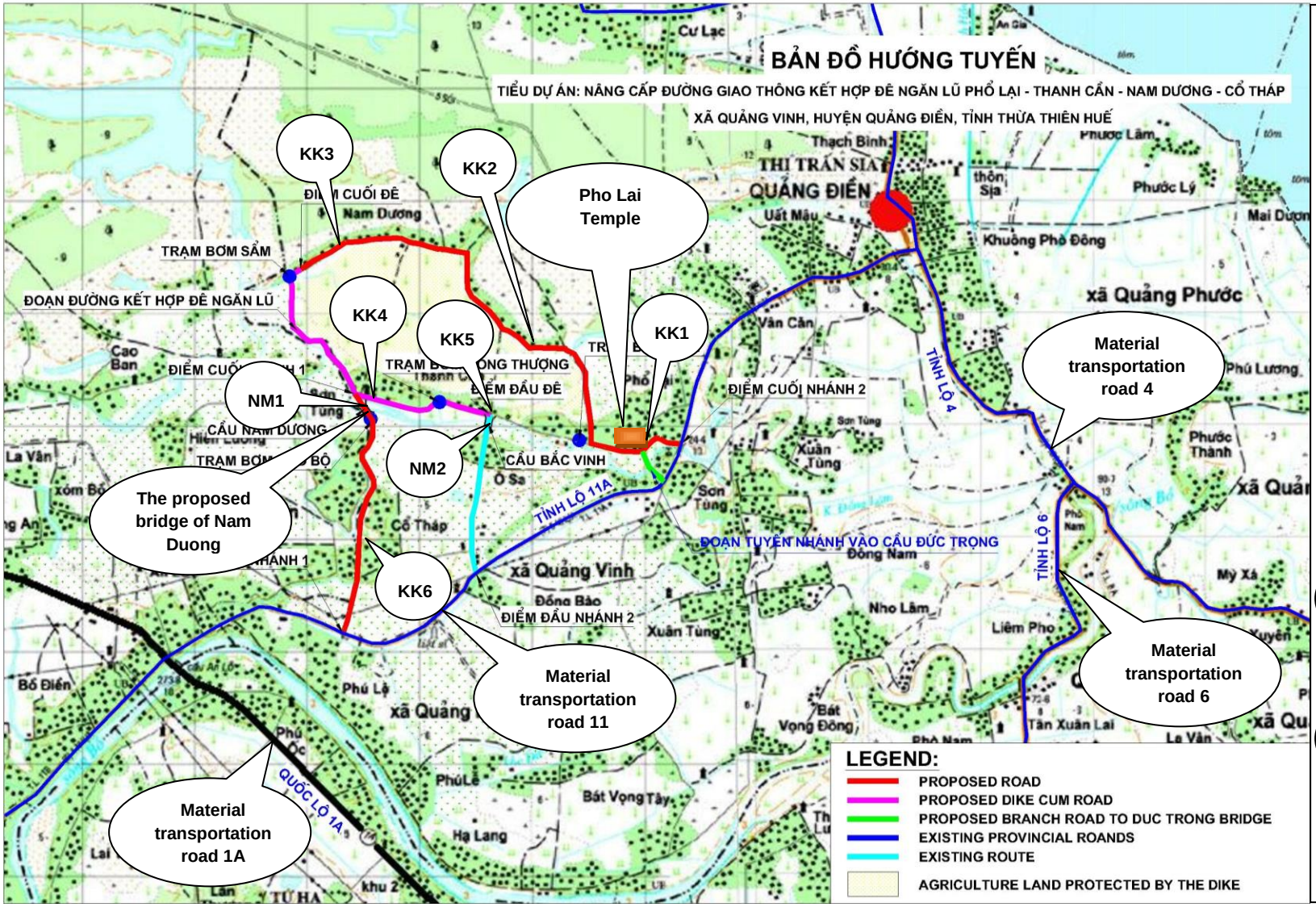
DATA ITEM	SUBPROJECT DATA	
	verification	
OPERATION AND MAINTENANCE ACTIVITIES[4]		
Allowed velocity	15 Km/h (in limited conditions)	
Expected trafic volumes in 2015-2035	Car: 05 to 31; Bus: 00; Small truck: 17 to 116; Medium truck: 00; Motorbike: 247 to 1663; Bike: 325 to 864	
Expected load	6 tons	
Expected ratio of vehicles increased	Increased by 5-10% after the subproject in 2015 - 2035.	
Descriptions of periodical maintenance activities	**Annual maintenance:** Regularly, monthly and annually check the road condition; cut off branches of trees and grass to keep the roadsides clear; dredge sludge of ditches and culverts of the road; fix any broken sign roads and posts; clean the surface road; implement storm and flood guard in rainy season; record and update data related to the bridge and road and storm and food in the subproject area. Fund for these activities will be provided from the budget of the town and the local government. Annual average cost for Operation and Maintenance Activities estimated 770,000,000 VND **Periodic maintenance:** Periodic maintenance is conducted every five years for roads. Estimated cost for periodic maintenance is 30% of the total cost including repairing some damaged works such as foundation and surface. Detailed activities will be based on the Economic-Technical Report according to the government's regulations on investment management.	
RESETTLEMENT AND LAND ACQUISITION [5]		
Affected households	32 households of which none of households are subsidized families, the handicapped, single/female families	
Number of severely affected APs	There is no production land loss of >10% for any household.	
Number of APs that must relocate	No house/shop shall be relocated or rebuilt at new place.	
Total land area to be acquired (ha)	Temporary= 0 m^2	Permanent = 1,756 m^2
Agricultural land area to be acquired (ha)	Temporary= 0 m^2	Permanent = 1,150 m^2
Forestry land area to be acquired (ha)	Temporary= 0 m^2	Permanent = 0 m^2
Aquacultural land to be acquired (ha)	Temporary= 0 m^2	Permanent = 0 m^2
Residential land to be acquired(ha)	Temporary= 0 m^2	Permanent = 0 m^2
Garden land to be acquired (ha)	Temporary= 0 m^2	Permanent = 606 m^2

[4] Source: SIR of Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum road

[5] This data is obtained from Resettlement Plan

DATA ITEM	SUBPROJECT DATA	
Other land to be acquired (ha)	Temporary= 0 m^2	Permanent = 0 m^2
Affected assets	None	Permanent = 0
SUBPROJECT COST		
Total subproject cost (VND and $USD)	75,414,938,000VND/ 3,550,000USD	

Figure 1: Map of Subproject and Surrounding Area



KK1	Air quality observation location - at Pho Lai temple in Pho Lai hamlet
KK2 , 5	Air quality observation location - at residential area in Thanh Can hamlet
KK3 , 4	Air quality observation location - at residential area in Nam Duong hamlet
KK6	Air quality observation location - at residential area in Co Thap hamlet
MN1	Water quality observation location at the proposed bridge of Nam Duong in Pho Lai river
MN2	Water quality observation location at the proposed bridge of Bac Vinh in Pho Lai river

3. DESCRIPTION OF EXISTING ENVIRONMENT

Table 2. Environmental baseline

DATA ITEM	SUBPROJECT DATA
PROJECT LOCATION	
Commune(s):	Quang Vinh
District:	Quang Dien
Province:	Thua Thien Hue
Geographic location:	$16^0$34'07" N; $107^0$29'27" E
PHYSICAL ENVIRONMENT CONDITIONS	
Air quality, noise and vibration	Air quality & noise: Major activities in the subproject area are agricultural production activities There are no industrial parks and factories, thus the air is not polluted. Noise is mainly caused by the activities of local people, such as transporting, farming, aquaculture, etc
Climate and natural disasters	The climate is divided into two different seasons including rainy and dry seasons. The dry season normally begins January to August and be influenced by southwest wind so the air is hot and dry. The rainy season begins September to December of the following year. Months of September and November usually occur extreme floods while November has a lot of the rains. The average rainfall ranges from 2,500 to 2,700 mm. The highest average annual temperature is 35.9^0C and the lowest is 12^0C. The annual average temperature of the hottest month is 29.4^0C and the coldest month is 19.7^0C. The monthly average humidity is 87.0%.
Topography and soils	This region is a plain area with flat terrain with sand, silt, soil salinity. In subproject area, there are mainly agriculture land, rice and vegetable planting land and forest land.
Waterbodies	There are Pho Lai river and canals in the subproject area. There is no waste water of the subproject discharging into them. Water of the river and canals is mainly used for agriculture purpose.
Underground water	Groundwater is at shallow layers. As observed, deep well is 4-6m from the ground surface. Ground water in some places is salinity.
Water quality	There are some canals and Pho Lai river in the subproject area. There is no data on the water quality in this area but as observed, there are signals of minor contamination caused by sediment, waste and salinity. However, water pollution by solid waste is at low level. + Vietnam's current standards on surface water quality: - QCVN 08:2008/BTNMT - National technical regulation on surface water quality; + Vietnamese standard on waste water receiving sources: - QCVN 14:2008/BTNMT National technical regulation on domestic

DATA ITEM	SUBPROJECT DATA
	waste water; This regulation is applied as a substitution for Standard TCVN 6772:2000 – Water quality – Standard on domestic wastewater in the List of Vietnam's environment standards which must be applied - MONRE's Circular No. 02/2009/TT-BTNMT regarding regulations on evaluation on waste receiving capability of water source.
Flooding	The subproject area is located in the flooding region.
Terrestrial flora and fauna	+ Terrestrial flora: mainly rice field and fruits and vegetables gardens in residential areas; + Terrestrial fauna: buffalo, cow, pig, chicken, ducks, etc. + Terrestrial flora and fauna in subproject area are not listed in Vietnam's Red Data Book.
Protected areas	In subproject area, there is no historical or historical vestiges;
Environmental sensitive points	❖ Pho Lai Temple in Pho Lai hamlet ❖ Residential areas in Nam Duong, Pho Lai, Thanh Can and Co Thap hamlets
SOCIAL ENVIRONMENT CONDITIONS	
UXO	The existing route is under operation; because the road is upgraded on existing route, there is no possibility of UXO;
Land use	Agriculture land: 1549.52 ha; forest land, residential land and other land: 426.48 ha[6]. Land is mainly used for agriculture-forest development; Agriculture: mainly plant rice and vegetable, 2 crops/year; Forestry: planting Acacia, Eucalyptus, etc.
Nearest residential land	Residential areas are located along the route including Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets - Quang Vinh commune; residential land is located at road edge; The distance between residential houses and the subproject road ranges from 3m to 20m;
Rural infrastructure	The road is upgraded on existing route with the different of road width on sections for affects on works like houses at road sides can be minimized; The electric and communication cables were arranged in parallel with the route; therefore, route construction will have affects on some local infrastructure works such as electric cables;
Access to Water Supply & Sanitation and Solid Waste Management	Local people use tap water for domestic purposes with a percentage of 98%. Domestic wastewater is discharged into the ditches in the front of their houses. Recently, there is a proposal of domestic solid waste collection serving households in the project area. In April 2014, the proposal will be implemented. In accordance with the proposal, solid waste will be collected twice or three times per week and transported to temporary waste storages in the commune and then will be sent to the district landfill to treat. The landfill is located at a distance of 7-8 km from the subproject area;[7]

