

**VIET NAM: BASIC INFRASTRUCTURE FOR INCLUSIVE GROWTH
IN THE NORTH CENTRAL PROVINCES SECTOR PROJECT**

ADDITIONAL SUBPROJECTS SCREENING REPORT

June 2017

I. INTRODUCTION

A. Introduction

1. The following report presents the finding of the PPTA subproject eligibility and formulation screening applied to the final long list of projects proposed by the four Provincial Executing Agencies at loan fact finding. The consultants visited each province to review documentation and conduct site visits. The documentation reviewed included design or engineering design reports and drawings, prefeasibility documentation (wherever available), and provincial planning documents. The site visits were undertaken with the PMU/IA staff and local District and Commune officials along with local consultants.

2. The subproject screening was undertaken by the PPTA during July 2017, based on the longlist of subprojects proposed by each PMU. The longlist was updated and confirmed during loan fact finding. Those subprojects that are considered both eligible and feasible will be available to the Executing Agencies for inclusion the Project and will define the scope of the government Investment Proposal (IP) report.

3. The screening process examined both eligibility and likely feasibility through reviewing formulation and identifying weaknesses and issues that need to be addressed if the resultant feasibility Studies (FS) will meet ADB requirements as detailed in the Project Administration Manual (PAM). Significant weaknesses in road subprojects relate to (i) proposed sections with new alignment that (a) still require approvals, and (b) involve the movement of tombs and graves, or, for one Ha Tinh subproject will see the proposed new road passing through a historical memorial, (ii) the risk of category A environment being triggered due to (a) protection or natural forest disruption, or (b) water or water body disruption, (iii) excessive costs arising from proposed railway overpasses that have yet to be approved by railway officials, and (iv) the lack of traffic counts and forecasts upon which the design category of roads can be justified. Most roads still have no traffic projections to determine the design standard the proposed category is simply the category listed in master plan for which there is no justification provided. Many of the roads may represent marginal economic investments with the proposed design standard providing roads that exceed the needs of traffic forecasts whilst for other sections designs that will not support forecast traffic are likely to lead to accelerated deterioration.

4. Productive rural infrastructure subprojects are diverse. Nghe An proposed a river embankment and an irrigation subproject. Both have missing data and while being eligible there are concerns regarding their feasibility due to the limited scale of impacted areas. Ha Tinh proposed two subprojects being prawn sector infrastructure and a fruit sector land conversion both with substantive road sections. Both Ha Tinh subprojects are considered currently to be ineligible due to environmental and social safeguard issues. Quang Binh proposed upgrading the Giang River Port with a design requiring substantial dredging and as proposed is considered ineligible. A subsequent reformulated proposal with no dredging is proposed. Quang Tri proposed a flood evacuation and drainage subproject that involved extensive dredging (deferred maintenance) that is ineligible. A reformulated proposal has replaced the subproject. During the debriefing and consultation phases these issues have been discussed in depth with the PMU and their consultants with options identified and agreed for moving forward into their FS.

B. Approach

1. Documents Reviewed

5. The screening involved a review of documentation including sector plans, provincial plan and subproject documentation. Wherever possible local engineering consultants' concept and design documents were reviewed. Consultation meetings were held with sector and DPI representatives and the PMU staff as well as field visits to each subproject site including consultation with District and Commune staff.

2. Field Surveys

6. During the screening each field site was visited. For output 1, road alignments were inspected from end to end, maps reviewed and visual assessments, with field measurements made for social and environmental safeguard purposes. However this is caveated, as the center line has yet to be surveyed and marked. Based on the visual assessment the likelihood of severely affected households were assessed by number of households to identify the likelihood of triggering a category A classification. Each visit involved DPI and local consultant staff and where possible DOT representatives. Meetings were held with district and commune officials. For many sites local PMU staff had not previously visited the site and the inspections provided an improved awareness of proposed subproject scope and issues. The level of proposed investment per kilometer indicates that for many subprojects the proposed investment per kilometer will be lower than "typical" investment benchmarks for roads of similar categories, resulting in potential financing shortfalls once detailed designs and cost estimates are completed.