[6] Source: CPC of Quang Vinh, Annual report on social economy, Dec 2013

[7] Source: According to Quang Vinh Commune People's Committee

DATA ITEM	SUBPROJECT DATA
Agriculture and handicraft	+ Agriculture: mainly wet rice, bean, corn, vegetable; + Handicraft: production of rice vermicelli, traditional hat, carpentry;
Population	Estimated number of beneficiary people: 9422 people. Population density is 477 persons/km2[8]
Ethnic minorities	There is not any ethnic group living in the subproject area;
Livelihoods	+ The main employment of the community is agriculture and handicraft production, occupying 98% of the local population. + The average income is VND 22 million/person/year;[9] + The level of poverty (following the new poverty line made by the Government): number of poor households make up 9.12% of the population, mainly including policy families, the handicapped, single/female owned households.
Physical and cultural heritage	There is no cultural heritage or preservation area in the subproject region;
Public health	Diseases which often occur in the summer are diarrhea, petechial fever Besides, there are respiratory diseases like sore throat, sinusitis
Traffic and transportation characteristics	+ Current traffic volume is small, only serving agriculture, living activities in villages and communes and some construction activities at small scale; + Main traffic means include bicycles, motorbikes and some transport vehicles in construction activities on small scale;

[8] Source: PPMU of Thua Thien Hue province, SIR of Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum Road, 2014

[9] Source: PPMU of Thua Thien Hue province, SIR of Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum Road, 2014

4. ENVIRONMENTAL IMPACT SCREENING

Table 3. Environmental impact screening

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Pre-Construction Stage					
Environmentally responsible procurement and SEMP preparation	Yes	N/A	N/A	N/A	Including environmental requirements in biding documents and civil work contracts will take importance role to fully reflect environmental protection cost of the civil works and engage the environmental responsibilities of civil contractors. Any missing of environmental management cost will create high risks of implementing mitigation measures during the construction phase due to lack of resources and capacity thus, environmental protection cost and responsibility need to involved at the beginning. More Site Environmental Management Plan (SEMP) will help the contracts deeply understanding on environmental requirement and preparing detail/specific mitigation action on the site, therefore, the an appropriate SEMP will help to implement actual mitigation measures and identify any unanticipated environmental impacts and propose additional mitigation measures.
Plan construction materials management	Yes	N/A	N/A	N/A	Materials Management Plan (MMP) detailing arrangements to be made to facilitate the timely production and supply of construction materials to avoid impacts due to unnecessary stockpiling outside the Project site.

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Plan Spoil and Waste Disposal	Yes	N/A	N/A	N/A	Waste Management and Spoil Disposal Plan is prepared for handling, storage, treatment, transport and disposal of solid and liquid wastes, hazardous materials, hazardous wastes and excavation spoils. Ensuring disposal of excavation spoils will not cause negative visual impacts. The plan will also provide details of a trip ticket system to ensure that contractors dispose excavation spoils in approved areas. Such system will be designed so that the PPMU and construction supervisors could readily monitor the volume and disposal site of excavation spoils, and to ensure that the total volume of spoils disposed will not exceed the maximum capacity of disposal site (landfill). Domestic waste collection and management also need to set plan during this phase to avoid missing implementation resources and sanitation issues on the site.
Disturbance of UXO	No				The road is upgraded on the existing route. Therefore, there will be no possibility of UXO.
Effects on households from loss of residential or agricultural land	Yes	Minor	Negative	Temporary and permanent	**Description:** There are 32 households residing in Quang Vinh commune be affected by subproject. The main impacts include loss of 606 m^2 of garden land, and 1,150m^2 of agriculture land. **Location:** Quang Vinh commune **Objects:** Local households **Affected level:** The impact is considered not significant since there are no significantly affected households, no one that will require physical relocation, no production land loss of more than 10% of the total. The affected households will received support and compensation for their acquired land from the subproject. **Time of impact:** Permanent
Construction Stage Impacts					

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Dust, vegetation clearing, noise, water pollution or other impacts for taking construction materials from borrow areas to construction sites.	Yes	Minor	Negative	Temporary	**Description:** Stone, sand and soil will be purchased from licensed mines as mentioned above. These mines are operated in accordance with environment protection requirements of Thua Thien Hue DONRE. The owners of these mines take responsibilities for any environmental problems related to vegetation clearing and water quality. Materials from these mines will be transported to construction sites by contractors. Transportation of material to the construction sites will generate noise, dust which affect local residents along transportation routes and near the construction sites. **Location:** Filling soil will be taken from Dong Hoc borrow pit, Phong An commune, that have the business license of Thua Thien Hue province, located 12.73 km from the construction site. Transporting roads are concrete (commune's roads) and asphalt (road no.11). **Affected Objects:** The local roads (Phong An Commune in Phong Dien District, Quang Vinh Commune in Quang Dien District and other inter-commune roads….). Local residents along transportation road (NH1A, PR 4, PR 6, inter- commune road, local roads in Quang Vinh, Phong An Communes. **Affected level:** Small Dust and noise will not be seriously affected because (i) loading capacity of vehicles is less than 10 tons, (ii) communal roads are almost structured of concrete with the width of 3-3.5m; (iii) Among the total soil about 54,383.74 m^3 must be transported; requires about 08 tip trucks with a capacity of 10 tons/ day within 2 years. **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Road upgrading Erosion or sedimentation caused during clearing or earthworks	Yes	Minor	Negative	Temporary	**Description:** During the construction of the road, sediments, debris, and other materials may get into Pho Lai river and some canals and water bodies near the proposed road which cause siltation and/or clogging of the river and water bodies. Excavated soil and other debris not properly stock piled or spilled over during transport can be swept by surface water flow towards the river and waterways, causing obstruction to water conveyance along the natural waterways or the river, canals, water bodies as well as the cultivation area. The clogged river and canals may cause flash flooding of the adjacent areas. Covering of the fertile lands with a layer of silt may affect agriculture productivity of the area. **Location**: Along the road at Nam Duong, Pho Lai, Co Thap, Thanh Can hamlets – Quang Vinh commune; at proposed Nam Duong bridge location (in Pho Lai river and the left and right banks of the Pho Lai river) **Affected objects:** • Loss of topsoil affecting productive land. • Surface water of water bodies along the road • Agriculture field along the road • Local peoples living near Nam Duong Bridge and along proposed road **Affected level:** Small Erosion is not significant because the road will be built based on existing road foundation that will not require large excavation. Major construction works should be done during the dry season, to minimize the impacts, moreover, the impacts will be felt for only a short time period of 24 months **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Nam Duong Bridge Construction cross over Pho Lai river ▪ Soil erosion caused by the excavation of foundation. ▪ Erosion of river banks at Bridge construction site ▪ The risk of river sedimentation by solid waste: sand, soil, debris that is not collected.	Yes	Minor	Negative	Temporary	**Description:** During the construction of the bridges, sediments, debris, and other materials may get into Pho Lai river which cause siltation and/or clogging of the rive. Excavated soil and other debris not properly stock piled or spilled over during transport can be swept by surface water flow towards the stream and waterways, causing obstruction to water conveyance along the natural waterways or the river, canals, water bodies as well as the cultivation area. The clogged river may cause flash flooding of the adjacent areas. Covering of the fertile lands with a layer of silt may affect agriculture productivity of the area. Soil erosion caused by the excavation of foundation of the proposed road. Excavation of foundation of proposed bridge may lead to erosion of banks of Pho Lai river. **Location:** Pho Lai River at Nam Duong Bridge site, agriculture area near the proposed road, Pho Lai river near the proposed road. **Objects:** Surface-water near the construction site, agriculture land near the proposed road **Affected level:** Small The impact is at small level due to excavated soil volume to be not big as size of bridge is small: length = 43.8 m, wide = 5.0 m (4.5 m of bridge road surface + 2x 0.25 m of bridge side road). **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Soil contamination from spillage of oil or other chemical substances	Yes	Minor	Negative	Temporary	**Description:** Soil could be polluted due to improper fueling operations and fuel leakages. Potential pollutants from a project of this nature include diesel fuel, lubrication oils from construction vehicles and machinery **Location:** Lubricating oil pollution is generated from construction vehicles along the route at Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets and at the proposed bridge location in Pho Lai river – Nam Duong hamlet. **Affected Objects**: ▪ Local peoples living near Nam Duong Bridge and along proposed road ▪ Soil quality a long the proposed road and near the fuel storage **Affected level:** Small Number of construction machines is small (04 bulldozers; 04 excavators; 04 rolling machines; 20 tip trucks). **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Road upgrading Pollution of surface water or groundwater from waste, chemicals, effluent or disturbance of contaminated soils *Nam Duong Bridge Construction cross over Pho Lai river affects to river water quality, aquatic habitat, waterways due to*	Yes	Minor	Negative	Temporary	**Description:** Potential risk of drilling activities (discharge pollutants such as residual bentonite or cement slurries into Pho Lai river at Nam Duong Bridge construction site) causing water pollution. Improperly stored construction materials, waste, as well as oil spillage from poorly maintained equipment and vehicles can further deteriorate the quality of the stream water. Since the local people mainly use water of Pho Lai river as source for their agriculture production and limited domestic uses, a contaminate river water may severely affect local people in terms of possible losses in livelihood and deterioration of health and sanitation conditions. Wastewater generated by the workers at worker's camp and construction area, if not properly collected and disposed of in a sanitary manner, may mix with surface run off, stream water or stagnant water and public health problems may arise. Similarly, wastewater generated during construction that cannot be drained, may seep into the ground and contaminate the groundwater. **Location:** Pho Lai river, ponds, irrigation canals in Nam Duong, Co Thap, Thanh Can and Pho Lai hamets, along the road in the subproject area. Pho Lai river at the construction site of the proposed bridge **Affected Objects**: • Local peoples living near Nam Duong Bridge and along proposed road • Water quality of Pho Lai river **Affected level:** Small Mainly during earthworks and concrete spills or leaked oil, grease from vehicles. However, the impacts on the water quality are insignificant as the number of vehicles is small and the construction duration is not long (within 2 years as expected); **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Clearing the vegetation cover	No				**Description:** The road will be upgraded on the existing road foundation thus, it does not require clearing vegetation cover. It only affects some crops in garden land and agricultural area along the road in subproject area. The road is not located in protected area or areas of ecological sensitivity.
Changes of surface water hydrology flooding situation	No				**Description:** The road is upgraded on existing road. 60 culverts (pipe culverts and slab culverts) and the bridge will be built along the road to ensure drainage standard. Therefore, the subproject will not have affects on drainage and irrigation works along the route. Foundation of the bridge will be built by in-cast concrete piles so construction activities at the bridge cannot change flow direction of Pho Lai river.
Changes of groundwater dynamics	No				The road does not affect groundwater dynamics in the subproject area.