7. For output 2 subprojects, proposed sites were visited, road alignments were inspected including water resources and wetland zones, drainage catchments, port infrastructure and service provision areas, reservoir and irrigation schemes, and proposed embankment and flood protection schemes. The fieldwork involved local consultants and in most cases local staff of Districts and Communes and the PMU representatives. Overall the level of preparedness of the output 2 subprojects lags output 1 subprojects with uncertainty regarding technical designs, economic rationale, official status and cost effectiveness. Several output 2 subprojects will require cost effective design options if they are to be feasible.

8. The findings of the screening is summarized by individual subproject with detailed screening by indicator supported by field summaries within separate provincial reports¹. These are summarized and incorporated into the Linked Document BIIG1 evaluation report. The screening is based on a set of 14 criteria for each of output 1 (roads) subprojects and output 2 (business infrastructure) subprojects that were grouped according to (i) eligibility, (ii) safeguards, (iii) gender, (iv) feasibility and viability themes. See tables 1 and 2 below.

Table 1: Screening criteria for roads subprojects

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: Included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: Aligned with the FNEP Master Plan outcome theme of improved connectivity

¹ See the Project Administration Manual Supplementary Appendices.

	C3: Aligned with the FNEP Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: Complementary to other investments
Readiness	C5: Clear statement of Subproject scope and works program C6: Preliminary design drawings and supporting technical assessments available
Safeguard Compliance	
REMDf Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators	
Technical Feasibility	C10: Technical design standards are consistent with traffic count and network derived demand forecasts and the Provincial planning documents C11: New alignments have PPC approval and are marked on the ground
Financial Cost Estimates between \$8 and \$15 million	C12: Current cost estimate consistent with benchmarks for road categorization
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with traffic forecast
Sustainability	C14: Road category standard consistent with forecast Passenger Car Unit (PCU) at Project completion

Table 2: Screening Criteria for Business Infrastructure Subprojects

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: Included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: Aligned with the FNEP Master Plan outcome theme of improved connectivity C3: Aligned with the FNEP Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: Complementary to other investments
Readiness	C5: Clear statement of subproject scope and works program C6: Preliminary design drawings and social survey to ascertain demand available
Safeguard Compliance	
REMDf Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators	
Technical Feasibility	C10: Technical design standards are consistent with 2030 demand forecasts C11: Demand level are within environmental and cumulative limits including competing or existing uses.
Financial Cost Estimates between \$1 and \$5 million	C12: Current cost estimate consistent with benchmarks

Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with demand estimate
Sustainability	C14: Operation and maintenance costs are within affordability benchmarks

9. The purpose of screening is twofold – first to confirm that the proposed subprojects are eligible for funding through the ADB financing of the Basic Infrastructure for Inclusive Growth program and (ii) an assessment of the feasibility of the proposed subproject formulation with respect to being able to meet ADB feasibility requirements prior to feasibility costs being incurred. In reality, both screens are interlinked and the consultants spent time with each EA/IA and their PMU staff to discuss issues, options and possible adjustments – most of these are identified in the separate subproject assessments.

10. The report presents the assessment of the subprojects that were presented to the PPTA and assesses the formulation as proposed – as such some subprojects are rejected or assessed to be ineligible. However with changes to alignments, clarifications of safeguards issues relating mostly to encroachment of forests and the prerequisite approvals being confirmed, some of these subprojects may become eligible with reformulation. Some however may not be able to achieve this status.

II. FINDINGS

A. Output 1: Road Transport Infrastructure Subprojects

11. In total 21 additional subprojects are proposed of which: five are assessed as being ineligible, 4 remain uncertain, and 12 are considered eligible either in their existing formulation or with agreed modifications – see table 3. The most significant constraint is environmental and social safeguard issues that preclude some subprojects.