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Air pollution from dust or exhaust emissions (CO, NOx, SOx, etc).	Yes	Minor	Negative	Temporary	**Description:** Construction activities such as clearance, excavation of foundation, excavation of week soil of the existing road; transport of redundant spoils to the disposal site through unpaved roads, etc. will result in suspend dust particles along unpaved roads used as transport route by construction trucks, as well as generate gaseous emissions (NOx SOx,CO, CO2, etc.) that if emitted near/beside residential areas, can cause health problems to the residents. **Location:** Residential area, along the roadsides and location where the bridge to be built including Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. **Objects :** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets **Affected level:** Moderate Construction of the road and bridge does not cause serious dust or air pollution because (i) the subproject area is rural, the construction site is spacious, (ii) number of construction machine is not many and distributes over 11.54 km length; (iii) construction duration is not long (within 2 years as expected **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Noise generated from construction equipment	Yes	Minor	Negative	Temporary	**Description:** Construction activities such as clearance, excavation of foundation, excavation of week soil of the existing road; transport of redundant spoils to the disposal site through unpaved roads, etc. will cause the generation of noise and vibrations to be felt with the construction sites and adjacent areas. Noise and vibration will cause disturbance to the activity of local people. **Location:** Residential area, along the roadsides and location where the bridge to be built including Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. **Objects:** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets **Affected level: Small** The impact is considered at small level due to (i) The number of construction machine is not great; (ii) Impact of noise to residential areas is mainly caused by the means of materials transportation during the construction along transportation route. **Time of impact:** 2 years
Clearing or resource extraction from areas of sensitive vegetation	No				The road does not cross protected area or areas of sensitive vegetation

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Changes to road safety / traffic movements, trading activities property access	Yes	Minor	Negative	Temporary	**Description:** Construction activities can affect on traveling, transporting goods for local people, disturbance to individual households and cause risk for safety traffic in process transport raw materials. **Location:** Construction sites along the road, in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets **Objects:** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets • Pho Lai temple **Affected level:** Minor due to people can use branch route in the communes to travel during construction. Besides, the road will be divided into many sections and contractors will work section by section. **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Causes waste disposal problems from solid waste generated during construction activity or municipal wastes generated in construction camps	Yes	Minor	Negative	Temporary	**Description:** The construction of the bridge and road, as well as operations of the worker's camp is expected to generate solid waste such as spoil excavation soil and other construction waste mortar, sand, stone, cement packing, commodity goods packaging, etc. and domestic waste from worker's camp which if not regularly collected and properly disposed of, may be carried away by surface run-off into Pho Lai river, irrigation canals. Soil and debris in the river and canals will clog the waterways, deteriorate its water quality, and may cause the over flow of the canal and rivers' banks causing flash flooding during strong rains. Excess soil and debris that gets into the productive agricultural land may reduce the productive areas. If domestic waste from worker's camp is not regularly collected, it may cause health problems for workers and people living near the worker's camp. **Location:** Workers' camps at the location of the proposed bridge of Nam Duong in Nam Duong hamlet and along the road, the canals and material stores, and construction sites along the road. **Objects:** • Temporary dumping site • Disposal sites • Workers at camp sites and construction sites • Local people who live near construction sites and camp sites. **Affected level:** Small Solid waste that will be generated from construction mainly includes domestic wastes of workers and scraps of transported soil and stone, debris, mud. Number of worker is not big, total about 50 workers, construction activities mainly include destroying the concrete of existing road surface, grading soil along the route of 11.54km; therefore, generation of construction wastes are not so much about 30.5 m3/month (construction waste) and 750 kg/ month (domestic waste). Besides, construction duration is not long (within 2 years as expected); **Time of impact:** 2 year

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Affect rural infrastructure system such as communication system, electricity and water-supply, etc.	Yes	Minor	Negative	Temporary and permanent	**Description:** 05 power posts of Thanh Can hamlet are being removed. During this time, the electricity will be cut off. This may affect on people's activities. **Location:** There are 05 power posts of Thanh Can hamlet removed. **Objects:** • Infrastructure system in Quang Vinh Commune such as electricity posts • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets **Affected level:** Small Affect level is minor because electric posts will be relocated easily near their existing locations. **Time of impact:** 2 years
Employment or livelihood benefits from employment of local people	Yes	Minor	Positive	Temporary	**Description:** Contractors will use local laborers for simple works such as smooth the road, moving soil, give priority to poor families, female householders, woman if they need jobs. It aims to raise their income, create more jobs and contribute to hunger elimination and poverty alleviation for community. **Location** : the subproject areas in Quang Vinh commune. **Objects:** Local people in the subproject areas in Quang Vinh commune **Affected level:** Small This is a positive impact; however, it requires the coordination between the contractor and CPC of subproject communes and nearby communes in recruiting local labors. (contractors often prefer to engage their own trained workforces rather than training unskilled laborers) **Time of positive impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Effects on nearby heritage items such as graves, pagodas etc.	No				There are not any national or local heritage items such as pagodas, temples, gravestones nearby the proposed road.
Impacts on irrigation activities	Yes	Negative	Minor	Temporary	**Description:** Lining of 328 m of transfer canals and 04 pumping stations requires dry construction area, meaning of stop water flow in the existing canal. There will be a conflict between water demand for agriculture and construction demand during cultivation period and construction time; **Location:** The proposed canals and downstream cultivation area including Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets; **Objects:** • Farmers using irrigation canal's water that affected by construction of transfer canal • Cultivated area irrigated by existing canal (180 ha) **Affected level:** Small Irrigation schedule could be changed flexibly to construction time; The length of canals is very small, just only 328 m and it is expected that they will be completed in a short time. Moreover, local farmers are highly welcomed for canal upgrading, directly support their irrigation works; therefore this impact could be mitigated and impact level is considered at small level; **Time of impact:** 06 months

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Construction workers cause social disruption or sanitation/health conditions	Yes	Minor	Negative	Temporary	**Description:** Construction workers can cause social effects or disease transmission such as sore eyes, cholera, flu and respiratory problems. Social aspect: some social problems can appear such as gambling, drug addiction, prostitute, violence, conflict amongst workers, or between workers with local people. Workers have to get temporary residence certificate to avoid social disruption in the subproject area. **Location:** Workers' camps at the proposed bridge location and along the road **Objects:** Affect directly on workers and indirectly on the community near the construction sites in the residential area in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. **Affected level:** Impacts may be at unremarkable levels because the number of workers is small. Besides, construction duration is not long (within 2 years as expected); **Time of impact:** 2 years

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Changes incidence of waterborne disease or respiratory disease	Yes	Minor	Negative	Temporary	**Description:** The construction process generated dust, emission from vehicles, machines on the works and due to transport soil, stone. Emission gases could be impact on local people living in the road sides and travelling on the road, and workers. Construction activities could be increase respiratory disease and waterborne diseases such as cough, sneezing, sore eyes, and dengue. **Location:** Workers' camps and nearby residential area in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. **Objects:** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets • Workers working at the site and living in Camps **Affected level:** Small The influence level is not significant due to: (i) dust generated to impact locally only (at the construction road); (ii) affected time is short (estimated time is 24 months). **Time of impact:** 2 years
Risks to health and safety of local people and construction workers	Yes	Minor	Negative	Temporary	**Description:** Dust, exhaust gas and noise generating from earthworks, transporting of material, construction activities and operation of machines, etc. These factors have direct affects on health of workers and local residents; Material transport and construction activities on the existing road may create the risk of affects on traffic safety and houses structure on road sides especially in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets; Traffic signs and signals are insufficiently arranged, awareness of residents in rural areas on traffic safety is not high. Besides, unsafe of transportation materials will endanger the traffic along the route; Sewage from construction activities and domestic use of workers. This causes some respiratory diseases for local people as well as workers. Accidents may occur if during the construction, workers are not provided with safety equipment and obey construction regulations.

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
					Location: Residential area near the construction site and along the roadsides including Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. Construction site along the proposed road and the proposed bridge. **Objects:** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets • Workers working at the site **Affected level:** Small Exhaust fume, dust and noise do not have remarkable affects on residents because of small quantity, low transport frequency of trucks (08 trips/day) and short construction period (within 24 months as expected) Other impacts mentioned above are insignificant because the contractor will apply measures to mitigate impacts on the environment, on workers as well as local people in the subproject area. Besides, the contractor will provide workers with safety equipment. Number of workers is not great (during construction, there are often fewer than 50 persons). However, the level of contagiousness depends on the control of construction unit and local authority;

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Environmental Recovery	Yes	Minor	Negative	Temporary and Permanent	**Description:** If after completing the construction of the bridge and road, the sites are not cleaned up, construction waste and domestic waste from camp sites will cause pollution for the environment. If contractors do not implement site restoration such as re-planting trees or grass, filling up construction pits, removing camp sites in accordance with environmental regulation then environmental problems such as erosion, sedimentation, and accident may occur. **Location:** construction sites, disposal areas and borrow areas **Objects:** • People living near the proposed road and bridge and disposal, borrow areas • Land and water near the proposed road and bridge and disposal, borrow areas **Affected level:** Small As the amout of waste generated from construction activities and domestic waste is not much about 30.5 m3/month (construction waste) and 750 kg/ month (domestic waste) and it will be collected every week so the remained amount of waste after construction will be small. Camp sites are assumed in small size and in simple structures. **Time of impact:** temporary to permanent
Operation Stage					

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Increases access to markets, schools, employment, health centers' and other facilities?	Yes	Significant	Positive	Permanent	**Description:** The subproject will bring directly benefits for people in subproject area through facilitating the transport of agricultural products to markets. Therefore, time and cost for transport will reduce. Women and children may also be benefited by improving access to schools and healthcare services, administrative centers. Both women and men have more job opportunities, which help improve their incomes. **Location**: along the road in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets – Quang Vinh commune. **Objects** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets
Changes to road safety	Yes	Minor	Negative	Permanent	**Description:** Road with good quality will facilitate the travelling of residents. Traffic volume will be increased together with the economic development in the area. The number of motorbikes, bikes, cars and trucks will be increased; therefore, traffic unsafely possibly happens; **Location:** Along the road including Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. **Objects** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets **Affected level**: Small However, road signs along the road can mitigate traffic accidents so this impact can be controlled and will be insignificant level

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Noise and vibration impacts, changes in dust levels or air quality from increased traffic volumes	Yes	Minor	Negative	Permanent	**Description:** Road with good quality will facilitate the travelling of residents. Traffic volume will be increased together with the economic development in the area. The number of motorbikes, bikes, cars and trucks will be increased; therefore, Exhaust gas, noise and vibration will increase. This will affect households living along the route **Location:** Along the road including Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. **Objects** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets **Affected level:** Small This impact is insignificant because (i) residential areas have low traffic volume; (ii) vehicles on road are mainly motorbikes; transport trucks mainly serve agriculture production, the time follow the season; and serve transport for construction at a small scale; therefore, dust and vibration affects will be unremarkable;
Changes risk of environmental damage from accidents involving spills of chemicals or other hazardous substances	No				Means of transport are mainly bikes, motorbikes, small vehicles, passenger cars. Chemicals and hazardous substances are not transported on the route. Therefore, there is no risk of spills of oil, chemicals or other hazardous substances.
Changes to community structure through severance by road corridors	No				Because the subproject will upgrade the existing road, so the community structure will not change. In fact it can contribute to the improvement of rural infrastructure of Vietnam

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Erosion or scouring at waterway crossings or at areas of locations with soil cutting and filling activities	No				Pho Lai River's banks near the bridge will be reinforced by ripraps in corrdance with the design so that erosion will not occur.
Changes land use adjacent to road	Yes	Minor	Negative/ Positive	Permanent	**Description:** + Positive: The development of trading and services (such as women can open some shops or restaurants and men can provide some services such as repairing motorbikes and transporting, etc.) This will help improve economic development in the subproject area and local people's living standards. + Negative: This may change the land use structure of roadside area, cause pollution and land dispute, etc if local government's Master Plan is not followed. **Location:** Along the road sides in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets. **Objects** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets
Create water stagnant areas	No				60 culverts are installed across the road, thus water drainage will be fast and no water stagnant area is created. Therefore, this subproject is positive and will help decrease water stagnant areas along the road.
Changes surface water hydrology or flooding patterns	No				Because the road will be upgraded and built on existing ones and 60 culverts will be installed along and across roadsides, so drainage will be better. Therefore, it does not change surface water hydrology or flooding patterns.

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Causes surface water or groundwater pollution from contaminated road surface runoff	No				The subproject aims to repair and upgrade the road, thus it does not generate much dust and waste as well as leaked oil. Besides, the road will be maintained frequently so during the operation stage of the road, surface water and groundwater in the subproject area not affected.
Changes groundwater dynamics	No				During operation stage of the subproject, groundwater dynamics is not affected.
Cause disruption to isolated communities	No				The subproject does not affect any isolated communities
Change access to natural resources	No				The repairing and upgrading of the road does not affect any natural resources near the subproject area.
Changes to visual amenity / landscape values	Yes	Minor	Positive	Permanent	**Description:** Landscape along the road can be improved after the road is upgraded because the road will be cleaner and traffic will become more convenient. **Location:** Along the road **Objects** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Employment opportunities for local communities	Yes	Significant	Positive	Permanent	**Description:** Upon completion, the upgraded road will help promote the economic development for the local area and attract more investment from enterprises and persons, etc. More jobs will be created for local people in the subproject area. **Location:** Local people in Nam Duong, Co Thap, Thanh Can and Pho Lai – Quang Vinh commune and nearby communes. **Objects** • Local peoples living along road in in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets
Impacts on ethnic minorities	No				There are no impacts on ethnic minorities

IMPACT/ CONCERN	POTENTIAL IMPACT				BRIEF DESCRIPTION OF IMPACT LOCATION AND SCALE
	YES/ NO?	IS IT MINOR OR SIGNIFICANT?	IS IT POSITIVE OR NEGATIVE ?	IS IT TEMPORARY OR PERMANENT?	
Affecting water quality due to the increased volume of pesticide or chemical used for water treatment or increasing the waste water	Yes	Negative	Minor	Permanent	**Description:** After constructing the canals, the cultivated area will increase about 6000 ha. Consequently, the quantity of pesticides or chemical fertilizers will be increased. The amount of pesticides on field surface and drainage system will affect the quality of agricultural land and irrigation water, possibly groundwater. The risk will increase if the management of pesticides is not reasonable. **Location:** Irrigation area in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets **Objects** • Water quality of irrigation canals • Local farmers using irrigation canal's water **Affected level:** Small The impact can still be regarded as small in view of the traditional methods applied by farmers. Nevertheless, appropriate extension work may need to be pursued by representatives from DARD to provide the local farmers alternative but effective farming practices that do not harm the environment such as organic farming, Integrated Pest Management (IPM) and others.

4. OUTLINE ENVIRONMENTAL MANAGEMENT PLAN (EMP)

4.1 Environmental Mitigation Plan

Table 4. Environmental mitigation plan

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
Pre-construction Stage				
Environmentally responsible procurement and SEMP preparation	▪ EMP is included in tender documents to ensure that mitigation measures are budgeted and to prepare the contractors for environmental responsibilities. ▪ Specify in bid document that Contractors shall engage capable and trained staff or site agent(s) to take responsibility for the environmental management and safety issues at the working level and to monitor the effectiveness and review mitigation measures as the sub project proceeds. Contractors recruit qualified staff to oversee implementation of environmental and safety measures specified in the EMP. ▪ Any recent recommendations and initiatives from DONRE or other local environmental authorities will be incorporated in the EMP and updated as necessary. ▪ Before contracting based on the requirements of the IEE, contractors should prepare SEMPs for implementation by contractors. Such SEMPs shall not be in conflict with any provisions of the EMP in the IEE: Waste Management and Spoil, Disposal Plan, Materials Management Plan, Drainage Management Plan, Erosion Control Plan, Tree-cutting and Replanting Plan, Temporary Transport Management Plan, Utilities and Irrigation Reprovisioning Plan, Noise and Dust Control Plan, and Workers and Public Safety Plan ▪	Design Consultant, PPMU, Contractor, Environmental Consultant		Included in the contract
Plan construction materials management	As planed in design documents, the main construction material will be taken from existing quarries as: ▪ Filled soil will be taken from Dong Hoc hill borrow pit in Phong An commune which is operating in accordance with decision no. 2289/QD-UBND issued by Thua Thien Hue PPC on the 22nd of	Design Consultant, PPMU		Included in the contract

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
	November 2010. ▪ Stone will be taken from Truong Son quarry and operating in accordance with the decision no. 2595/QD-UBND issued by Thua Thien Hue PPC on the 21st of November 2007. ▪ Sand and gravel will be taken from An Lo mine and operating in accordance with decision no. decision no. 936/QD-UBND issued by Thua Thien Hue PPC on the 29th of May 2012 ▪ PPMU and contractor need to check the environmental responsibilities of suppliers. In case that, above material sources will be changed, an appropriate material management plan should includie the following: ▪ Required materials, potential sources and estimated quantities available; ▪ Material supply manners: preferring to purchase from existing material quarries. ▪ Agreement with the local authorities ▪ Check with environmental permission/certification of the quarries to ensure that environmental impacts and mitigation measures have been considered by owners. ▪ Environmental recovery plan ▪ Material transportation manner plans and schedules ▪ Program for delivery of quarry and borrow material			
Plan Spoil and Waste Disposal	▪ Re-use of waste materials & spoil disposal locations included in bid and contract documents. ▪ Select an properly treatment manners, preferred of for fill up the site of other projects activities/purposes ▪ Determine waste materials & spoil disposal locations. The expectation is that construction waste will be stored temporarily along the proposed road, domestic waste will be stored in rubbish bins and then will be collected and treated by the local authority at Quang Dien landfill and contractors will be responsible for paying the bill ▪ Agreement with the local authorities need to be obtain during detail design or before starting construction activities;	Design Consultant, PPMU		Included in the contract

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
	▪ Environmental l recovery plan since construction activities completed ▪ Waste materials transportation manner plans and schedules ▪ Establishment of complaints management system for duration of the works			
Effects on households from loss of residential or agricultural land	Implementing mitigation measures as in the outline of the project resettlement plan	PPMU		Included in resettlement plan
Construction Stage				
Dust, noise, vegetation clearing, water pollution and other impacts during the exploitation of construction materials	▪ Operation license of Dong Hoc hill borrow pit and Truong Son quarry, An Lo sand mine must be checked before purchasing construction materials. The operations licenses must include approved environmental certificate. ▪ When transporting construction materials, canvas must be used to cover to avoid dust. ▪ Watering the road surface based on a daily watering in the residential areas. ▪ Clean wheels of vehicle before leaving construction site, dispose location and material quarries. ▪ Contractors will be responsible to ensure that construction equipment and machines are in good condition and be maintained regularly.	Contractor		Included in the contract
Erosion or sedimentation caused during clearing or earthworks	▪ Install sediment fences and/or sediment traps at drainage ditches at the construction sites near Pho Lai river; ▪ Gather material, soil far from overflows which cause sedimentation. ▪ If any excavated soil, waste or sedimentation damage cultivation area, contractors have to provide compensation for farmers. ▪ Construct drainage canals following the proper directions so that clean water flow can get far away from affected areas near proposed road and bridge during construction; ▪ Control water loading and flows velocity at location of steep open land by the way of barring water flow, flow collection before reaching construction sites. ▪ Minimize area of land clearance and	Contractor	Sediment fences, traps and drainage ditches.	Included in the contract

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
	duration of works within this area; Avoid implementing clearance or earthworks in the rainy season; ▪ Restoration of areas cleared for the construction sites; ▪ Dredge sediment if necessary. ▪ Re-vegetation after construction activity finishes.			
Soil erosion caused by the excavation of foundation, erosion of river bank, risk of river sedimentation by solid waste that is not collected during construction of Nam Duong bridge over Pho Lai river	▪ Bentonite from construction activities under the bridge is prohibited to be discharged to the surrounding area but collected to the temporary storage yards, dried, then treated as other common solid wastes. ▪ Using nets underneath to collect falling solid waste. The waste is stored in dust bin and be treated as solid ▪ To clean up the river after construction by collecting temporary works, solid waste in the river flow and stabilize river banks ▪ Excavation activities must be scheduled to avoid the flooding season. ▪ Prevent erosion and protect the cut slope with temporary or permanent drainage as soon as practicable after cutting. ▪ If new erosion occurs accidentally, back fill immediately to restore original contours. ▪ Control water loading and flows velocity at location of steep open land by the way of barring water flow, flow collection before reaching construction sites. ▪ Restrict clearing vegetation cover, replanting for fast recovering vegetation cover at that sections. ▪ Enhance banks of Pho Lai river at the bride by riprap	Contractor	Temporary storage yards; Nets underneath to collect solid waste	Included in the contract
Soil is contaminated by spillage of oil or other chemical substances	▪ Store chemicals in secure area, with concrete floor and weatherproof roof away from watercourses and floodplains (such as near Pho Lai river or flood areas near the proposed road). ▪ Ensure construction equipment and vehicles are maintained in good condition. Any leaks must be quickly repaired to avoid soil contamination. ▪ Segregate hazardous wastes (oily wastes, fuel drums) and ensure that	Contractor	Chemical tanks, concrete floor and weatherproof roof	Included in the contract

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
	storage, transport and disposal shall not cause pollution. ▪ Ensure all storage containers are in good condition with proper labeling. ▪ Collected, transported and treated by contract with company which has a work permit for treating hazardous waste disposal according to Circular 12/2011/TT-BTNMT on 14 April, 2011 of MONRE.			
Pollution of surface water or groundwater from waste, chemicals, effluent or disturbance of contaminated soils	▪ Store chemicals in secure area, with concrete floor and weatherproof roof and away from watercourses and floodplains; ▪ Ensure construction equipment and vehicles are maintained in good conditions to avoid leakage; ▪ Provide rubbish bins at camping sites and containers at construction sites. Transport waste regularly from the sites to Quang Dien landfill (This will be committed by the contractor and the contractor can hire an environmental company to transport the rubbish) ▪ Install sanitary toilets with septic tanks following sanitation regulation and washing facilities at construction camps. ▪ Collect debris, sludge at the construction site. ▪ Avoid directing discharges from concrete mixing equipment to waterways *For Bridge Construction* ▪ Bentonite from bridge substructure construction activities shall be prohibited from disposal to surrounding environment and shall be collected into a temporary site to dry, then treated as normal solid waste. ▪ Superstructure construction should be used nets underneath to collect falling solid waste. The waste is stored in dust bin and be treated as solid waste	Contractor	Tanks for storing chemicals, sanitary toilets, rubbish bins and containers	Included in the contract
Air pollution caused by dust or exhaust emissions (CO, NOx, SOx, etc) and noise generated from construction equipments	▪ When transporting construction materials, implement strictly dust suppression measures such as watering of exposed surfaces and covering the trucks with canvas, ; ▪ Ensure that all construction vehicles and equipment are well maintained; ▪ All material storage areas and material production areas shall be located at	Contractor	Canvas, washing facilities	Included in the contract

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
	least 50 meters from any residence. Cover sand loads with nets or sheets if materials are stored within 50 m from houses ▪ All noise generation activities shall be undertaken using minimum impact intensity and only during the hours of 07:00 to 17:00, and shall be located at least 300 metres from any residence; ▪ Provision noise protection equipment for worker; ▪ Inform local communities near construction area about schedule and duration of construction works. Collect feedbacks from the community through, head of villages and CPC.	District Support Team, Contractor, CPC, DPC		
Cause changes in road safety/traffic activities, trading activities and access to property	▪ Install signal lamps and sign panels at crossing points with road branches at K1+673, K3+133 and K5+043 and 32 residential roads and Pho Lai temple. ▪ Limit the speed of means of transport on the route; ▪ Notify nearby community of schedule and duration of construction.	Contractor, District Support Team.	Signal lamps, Road signs	Included in the contract
Cause problems related to disposal of solid waste generated during construction activities or from construction camps	▪ Provide rubbish bins (02 bins at the main camp in the location of the proposed bridge, Nam Duong hamlet; 01 bin for each camp along the roadsides) and request workers to collect waste and not to leave litter into any water resources; ▪ Provide containers to collect construction waste and hazardous waste such as used oil at construction sites. ▪ Excavated soil need to collected, and transported to approval disposal areas (Quang Dien landfill) ▪ Domestic waste need to signed contracts with local authorities or companies for transport and treatment.	Contractor	Rubbish bins and containers	Included in the contract