12. In terms of feasibility, the road subprojects are still difficult to assess due to the lack of data especially on (i) traffic forecasts and (ii) cost estimations. The PPTA was not provided with any traffic forecast or traffic count data with most road design standards being adopted from planning documents only. There remains a significant risk of cost escalation with some subproject costs per kilometer being less than expected for the category of road upgrade proposed. The risk to the project from potential cost escalation across a number of road subprojects will severely impede the ability to achieve the agreed output targets and expose the project to the risk of the consequences of partially completed subprojects.

13. The alignment of subprojects with goals and project outcomes is good, however ADB safeguards, and sustainability requirements need to be more carefully considered and included in subproject selection and design choices. A more detailed presentation for each subproject is presented in the respective provincial supplementary appendices.

Table 3: Eligibility and Formulation Screening Results

Subproject Name	Category (before after)	Length (Km)	Indicative Cost (\$mill)	Cost per Km (\$000/km)	Eligible for ADB	Eligibility Explanation
					Yes / No	
Nghe An Province						
1. Van Dien – Nam Nghia – NH46 Hung My Axis Road	Plain VI to V and IV	10.78	4.3	399	Yes	
2. Material Road Nghia Dan District	Mtn VI to Mtn V	11.85	4.3	340	Yes	Resettlement needs to be confirmed
3. Thanh Chuong District Road	Mtn V to Mtn IV	10	4.4	443	Yes	Alignment approvals outstanding
4. Road Number 5 Cua Lo Town	Cat IV to Cat II	6.2	12.8	2,063	Yes	Resettlement and land acquisitions very high
5. N7 Urban Road	New Urban Cat Iv	2.65	8.8	3,324	?	Land Acquisitions costs high
Ha Tinh Province						
Can Loc – Huong Khe Inter-district road	New Mtn V	14.13	6.6	461	yes	End and starting point to be confirmed
Can Loc – Loc Ha Inter-district road	Cat V to Cat IV Plain	10	3.5	346	Yes	Needs to include bridge replacement investment required
District Road 6 of Huong Khe district	Cat V Plains	10.4	2.7	370	Yes	Bridge replacement required for traffic
Ky Dong – Ky Trung (Ky Anh district) Inter-commune road subproject, Ky Anh district	Mtn IV	6.1	3.7	600	No	Social Safeguard Category A – Grave relocations
Main centre road of Hong Linh town	New Urban road	4.075	3.7	899	Yes	
Son Le – Son An – Son Tien Inter-commune road, Huong Son district	Cat V	10.1	3.84	380	No	Environment Category – reformulation required
An Vien – My Thanh (Nghien Xuan dist) road	Plains Cat III	8	5.23	653	Yes	
Urban road subproject –road to the west of Le Van Thiem High School urban road	Urban Cat III	1.4	2.3	1649	No	Social Safeguard Category A – Grave relocations
Quang Binh Province						
1 South Quang Hai bridge to Lac Giao	New Cat V Plain	10.5	5.3	312	?	Alignment consistency and approval

2. National Highway 1A bypass with Eastern branch of Ho Chi Minh road	Secondary Urban	2.88	5.4	1,850	?	Planning approvals unconfirmed category A resettlement
3. Dinh Muoi Tourism Road, Quang Ninh	Secondary urban and Cat IV Plains	4.01	4.1	1024	Yes	Approval required for proposed alignment
4 Road from Loc Ninh commune to Tay Bac Industrial Zone in Dong Hoi city	Urban secondary	3.82	5.28	1,383	No	Safeguard Category A due to tombs relocation
Quang Tri						
1. Cua Tung - Cua Viet service and tourism area infrastructure	3 sections (i) Urban rd (ii) secondary urban and (iii) Plain IV	17.7	5.56	355	Yes	Lighting system removed due to the issues over payments for operating costs
2. Hung Vuong road connecting to East-West Economic Corridor	Secondary Urban and Plains IV	4.72	5.17	1,211	No	Planning approvals outstanding for lighting and a need to relocate tombs and graves
3. Connecting road from Cua Viet port to Eastern communes of Trieu Phong - Hai Lang districts and South-East Economic Zone	Cat Rural A, Cat VI and cat IV	36.04	5.968	165	?	
4. Khe Van road (Huong Hiep commune, Dakrong district) to Huong Linh commune, Huong Hoa district	Cat plains VI and IV	11.8	6.2	524	Yes	