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
Affect rural infrastructure system such as communication system, electricity and water-supply, etc.	▪ Consulting the sub-project engineering staff to minimize physical impacts on public infrastructure and disruption to services; ▪ Avoid impacts on low-voltage lines in villages during transport of materials and construction machinery by using vehicles and machines with the heights below electric wires; ▪ Minimize using heavy trucks for transporting materials in rainy season to avoid accidents from crashing into houses or works at road edge due to slippery road; ▪ Comply traffic regulations (limit the velocity of trucks); ▪ Install warning signs and avoid crashes to electric poles and houses. ▪ Relocate 05 power posts of Thanh Can hamlet.	PPMU Contractor Contractor Contractor Contractor Contractor Contractor		No marginal cost No marginal cost No marginal cost Included in the contract Included in resettlement part
Impacts on irrigation activities	▪ Lining the canals and building pumping stations should be implemented in dry season with application of construction and irrigation at same time. ▪ The Contractor should coordinate with irrigation authority, commune's irrigation staff and cultivation households in water supply area of the subproject to reach agreement on water supply duration (construction suspension), construction time (should be implemented at the time when irrigation activities are not done); ▪ Commune's irrigation staff, irrigation exploitation enterprise or relevant authorities should early inform households and contractor on water supply schedule so that they can make plan on their own initiative; ▪ PPMU and the Contractor should implement compensation for arising impacts due to stop of water supply at cultivation area, etc ▪ Proposed construction time: construction time should be implemented at the time when irrigation activities are not done.	PPMU/ Contractor; Operation Unit, commune authorities and local residents in the subproject area		Included in the contact with the contractor
Construction workers cause	▪ Consult with local Commune PC in the subproject area to arrange	Contractor / Subproject	Temporary	Included in the contract

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
social disruption or sanitation/health problems	accommodation for workers (to avoid any negative impacts on local people's activities) and register temporary residence card for them; ▪ Request workers to collect waste as regulation and ensure that their construction camps are maintained in clean and hygienic conditions; ▪ Raise workers' awareness of environmental sanitation, infectious diseases as well as prevention of HIV/AIDS; ▪ Install temporary drainage system and sanitary toilets at workers' camping sites.	Support Team/ Supervision Board	drainage system	
Changes in incidence of waterborne or respiratory diseases	▪ Implement dust mitigation measures as above mentioned; ▪ Implement discharging and filling stagnancy areas just after they are detected;	Contractor		No marginal cost
Risks to health and safety of local people and construction workers	▪ Minimize impacts of dust, polluted air as mentioned above; ▪ Request workers to collect waste as regulation and ensure that their construction camps are maintained in clean and hygienic conditions; ▪ Provide workers with safety equipment.	Contractor	Safety equipment	Included in the contract
Environmental recovery	▪ Before construction is completed, the contractor will move all construction wastes and unused materials from the sites to approved sites ▪ Monitoring environmental recovery at working sites, worker's camps, construction waste disposal location, material stores. ▪ Monitor survival of trees / shrubs and grass in bioengineered slopes (e.g. at landslides, also transplanted / compensatory planting trees) and replant, as necessary.	Contractor		Included in the contract
Operation Stage				
Changes in road safety	▪ Install signs to limit the loading capacity and velocity of motorbikes, cars and trucks, ensuring traffic safety at residential areas and intersections ▪ Implement communication to heighten the awareness of residents on traffic safety;	Thua Thien Hue Road Maintenance One Member Limited Company		Provincial budget
Noise and vibration caused by the increase of	▪ Install warning sign to prohibit any loading capacity exceeding compared with design;	Thua Thien Hue Road Maintenance		Provincial budget

Potential Impact	Mitigation Measure	Responsibility	Treatment facilities	Cost
traffic volumes	▪ Limit the operation of means of transport from 8 pm to 6 am; ▪ Install warning signs to prohibit the using of horns in residential areas in the subproject area.	One Member Limited Company		
Changes in the habit of using adjacent land to the road	▪ The use of land adjacent to the road will follow the Commune's Master Plan of land use which has been approved.	Thua Thien Hue Road Maintenance One Member Limited Company and Quang Dien DPC, CPCs.		No marginal cost
Affecting water quality due to the increased quantity of fertilizer or pesticide or chemical substances or waste water	▪ Coordinate with agriculture authority to ensure that farmers are trained on irrigation method; ▪ Cover, bottles from pesticide, insecticide as well as other substance such as herbicide should be stored in safety tanks at cultivation area before transport to dumping area; ▪ Ensure weed and other floating waste are periodically cleaned along the canals; ▪ Coordinate with Agriculture Extension Center to ensure that farmers are trained on Insect Prevention Method (IPM).	Operation Unit/ DARD		Provincial budget and other assistance funds

4.2 Environmental Monitoring Plan

4.2.1 Environmental effects monitoring

6. Environmental effects monitoring is carried out to examine impacts of project in relation to ambient environmental conditions.

Table 5. Environmental effects monitoring plan

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility	Cost
Construction Stage						
Minimization of noise generation	Noise level	Residential areas along the roadsides in Nam Duong, Co Thap, Thanh Can and Pho Lai	Initially observation, use of noise meter to measure dB(A) if high noise levels	Weekly or receiving feedback from local communities	Contractor	Included in the contract

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility	Cost
		hamlets (see the figure 1)	observed Visual Observation	Every week during the construction stage or when receiving feedbacks from the community about high noise level	Construction Supervision Consultant (CSC)	Included in separated contract with PPMU
Minimization of dust generation	Dust level	Residential areas along the roadsides in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets (see the figure 1)	Visual Observation; Sampling and analysis	Weekly or receiving feedback from local communities	Contractor	Included in the contract
				Every week during construction period or when necessary	Construction Supervision Consultant (CSC)	Included in separated contract with PPMU
Control of water quality	Sediment loads, rubbish, oil or other visible pollutants	Location of the proposed bridge at Pho Lai river, Nam Duong hamlet, ponds, canals in Nam Duong, Thanh Can, Co Thap and Pho Lai hamlets; Workers' camp sites at location of the proposed bridge at Pho Lai river and along the proposed road	Visual Observation; Sampling and analysis	Weekly or receiving feedback from local communities	Contractor	Included in the contract
				Every week during construction period or when necessary	Construction Supervision Consultant (CSC)	Included in separated contract with PPMU
Operation Stage						
Surface water quality	BOD, COD, pH, TSS, coliform, oil	Location of the proposed bridge at Pho Lai river (see the figure 1)	Visual Observation, Sampling and analysis	2 times per year for first 2 years (1 time in wet season, 1 time in dry season)	Thua Thien Hue Road Maintenance One Member Limited Company	6,500,000
Air quality	TPM or PM_{10}; NOx;	Residential areas along the roadsides	Visual Observation, Sampling and	1 time per year for first 2 years	Thua Thien Hue Road Maintenanc	22,000,000

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility	Cost
	SOx; CO, noise level	in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets (see the figure 1)	analysis		e One Member Limited Company	
Road safety	Number of road accidents and causes and severity of accidents	Along the route	Discussions with local authorities	1 time per year for first 2 years	Thua Thien Hue Road Maintenance One Member Limited Company	5,000,000

4.2.2 Environmental Compliance Monitoring

7. Environmental compliance monitoring is carried out to test compliance with operating procedures, technical standards and/or contractor specifications in the EMP.

Table 6. Environmental Compliance Monitoring

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility	Cost
Environmentally responsible procurement and SEMP preparation	Inclusion in bid docs	All road alignment and bridge	Checking documents	Bid preparation, before start of civil works	PPMU	Project preparation
Plan construction materials management	Meting minutes and agreement with local authorities	All road alignment and bridge	Checking documents	Prior to start of site works and throughout construction phase	PPMU	Project preparation
Plan Spoil and Waste Disposal	Meting minutes and agreement with local authorities	All road alignment and bridge	Checking documents	Prior to start of site works and throughout construction phase	PPMU	Project preparation
Effects on households from loss of residential or agricultural land	Compensation implement	All road alignment and bridge	Checking documents, interview, observation	Every six months	PPMU, Resettlement Consultant	Project preparation
Construction Stage						
Erosion and sediment controls	Condition and capacity of controls	Throughout construction site	Observation	After heavy rain	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant
Materials storage	Condition of materials storage areas	Throughout construction site	Observation	Weekly	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant and the Loan Implementati
				Every six months	Environmental Specialist of LIC Team	

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility	Cost
						on Consultant Team (LIC)
Construction equipment and vehicles	Noise and exhaust generation; covering of trucks; oil/fuel leaks	Throughout construction site	Observation	Weekly	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant and the Loan Implementation Consultant Team (LIC)
				Every six months	Environmental Specialist of LIC Team	
Construction camp conditions	Cleanliness; waste disposal facilities; general condition	All construction camps	Observation	Weekly	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant and the Loan Implementation Consultant Team (LIC)
				Every six months	Environmental Specialist of LIC Team	
Risks to health and safety of local people and construction workers	Check implementation of all items Check compliance to Labour Code of Vietnam, Decree 06/1995/ND-CP 20th January 1995, Decree 110/2002/ ND-CP 27th	Throughout construction site	Checking document, observation and community consultation	Weekly	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant and the Loan Implementation Consultant Team (LIC)
				Every six months	Environmental Specialist of LIC Team	

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility	Cost
	December 2002 and Circular 19/2011/TT-BYT 6th June 2011					
Waste disposal	Environmental sanitation at construction site and temporary waste storage area	Throughout construction site	Observation and community consultation	Weekly	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant and the Loan Implementation Consultant Team (LIC)
				Every six months	Environmental Specialist of LIC Team	
Cause changes in road safety/traffic activities, trading activities and access to property	Check implementation of all items	Throughout construction site	Observation and community consultation	Weekly	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant and the Loan Implementation Consultant Team (LIC)
				Every six months	Environmental Specialist of LIC Team	
Impacts on irrigation activities	Check implementation of all items	Throughout construction site	Checking documents, observation and community consultation	Weekly	Construction Supervision Consultant	Included in the contract signed with the Construction Supervision Consultant and the Loan Implementation Consultant Team (LIC)
				Every six months	Environmental Specialist of LIC Team	
Environmental recovery	Check implementati	Throughout construction	Checking documents,	Every six months and	Construction Supervision	Included in the contract

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility	Cost
	on of items	site	observation and community consultation	after completing each item	Consultant/ Environmental Specialist of LIC Team	signed with the Construction Supervision Consultant and the Loan Implementation Consultant Team (LIC)
Operation Stage						
Waste management	Site cleanliness and conditions of temporary waste storage areas; recent waste disposal method	Throughout sub-project area	Observation	6 monthly for first 5 years of operation	Thua Thien Hue Road Maintenance One Member Limited Company	Provincial budget
Drainage and flooding	Existing condition of the drainage system (broken ditches or leakage, etc.) and evidence of flooding of adjacent land use	Throughout sub-project area	Observation	Every six months for first 2 years of operation	Thua Thien Hue Road Maintenance One Member Limited Company	Provincial budget

4.3 EMP Implementation Arrangements

Table 7. EMP Implementation

Organization	Roles and Responsibilities		
	Subproject Preparation	**Subproject Implementation**	**Subproject Operation**
CPMU	Advice to PPMU Safeguards Officer on IEE/CEP and IEE/EIAR preparation Review and provide "no-objection" on IEE/CEPs or IEE/EIARs submitted by	Suggest to PPMU Safeguards Officer on EMP implementation during construction Monitor progress during construction	Advice to PPMU Safeguards Officer on EMP implementation during first 2 years of operation Monitor progress during

Organization	Roles and Responsibilities		
	Subproject Preparation	**Subproject Implementation**	**Subproject Operation**
	PPMUs	Consolidate environmental reporting from PPMU	first year of operation Consolidate PPMU environmental reporting
PPC	Sign-off on environmental assessment documents prior to submission for approval Approval of any subprojects requiring EIAR that are not subject to MONRE approval	Project owner with ultimate responsibility for environmental performance of subproject during construction	Project owner with responsibility for operation stage environmental performance including implementation of EMP during operation
DONRE	Provide advice and guidance on environmental issues as required during subproject preparation	Monitoring implementation of EMP through their own internal monitoring system	Monitoring implementation of EMP through their own internal monitoring system
PPMU	Engage consultant and have overall responsibility for IEE/CEP or IEE/EIAR preparation and submission for approval Ensure staff are adequately trained in environmental issues	Responsibility for EMP implementation during pre-construction and construction Ensure that contract specifications and bud documents include environmental requirements Undertake inspections and monitoring of environmental issues during construction Coordinate environmental monitoring reporting to CPMU	Responsibility for EMP implementation during first year of operation Undertake inspections and monitoring of environmental issues during first year of operation Assist project owners to incorporate environmental requirements into infrastructure O&M procedures
District PCs	Approval of subproject CEPs in accordance with GOV legislative requirements	Monitoring implementation of EMP through their own internal monitoring system	Monitoring implementation of EMP through their own internal monitoring system
District Subproject Support Teams (SST)	Assist in IEE/CEP preparation as required Assist PPMU to review bidding documents, contract documents, and tenders to ensure environmental issues are adequately addressed	Day to day supervision of contractors' in district including compliance with environmental management requirements Undertake environmental monitoring and coordination of local	Undertake environmental monitoring and coordination of local community environmental monitoring activities for first year of operation

Organization	Roles and Responsibilities		
	Subproject Preparation	**Subproject Implementation**	**Subproject Operation**
		community environmental monitoring activities	
Commune Supervision Boards (CSBs) and local community members[10]	Involvement in consultation and participation activities to identify and develop subprojects Ability to comment on environmental assessment documentation upon disclosure	Involvement in environmental monitoring activities under the direction of SSTs	Involvement in environmental monitoring activities under the direction of SSTs
Construction contractor	n/a	Prepare detailed Site EMP to meet the Subproject EMP general requirements Allocate adequate resources to meet the requirements and obligations of Site EMP	n/a
Thua Thien Hue Road Maintenance One Member Limited Company	N/a	N/a	Setting traffic signboards, monitoring execution on road safety on the route.
LIC Team on environmental safeguard policies	N/a	Implement spot check environmental monitoring at the subproject area once every 6 months. Monitoring results will be included in the report which will be sent to CPMU.	N/a
Construction Supervision Consultant	N/a	Implement construction supervision at construction sites every day. Implement environmental monitoring at the subproject area every week. Monitoring results will be included in the report which will be sent to PPMU.	N/a

[10] CSBs have been established under Decree 80 Regulation for Participatory Investment Supervision. Article 8 of Decree 80 provides the community with opportunities to inspect compliance, monitor implementation and evaluate the results of investments in the commune, including environmental impacts.

4.4 Monitoring and Reporting System

Table 8. Monitoring and Reporting System

Project Phase	Type of Report	Frequency	Responsibility	Submitted To Whom
Construction	**Site Environmental Performance Report** indicating compliance with Site EMP and monitoring results	Monthly	Construction Supervision Consultant	PPMU
	EMP Compliance Report indicating compliance with subproject EMP and monitoring results	Quarterly	PPMU	CPMU
	EMP Compliance Report indicating compliance with subproject EMP and monitoring results	Bi-annually or twice during construction depending on construction duration	CPMU	ADB
	Subproject Environmental Report indicating overall subproject environmental performance and EMP compliance	At completion of subproject	CPMU	ADB
Operation	**EMP Compliance Report: Operation** indicating compliance with subproject EMP commitments during operation	Every six months for first two years of operation. Ongoing frequency to be determined based on review after 2 years	Thua Thien Hue Road Maintenance One Member Limited Company	ADB and Town People's Committee

4.5 EMP Budget

Table 9. EMP Budget

	Pre-construction	Construction	Operation	Sub-Total
Mitigation		Included in the contract with the construction contractor	Provincial budget	N/a
Monitoring		Included in the contract with and construction supervision consultant and LIC Team	33,500,000	33,500,000
Community consultation	15,000,000	15,000,000	15,000,000	45,000,000
TOTAL				**78,500,000**

5. PUBLIC CONSULTATION AND DISCLOSURE ACTIVITIES

5.1 Description of Activities to Date

Table 10. Public consultation and public disclosure activities

CONSULTATION METHOD	DETAILS OF ACTIVITIES	
Correspondence and meetings with local authorities (District and Commune PCs, Commune Fatherland Front, Women's Union, Youth Union and others)	Date of correspondence	10 /03/ 2014
	Dates of meetings (if requested)	19/03/2014
	Minutes of meeting attached (Yes / No)	Yes
Public meetings	Date(s) held	19/03/2014
	Location(s) held	PC's meeting hall and cultural house of Quang Vinh commune
	Invitees	Commune PCs, stakeholders, village heads, Young Communist League, Fatherland front, Farmer Association, Women Union of the communes.
	Methods of invitation	Radio announcement and letter, coordinate with Women Union to mobilize women's participation in meetings
	Agenda attached (Yes / No)	Yes
	Minutes of meeting attached (Yes / No)	Yes
	Number of participants	Total have 71 people Man: 44 people Women: 27 people (the list of participants will be closed in the minutes of consultation)

5.2 Outcomes of Public Consultation to Date

Table 11. Results of public consultation

Description of Issue Raised	By Whom?	Required Follow-up Actions?
Traffic disturb when transporting material and constructing the proposed road in Nam Duong, Co Thap, Thanh Can, Pho Lai hamlets	Local people	Do not transport materials at rush hours (6 am to 7 am; 11 am -12 pm; 5 pm- 6pm)
Traffic safety	Local people	The Contractors are supposed to slow down when transporting materials by the

Description of Issue Raised	By Whom?	Required Follow-up Actions?
		residential area of Don Market. It is necessary to plant construction signposts and speed limit signs
Construction workers cause social disruption and sanitation problems	Local people	Register temporary residence card for workers; Request workers to collect waste as regulation and ensure that their construction camps are maintained in clean and hygienic conditions; Hire local people to do simple work for the subproject in the construction phase.

5.3 Future Public Consultation Activities

Table 12. Proposed community consultation activities

Activity	Participants	Expected Outcomes	Schedule	Cost Estimate
Community information by means of loudspeaker at each village related to subproject of Quang Vinh commune, on television/radio and local newspapers.	The community	Notification to the community about construction activities and schedule, environmental management measures, and how to use community complaints line	Throughout construction period	15,000,000
Grievance redress/ complaints mechanism	The community	Responses to concerns or questions about construction works	Throughout construction period	15,000,000
Other: document, communication, etc…				15,000,000

6. CONCLUSION AND RECOMMENDATIONS

8. The subproject "Upgrading Nam Duong – Co Thap – Thanh Can – Pho Lai dike cum road" will be implemented by Thua Thien Hue PPMU under IRDPCP in Quang Dien district, Thua Thien Hue province.

9. An environmental assessment of the project has been carried and the main negative potential environmental impacts of the sub-project during construction and operation stages include:

- Air pollution from dust or exhaust emissions (CO, NOx, SOx, etc). Noise, vibration from construction equipments and vehicles on the road;
- Dust and noise generated during the transport of material from material stores to the construction sites;
- Changes in road safety/traveling, trading activities and access to infrastructure system (electricity, road), risks of health and safety of local people and construction workers;
- Waste disposal problems from solid waste generated during construction activities or municipal waste generated in worker's camps

10. A range of mitigation and monitoring measures has been developed for the sub-project, which includes the following activities:

Mitigation measures:

- Measures for mitigating air pollution: During the transport of construction materials, watering the road surface and covering means of transport with canvas. Besides, other measures may include installing wheel washing equipments at construction sites and regularly maintaining vehicles and machines.
- Install road signs, instruction signs, speed limitation signs, etc at residential areas in Nam Duong, Co Thap, Thanh Can and Pho Lai hamlets and crossing points with branches and sites.
- Provide rubbish bins to store domestic waste at the construction site; request workers not to leave litter; provide containers to store construction waste at construction sites; install sediment fences and/or sediment traps to collect sediment before it enters waterways;

Monitoring activities:

In order to ensure the compliance of measures to mitigate negative environmental impacts caused by the subproject, these monitoring activities must be carried out:

- The contractors must implement measures to mitigate environmental impacts in residential areas along the road and the location of the proposed bridge in Pho Lai River, Nam Duong hamlet. Their implementation can be monitored by observing and measuring water quality, air quality and frequency of implementing these measures. Moreover, the contractor must arrange adequate resources to meet general requirements and compulsory regulations on EMP at the construction sites.
- During operation stage, O&M agency (Thua Thien Hue Road Maintenance One Member Limited Company) have to periodically manage water quality, air quality and noise according to recent Vietnamese Standards and National Technical Regulations
- PPMU should intensify the contractor's compliance with environmental regulations on material storage, construction equipment, waste disposal, air quality, dust, noise and vibration to ensure safety for the community during construction stage and operation stage; coordinate with local authorities to formulate and implement EMP.

Conclusion:

11. The upgrading of Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum road will improve livelihoods and reduce poverty for local people in the subproject area. It is expected to directly benefit 9422 people in Quang Vinh commune. Thus, the subproject will contribute to promote socio-economic development and modernize rural area; provide better access to market centers and social services; reduce time and cost for transporting agricultural products.

12. Negative environment impacts caused by the subproject mainly generate during the construction stage. However, these impacts are temporary and they will end when the road is put into operation. Upon completion, the upgraded road will help decrease dust volume generated by means of transport. On the other hand, it will bring positive impacts to the environment and promote economic development for the subproject area. Thus, based on the Initial Environmental Examination, the consultants and Thua Thien Hue PPMU would like to recommend as follows:

(i) There will not be any significant impacts to the environment and no further environment assessment is necessary.

(ii) The IEE of the subproject “Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike road” should be approved by authorities so that the next steps can be implemented to ensure good progress and project benefits.

7. ANNEXES

- Photos of implementation of public consultation
- Photos of locations of air and water quality monitoring
- Public consultation and meeting minutes
- Data source

Annex 1: Photos of implementation of public consultation

Photo 1: Public consultation in Quang Vinh commune

Photo 2: Public consultation in Quang Vinh commune

Photo 3: Public consultation in Quang Vinh commune

Photo 4: Public consultation in Quang Vinh commune

Annex 2: Photos of locations of air and water quality monitoring

Photo 5: Air quality observation location - at residential area near the proposed road in Thanh Can hamlet - Quang Vinh commune

Photo 6: Air quality observation location - at Pho Lai temple in Pho Lai hamlet - Quang Vinh commune

Photo 7: Air quality observation location - at residential area near the proposed road in Nam Duong hamlet - Quang Vinh commune