B. Output 2: Business Infrastructure Subprojects

14. In total eight additional subprojects are proposed of which one in Nghe An comprising 3 river embankments is assessed to be eligible – see Table 4. The remaining seven subprojects, in the format presented to the PPTA, are assessed to be ineligible due to a range of environmental and social safeguard issues. In addition the screening identifies many as being risky from a feasibility perspective due to the relatively high costs for limited impacts.

15. In Ha Tinh both subprojects are ineligible – one due to environmental safeguards relating to wetland loss and drainage into natural waterways, and road alignments passing through water bodies, serving little or no economic purpose or alignment with real estate values as opposed to Project outcomes. The second project is categorized as probable category A for social safeguards due to the attenuation of forest use rights as part of the required approval for a land use classification change from forestry to agriculture. In Nghe An, Quang Binh and Quang Tri, drainage and irrigation subprojects were considered ineligible due to environmental safeguards and feasibility concerns. Both may become feasible with more thorough formulation inputs.

16. Quang Binh the Giang River Port subproject has a very strong economic and social rationale but was assessed as ineligible due to the extent of dredging and the lack of fuel handling systems both of which are being addressed through reformulation.

17. Most subprojects are poorly developed with sparse data sets on their rationale and their design standards. Opportunities exist for more considered design formulation with the project owners informed of current needs for sound subproject design, and why they are currently ineligible. Most project owners are revisiting the subproject designs with far more attention to the requirements of ADB safeguards and also to the economic rationale.

18. The alignment of subprojects with goals and project outcomes is generally high, however there is far less alignment with the indicators for output 2 in the design and monitoring framework due to the inclusion of substantial investment into roads as opposed productive and business infrastructure. The lack of data or consideration of viability and sustainability is a significant factor.

Table 4: Output 2: Longlist Subproject Screening Findings

Subproject Name	Indicative Cost (\$mill)	Eligibility Yes / No	Findings	Fe
Ha Tinh Province				
Yen Loc Fruit Farm Irrigation and Roads	4.2	No	As presented the subproject is 85% rural roads with a small reservoir upgrade that supports an extremely small command area. The roads are upgrade and new alignments that seek to enable the conversion from acacia to orange and pomelo orchards. Attenuation of existing land use rights requires land classification changes which have not been addressed.	Irrig un
Loc Ha District Prawn Farm Drainage and Roads	1.17	No	Environmental safeguard category A – requires EIA under Government rules for drainage discharge. Proposed road alignment for prawn pond development involve water bodies and are often redundant with parallel roads currently unused, other road sections seek to enable real estate development with limited links to the project outcome.	Hig ec pro be
Nghe An Province				
1.1 Quay Chau Embankment Hieu River	3.4	Yes		Ec ma to inf
1.2: Quyhn Lu Embankment	4.2	Yes	Social safeguard risk due to high density land use in the area of the embankment	Ec to na
1.3: Phu Tho Lo River Embankment	4.16	Yes	Dyke reformulated to remove road surface and road access, simplifies and shorten dyke Upgrading of existing feeder roads proposed	Sm of
Subproject 2: Yen Thanh Irrigation and Road	4.1	?	Insufficient data on proposals, with many disconnected short canal lining and road sections reformulated to 1 road section.	Hig ma ret
Quang Binh				
Ba Don Drainage, Flood Protection	4.25	No	Possible Environmental Category A due to drainage of Urban waste water into irrigation command area, technical issues regarding functionality of proposed drainage hydraulic efficiency.	Hig dra
Bo Trach, Gianh River Port	4.17	No	Environmental category A – dredging of port for berth space, and the illegal use of fueling truck on the jetty.	Su pro loc
Quang Tri				
Trieu Phong and Hai Lang Drainage	8.28	No	Environmental category A – dredging waste disposal issue. Reformulated project shifts investment o new drains, feeder roads and 4 bridges	Dit hig of los