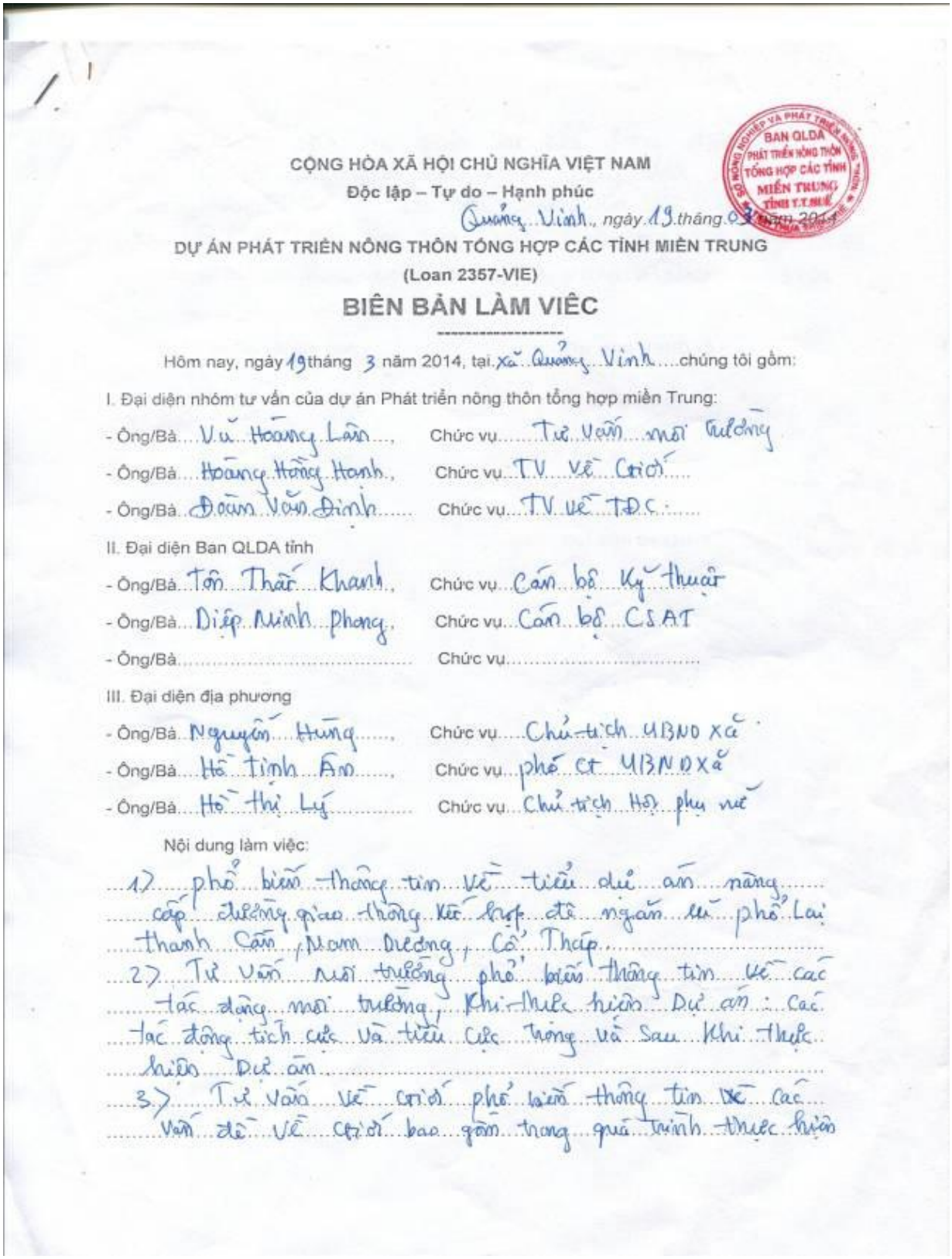
Photo 8: Air quality observation location - at residential area near the proposed road in Co Thap hamlet - Quang Vinh commune

Photo 9: Air quality observation location at Nam Duong bridge, Nam Duong hamlet, Quang Vinh commune

Photo 10: Water quality observation location at the proposed bridge of Nam Duong

Annex 3: Public consultation and meeting minutes

Meeting minutes at public consultation and lists of attendance in the public consultation meeting at Quang Vinh commune



CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Quảng Vinh, ngày 19 tháng 03 năm 2014

DỰ ÁN PHÁT TRIỂN NÔNG THÔN TỔNG HỢP CÁC TỈNH MIỀN TRUNG
(Loan 2357-VIE)

BIÊN BẢN LÀM VIỆC

Hôm nay, ngày 19 tháng 3 năm 2014, tại xã Quảng Vinh ....chúng tôi gồm:

I. Đại diện nhóm tư vấn của dự án Phát triển nông thôn tổng hợp miền Trung:

- Ông/Bà: Vũ Hoàng Lân, Chức vụ: Tư vấn môi trường
- Ông/Bà: Hoàng Hồng Hạnh, Chức vụ: TV về Giới
- Ông/Bà: Đoàn Văn Định, Chức vụ: TV về TĐC:

II. Đại diện Ban QLDA tỉnh

- Ông/Bà: Tôn Thất Khanh, Chức vụ: Cán bộ Kỹ thuật
- Ông/Bà: Diệp Minh Phong, Chức vụ: Cán bộ CSAT
- Ông/Bà: ..... Chức vụ: .....

III. Đại diện địa phương

- Ông/Bà: Nguyễn Hùng, Chức vụ: Chủ tịch UBND Xã
- Ông/Bà: Hồ Tịnh Ân, Chức vụ: phó CT UBND Xã
- Ông/Bà: Hồ Thị Lý, Chức vụ: Chủ tịch Hội phụ nữ

Nội dung làm việc:

1) phổ biến thông tin về tiểu dự án nâng cấp đường giao thông kết hợp đê ngăn mặn phổ Lại Thanh Cần, Nam Dương, Cổ Thạch.
2) Tư vấn môi trường phổ biến thông tin về các tác động môi trường, Khi thực hiện Dự án: Các tác động tích cực và tiêu cực trong và Sau Khi thực hiện Dự án
3) Tư vấn về Giới phổ biến thông tin về các vấn đề về Giới bao gồm trong quá trình thực hiện

với sự tham gia và giám sát của cộng đồng. Ngoài ra, các vấn đề về giới của dự án cũng được làm rõ.

3) Tư vấn TĐC phổ biến và tham vấn về việc đền bù và sự tham gia của người dân vào quá trình đền bù.

Sau khi đọc lại biên bản, những người có mặt đồng ý về nội dung biên bản, không có ý kiến gì khác.

Đại diện Ban QLDA tỉnh

Diệp Minh Phong

Đại diện UBND xã

Đại diện tư vấn

Dương Đức Chiến

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

BAN QLDA PHÁT TRIỂN NÔNG THÔN TỔNG HỢP CÁC TỈNH MIỀN TRUNG TỈNH T.T.HUẾ

Quảng Vinh, ngày 19 tháng 3 năm 2014

DỰ ÁN PHÁT TRIỂN NÔNG THÔN TỔNG HỢP
CÁC TỈNH MIỀN TRUNG - KHOẢN VAY BỔ SUNG

BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG

Về các chính sách an toàn: Môi trường, Tái định cư, Giới và Dân tộc thiểu số

Tên tiểu dự án: Nâng cấp đường giao thông kết hợp đê ngăn lũ phá Tam Giang Thanh Can, Nam Đông, Cố Thạch TT - Huế.
Xã Quảng Vinh, huyện Quảng Điền, tỉnh

I. Thành phần tham dự:

- Ông/Bà Vũ Hoàng Lân, Chức vụ Tư vấn môi trường
- Ông/Bà Đặng Đức Chiến Chức vụ Tư vấn TĐC
- Ông/Bà Hoàng Hồng Hạnh Chức vụ Tư vấn Giới và cộng đồng.
- Ông/Bà Nguyễn Hùng, Chức vụ Chủ tịch UBND Xã
- Ông/Bà Hồ Tịnh Ân, Chức vụ phó CT UBND Xã
- Ông/Bà Hồ Thị Lý, Chức vụ Chủ tịch Hội phụ nữ.
- Ông/Bà Hồ Thị Hạnh Nhân Chức vụ ĐTC Xã

- Đại diện những hộ bị ảnh hưởng ..... người, trong đó .....nữ, chiếm....(%) , Dân tộc thiểu số.....người, chiếm....%

II. Nội dung

2.1 Các nội dung phổ biến:

- Cung cấp các thông tin về dự án như địa điểm, quy mô, các thông số kỹ thuật cơ bản ....

- Chính sách an toàn của dự án bao gồm: Chính sách về giới và sự tham gia của cộng đồng; Kế hoạch hành động giới; Chính sách môi trường, Chính sách Tái định cư và kế hoạch phát triển người dân tộc thiểu số.

2.2 Tham vấn cộng đồng:

- Tham vấn các vấn đề giám sát và tham gia của cộng đồng trong các giai đoạn chuẩn bị, thực hiện, vận hành tiểu dự án, các vấn đề về giới và lồng ghép giới, nhóm dễ tổn thương, hộ bị ảnh hưởng nặng...

1

- Tham vấn các vấn đề về môi trường, tác động môi trường tiềm năng của dự án bao gồm tác động lên môi trường tự nhiên và xã hội của khu vực dự án và những biện pháp giảm thiểu các tác động tiêu cực;

- Tham vấn các vấn đề về tái định cư, các tác động dự kiến, quyền lợi của người bị ảnh hưởng, các biện pháp giảm thiểu tối đa nhằm có ít tác động nhất đến người bị ảnh hưởng.

- Tham vấn nhu cầu đào tạo của các hộ bị ảnh hưởng.

III. Ý kiến thảo luận

III.1.Các vấn đề về giới, tham gia cộng đồng

1) Ban Giám Sát Cộng đồng đã được thành lập tuy nhiên, Chủ tịch hội phụ nữ Xã Không nằm trong Ban GSCĐ.

2) Ban GSCĐ ủng hộ Dự án sẽ thực hiện tại địa phương và sẽ tham gia Trong quá trình thực hiện, thi công của Dự án.

3) Hội phụ nữ Sẽ tham gia vào ban GSCĐ và sẽ ủng hộ Dự án thực hiện, đồng thời vận động thành viên trong Hội phụ nữ tham gia vào quá trình thực hiện Dự án.

III. 2. Các vấn đề về môi trường

1) trong quá trình thi công nên tránh việc thải các chất thải ra nguồn nước, ra đồng ruộng.

2) Nếu Trong quá trình thi công gây nên khói, bụi và tiếng ồn nên có giảm hạn chế những tác động này tới cuộc Công sống ngày của người dân.

3) Các Công thoát nước nên được thiết kế để có thể tiêu thoát nước một cách nhanh nhất.

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III.3. Các vấn đề về tái định cư và dân tộc thiểu số

1) Nếu Dự án gây ảnh hưởng đến tài sản và cây cối của người dân nên xem xét đền bù cho các hộ BAH.

2) Người dân nhất trí và đề nghị Dự án nên thực hiện Trong thời gian Sớm nhất để nhanh Chóng phục vụ Cho người dân.

3) Nên tránh thực hiện trong thời gian Sản xuất để giảm thiểu Cho người dân. về Thiệt hại tài sản.

IV. Kết luận

1) Lãnh đạo địa phương cam kết sẽ ủng hộ Dự án. Ngoài ra, Cộng đồng cũng nhất trí đồng Thuận tham gia vào giám sát việc thực hiện Dự án.