ANNEX: ADDITIONAL SUBPROJECTS SCREENING DETAILED REPORT

I. HA TINH PROVINCE

EXECUTIVE SUMMARY

A. Screening Findings

1. Ten additional subprojects are included in the long list in addition to the Loc Ha Water Supply Subproject that was used as a representative subproject. Detailed findings of individual subproject screenings are presented in section III to XII below.
2. As presented to the PPTA the additional road subprojects are possibly eligible for inclusion in the ADB project however many are not eligible, and others are unlikely to be feasible. The Screening has identified significant safeguard issues relating to the need to move graves, tombs etc. from historic sites, impacts on hydrological systems and biodiversity impacts.
3. For both output two subprojects - as presented - they are not considered eligible or feasible in their current formulation. For the Loc Ha Prawn Farm there are major issues relating to natural wetlands, environmental quality relating to drainage outflows, duplication of proposed roads when existing roads are unused (10m distance running in parallel for the entire length of the proposed new section), roads obviously drawn on maps as they are aligned to pass through significant water bodies, other roads sections that are not justified or are proposed for real estate speculation.
4. The proposed fruit farm subproject is a road subproject (85% of investment) that seeks to promote land use change from production forestry to possible fruit production. This subproject has outstanding land use planning requirements and significant land categorization approval changes that have not been undertaken, the proposal will impact significantly on holders of existing land use rights, and there is currently an almost total lack of economic rationale.
5. There are significant issues outstanding for many of the subprojects in the long list. For most subprojects outstanding issues and data have been identified. Several issues relate to formulation options and clarifications have been discussed or suggested with the PMU and their consultants.
6. These formulation changes are currently being addressed however the **resultant subproject design will not have been screened by the PPTA**. The PPTA consultants worked closely with the District and Provincial staff to discuss these issues regarding the use of existing alignments rather than the proposed new alignments, and the need for certainty over start and end points, and the need for better information on the safeguards concerns and all parties are in agreement however these agreements need ratification.
7. The PPTA recommends that ADB project staff and safeguard specialists should review each reformulated subproject and provide a formal written assessment of its compliance with ADB policies prior to detailed design being undertaken.

B. Output 1 Transport Connectivity - Additional Subproject Screening

1. Summary of Findings

8. As presented to the PPTA the additional road subprojects are possibly eligible for inclusion in the ADB project however many are not eligible, and others are unlikely to be feasible. The Screening has identified significant safeguard issues relating to the need to move graves, tombs etc. from historic sites, impacts on hydrological systems and biodiversity, forest impacts.

9. The major caveat being the lack of detailed data on the scale of social resettlement that needs to be confirmed once center line and design details are available. There is less certainty over their feasibility and the technical design standards need to be confirmed based on traffic projections. Further many new alignments are proposed however some of these are not consistent with DoT regulations and others remain without approvals. A total of three road subproject are currently deemed ineligible with most of the remaining subprojects also having significant data gaps and some with outstanding issues.

10. Proposed investment levels per kilometer (see table 1) are considered to be generally inadequate and in some cases substantially too low for the category of road that is proposed. The resultant implementation RISK is considered to be substantial, as the project will have insufficient funding to finance the level of works proposed, the economic benefits used to justify the proposed road section will in truth be far lower as to implement the subproject the Project Owner will need to reduce the length of road sections, or the road will need to be reduced – or both in some cases in effect undermining the credibility of the resultant feasibility and approval process.

11. A summary of the assessed criteria is presented in the following table. For some criteria there is inadequate data available at the time of screening. The detailed actions and where agreements have been reached these are recorded in the appended subproject reports.

12. Further whilst the PPTA and Government representatives have agreement on the eligibility and the proposed design categories of the road subprojects no traffic count data was sighted and not traffic forecasts were available to assess the accuracy of the proposed technical design standards that have mostly been taken from planning documents. Traffic projections should be prepared prior to any FS work to ensure that the correct design standards are being applied.