2) Mong muốn Dự án thực hiện trong thời gian Sớm nhất để đưa vào phục vụ giao thông và mùa mưa Không bị ảnh hưởng

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Cuộc họp các bên thống nhất và kết thúc vào lúc 16h ngày 15 tháng 3 năm 2014

Đại diện cộng đồng

Đại diện UBND xã

Đại diện Ban QLDA tỉnh

Diệp Minh Thong

Đại diện tư vấn

Dương Đức Chiến

3

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

BAN QLDA PHÁT TRIỂN NÔNG THÔN TỔNG HỢP CÁC TỈNH MIỀN TRUNG TỈNH T.T.HUẾ

Quảng Vinh, ngày 19 tháng 3 năm 2014

DỰ ÁN PHÁT TRIỂN NÔNG THÔN TỔNG HỢP CÁC TỈNH MIỀN TRUNG – KHOẢN VAY BỔ SUNG

DANH SÁCH ĐẠI BIỂU THAM DỰ CUỘC HỌP

(Tham vấn cộng đồng về chính sách an toàn: Môi trường, Tái định cư, Giới và Dân tộc thiểu số

Tên tiểu dự án: Nâng cấp đường giao thông kết hợp chỉ ngăn lũ phố lại, thanh cần, nam dương, cổ thấp.
Xã Quảng Vinh, huyện Quảng Điền, tỉnh T.T. Huế

STT	Họ và tên	Giới tính	Địa chỉ	Ký tên	Ghi chú
1	Nguyễn Thị Ngân Tâm	Nữ	phố Lại	Tâm	
2	Hồ thị Tố Loan	Nữ	phố Lại	Loan	
3	Nguyễn Thị Dần	Nữ	Nam Dương	Dần	
4	Nguyễn thị Liễu	Nữ	Cổ thấp.	Liễu	
5	Hồ thị Lựu	Nữ	phố Lại	Lựu	
6	Hồ thị Tuyền	Nữ	phố Lại	Tuyền	
7	Hồ thị phương	Nữ	Phố Lại	Phương	
8	Hồ thị Mơn	Nữ	phố Lại	Mơn	
9	Nguyễn Thị Nguyện	Nữ	Nam Dương	Nguyện	
10	Trần Thị Ngân	Nữ	Thanh Cần	Ngân	
11	Trần thị Lăng	Nữ	Nam Dương	Lăng	
12	Trần Thị Lý	Nữ	Nam Dương	Lý	
13	Trần Thị châm	Nữ	Nam Dương	Châm	
14	Ngô thị Hồng	Nữ	thanh Cần	Hồng	
15	Trần Thị Liên	Nữ	Thanh Cần	Liên	
16	Trương Thị Hồng Hạnh		Nam Dương	Hạnh	

STT	Họ và tên	Giới tính	Địa chỉ	Ký tên	Ghi chú
1	Nguyễn Kiên		Thôn Nam Dương		
2	Nguyễn Kiểng		Thôn Trung Đức		
3	Nguyễn Ái		nt		
4	Trần Quyết		Thôn Thanh Cần		
5	Thân Thanh Trung		Cồ Pháp		
6	Nguyễn Trung Hân		Phố Lai		
7	Lê Quý Hiếu		Cồ Pháp		
8	Hồ Đại		Phố Lai		
9	Hồ Ngọc Chó		Phố lai		
10	Hồ Hạp		Phố Lai		
11	Hồ Vàng		Phố lai		
12	Hồ Duẩn		Phố Lai		
13	Nguyễn Tâm		Nam Dương		
14	Nguyễn Thanh Bình		Trung Đức		
15	Trần Tiếu		Thanh Cần		
	Nguyễn Đích		Nam Dương		
	Văn phòng		Cồ Pháp		
	Phan Nông		Nam Dương		
	Hồ-văn Luân		Phố lai		
	Hồ Ngọc Đối		Phố Lai		
	Hồ ngọc Đăng		Phố Lai		
	Đặng vinh Quý		Thanh Cần		
	Phan Mậu		Nam Dương		
	Nguyễn Tới		Nam Dương		
	Phan văn Mạnh		Nam Dương		

STT	Họ và tên	Giới tính	Địa chỉ	Ký tên	Ghi chú
	Nguyễn Sỹ Phú		Nam Dương		
	Nguyễn Vững		Tùng Đức		
	Nguyễn hữu Hồ		Nam Dương		
	phan Giải		Nam Dương		
	Hoàng văn Sự		Nam Dương		
	Nguyễn Đới		Phò Lại		
	Trần Thị Hòa		Thanh cần		
	Trần Việt Hoa		Thanh cần		
	Văn phước Bin		Cổ Thạch		
	Nguyễn Duyệt		Nam Dương		
	Trần Mai		Thanh Cần		
	Nguyễn Dũng		Thanh Cần		
	Nguyễn Thông		Nam Dương		
	Trần Thanh Lay		Cổ Thạch		
	phan Quốc Chu		Nam Dương		
	Hồ Tịnh Ấn		Phò Lại		
	phan Khiết		Nam Dương		
	Trần Đức		UBND Xã		
	Nguyễn Hùng		UBND Xã		

STT	Họ và tên	Giới tính	Địa chỉ	Ký tên	Ghi chú

Đại diện cộng đồng

Đại diện UBND xã

Đại diện Ban QLDA tỉnh

Diệp Minh Phong

Đại diện tư vấn

Annex 4: Environmental monitoring forms

Environmental Compliance Monitoring Form for Construction Package

Part A: General Project Information

Subproject Name:_____

SIR Code:_____ Subproject Package #:_____ Activity Sector:_____

Province:_____ Districts: _____

Design and Supervision Consultant Firm:_____

Construction Company Name:_____ Contract Date: _____

Contract Amount:_____ Contract Duration (days)_____

Person Responsible: _____ Phone _____

PPMU EMO:_____ Phone _____

Part B: Monitoring checklist

Performance Indicator 1. Design and Preparations

The PPMU to complete 1-4 in conjunction with the subproject design consultant at the time the project is tendered. Date of Monitoring:_____

	Yes	No	Remarks
1. Have all UXO been cleared prior to commencement of construction?			
2. Does the subproject design meet applicable engineering safety and public health standards?			
3. Have the resettlement provisions been disclosed to the affected communities and compensation made to affected persons or households?			
4. For the applicable subproject type:			
a. Roads, embankments, irrigation works and coastal protection: does the design provide cross drainage to prevent flooding?			
b. Markets: does the design provide washing facilities and toilets in the market area?			

The construction Supervision consultant (CSC) to complete 5-10 with the PPMU and construction contractor at the time of start-up. Date of Monitoring:_____

5. Has the contractor prepared a Site EMP?			
6. Has the contractor posted a public notice regarding the nature, extent and cost of the project?			
7. Are locations for mixing plants sufficiently distant from houses, schools and hospitals?			
8. Are agreements in place with owners for temporary use of land for worker camps and construction yards?			
9. Have spoil disposal sites been selected in consultation with local authorities?			
10. Are official permits on record for quarry sites and borrow pits?			
Score (1-10; 10 total)			(%)

Performance Indicator 2. Worker Provisions

The CSC to complete 11-16 in conjunction with the PPMU and construction contractor following commencement of construction. Date of Monitoring:_____

	Yes	No	Remarks
11. Were local authorities consulted in the planning for the location of construction worker housing?			
12. Are supervisors or other site personnel trained in basic first aid emergency response measures?			
13. Are first aid kits readily available to workers at the job site along with instructions for use?			
14. Has the contractor or Inspector from the Department of Health undertaken an awareness program for communicable diseases/HIV-AIDS?			
15. Has the contractor provided safety equipment (hard hats, ear plugs, dust masks, safety boots and glasses) to workers and training in use?			
16. Are construction camps equipped with adequate water supply, sanitary toilets, washing facilities and facilities for waste collection and storage?			
Score (11-16; 6 total)			(%)

Performance Indicator 3. Biodiversity

The CSC should complete 17-21 in conjunction with the PPMU and construction contractor following commencement of construction. Date of Monitoring:_____

	Yes	No	Remarks
17. Does the project avoid encroaching on natural forests or wetlands?			
18. Does the project avoid adverse effects on flow of natural streams and water quality?			
19. Are worker camps located outside of forested areas and has the contractor restricted access of workers to forests, fishing and hunting?			
20. Does the contractor obtain fill materials only from pre-existing quarries, or from borrow pits within the strict limits of the construction zone?			
21. For irrigation sector projects, are effects on agricultural biodiversity limited through use of integrated pest management?			
Score (17-21; 5 total)			(%)

Performance Indicator 4. Community Based Monitoring

The CSC to complete 22 and 23 in conjunction with the PPMU and construction contractor following commencement of construction. Date of Monitoring:_____

	Yes	No	Remarks
22. Has the contractor posted a public notice regarding complaints from the community?			
23. Has there been a public consultation regarding construction, environmental impact, and the community complaints system?			
Score (22-23; 2 total)			(%)

Outcome of Public Consultation:

Date: _____ Location: _____

Topics covered in presentation: _____
_____

Comments from Attendees:

Performance Indicator 5. Community Values and Safety

Items 24 – 35 should be inspected quarterly. Date of Monitoring:_____

	Yes	No	Remarks
24. Is temporary access provided to adjacent properties as needed?			
25. Is permanent access to adjacent properties reinstated on completion of a segment of work?			
26. Are construction hours adjusted around houses, hospitals and schools to minimize disturbance?			
27. Does the contractor limit the scope of construction in progress to minimize community impacts?			
28. Are physical impacts on public infrastructure and service disruption minimized?			
29. Are materials transported on approved haul routes?			
30. Are construction equipments maintained in good condition?			
31. Do vehicles operate within legal speed limits?			
32. Are material loads traveling on public routes covered?			
33. Is dust suppressed by watering exposed surfaces?			
34. Has the contractor installed signs and lighting in vicinity of works on public roads?			
35. Is access to the construction site restricted to the public?			
Score (24-35; 12 total)			(%)

Performance Indicator 6. Hydrology/Water Pollution

Items 36 – 43 should be inspected quarterly. Date of Monitoring:_____

	Yes	No	Remarks
36. Are construction camps maintained in a clean and hygienic condition?			
37. Are oil, fuel and chemicals stored in enclosed areas (dyked or covered)?			
38. Is discharge of wastewater into water bodies used for water supply avoided?			
39. Is clearing activity suspended during rains?			
40. Does the contractor prevent discharge of concrete trucks to waterways?			
41. Have existing drainage patterns been maintained during construction?			
42. Are areas of standing water in the construction area drained and backfilled?			
43. Are sediment controls installed upslope of waterways?			
Score (36-43; 8 total)			(%)

Performance Indicator 7. Project Completion

Items 44 – 50 should be inspected prior to finalizing the construction works. Date of Monitoring:_____

	Yes	No	Remarks
44. Have drainage fixtures, curbs, road shoulders and ditch slopes been finished out to prevent hazard to the public during use?			
45. Are ground surfaces in the project area graded to prevent water from collecting?			
46. Have all construction debris, tree cuttings, excess dirt, rubble and scrap been removed from the construction zone?			
47. Have all pits been filled in and graded to drain, underground tanks (including septic tanks) removed and holes backfilled?			
48. Are all waste products removed from the construction site, equipment yards and worker camps, including oil waste, scrap materials and equipment, building materials and domestic waste?			
49. Have all points of access (drives, walks) and utilities (water supply, power, communications) to public and private property been restored to original condition?			
50. Have all complaints by the local community and individuals been resolved by the Contractor?			
Score (44-50; 7 total)			(%)

Performance Tracking

Performance Tracking consists of three sections:

a. Performance Follow-up, where performance shortfalls noted in prior monitoring are listed and checked against current monitoring results.

b. Community Complaints, where issues raised by the affected community are registered, tracked and outcomes recorded.

c. Performance Indicator Results, where environmental performance against indicators are recorded.

Section 1: Performance Follow-up

Column 1	Column 2	Column 3	Column 4	Column 5
Performance variable (#) / Date Observed	Reason for negative rating	Was agency responsible notified? / Date	Was problem corrected before next monitoring?	Was performance indicator adjusted?

Section 2: Community Complaints

Column 1	Column 2	Column 3	Column 4	Column 5
Person Registering Complaint / Date	Summary of Complaint	Was agency responsible notified? / Date	Was problem corrected before next monitoring?	Was Person satisfied with Action?

Section 3: Performance Indicator Results

Project Name:_____ SIR No.:_____ Package #:_____Province:_____

Project Start Date:_____

	Startup	Rev.	Q1	Q2	Q3	Q4	Average	Completion	Rev.	Final
Recording Date:										
1. Design and Preparations										
2. Worker Provisions										
3. Biodiversity										
4. Community Based Monitoring										
5. Community Values / Safety										
6. Hydrology/Water Pollution										
7. Project Completion										

Submittal Date:_____ For Calendar Quarter: _____

Inspector:_____

(Signature)

Annex 5: Data Source

1. PPMU of Thua Thien Hue province, Subproject Investment Report (SIR) of Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum road, 2014.
2. PPMU of Thua Thien Hue province, Basic Design Explanation of Upgrading Pho Lai - Thanh Can - Nam Duong - Co Thap dike cum road Subproject, 2014.
3. Quang Vinh Commune People's Committee, Annual Report on Social Economy, December 2013.