Table 4: Summary of Additional Road Subprojects

Subproject Name	Total Length (km)	Proposed Investment (\$mill)	Cost Per Km (\$'000/km)	Proposed Category
Can Loc – Huong Khe Inter-district road	14.13 km	6.6	456	V
Can Loc – Loc Ha Inter-district road	10 km	3.5	345**	IV Plains
District Road 6 of Huong Khe district	10.36 km or 7.24 km	2.7	370**	V
Ky Dong – Ky Trung (Ky Anh district) Inter-commune road	6.1 km	3.7	600	IV

subproject, Ky Anh district				
Main centre road of Hong Linh town	4.075	3.7	899	Urban road
Son Le – Son An – Son Tien Inter-commune road, Huong Son district	10.1	3.8	380	V
An Vien – My Thanh (Nghien Xuan dist) road	8	5.2	653	III Plains
urban road subproject –road to the west of Le Van Thiem High School urban road	1.4	2.3	1650	Urban III
Total	61.045	31.5		

Note: ** denotes unit costs that are likely to be inconsistent with proposed design standard.

Table 5: Output One Screening Results

Subproject Name	Eligibility						Safeguard Compliance		GAP	Feasibility and Viability indicators					Sustainability	Eligibility
	C 1	C 2	C 3	C 4	C 5	C 6	C 7	C 8		C9	C 10	C 11	C 12	C 13		
Can Loc – Huong Khe Inter-district road	✓	✓	✓	?	X	?	✓	✓	?	X	X	✓	X	X	Not Yet	
Can Loc – Loc Ha Inter-district road	✓	✓	✓	?	X	?	✓	✓	?	X	✓	X	X	X	Not Yet	
District Road 6 of Huong Khe district	✓	✓	✓	?	X	?	✓	✓	?	X	X	X	X	X	Not Yet	
Ky Dong – Ky Trung (Ky Anh district) Inter-commune road subproject, Ky Anh district	✓	✓	✓	?	X	?	X	?	?	X	X	✓	X	X	No	
Main centre road of Hong Linh town	✓	✓	✓	?	X	?	✓	✓	?	X	✓	✓	X	X	Not Yet	
Son Le – Son An – Son Tien Inter-commune road, Huong Son district	✓	✓	✓	?	X	?	✓	X	?	X	X	✓	X	X	No	
An Vien – My Thanh (Nghi Xuan dist) road	✓	✓	✓	?	X	?	✓	✓	?	X	X	X	X	X	Not Yet	
urban road subproject –road to the west of Le Van Thiem High School urban road	✓	✓	✓	?	X	?	X	✓	?	X	X	✓	X	X	No	

C. Output 2 Productive Infrastructure

1. Summary of Subproject Screening

13. Two additional subprojects in output 2 were screened being (i) Prawn Farms, Thach Long (west) and Ho Do (East) Drainage, Loc Ha District, and (ii) Fruit Farm Development in Loc Yen and Huong Do communes, Huong Khe district. The conclusion of the screening for both output two subprojects is that as they are currently formulated **neither is considered eligible or feasible**.

14. For the Loc Ha Prawn Farm there are major issues relating to natural wetlands, environmental quality relating to drainage outflows, duplication of proposed roads when existing roads are unused (10m distance running in parallel for the entire length of the proposed new section), roads obviously drawn on maps as they are aligned to pass through significant water bodies, other roads sections that are not justified or are proposed for real estate speculation. The proposal to drop all non-road investment should see the subproject move to output 1 however there remain substantial rational and data gaps.

15. The proposed fruit farm subproject is mostly a road subproject (85% of investment) and as such does not contribute to Output 2 performance indicators. The underlying thinking of the subproject is to promote land use change from production forestry to possible fruit production through an extended road network and upgrading of some parts of the existing network. This subproject has major land use planning approval requirement that are outstanding, the proposal will impact significantly on holders of existing land use rights, and there is currently an almost total lack of economic rationale. The remaining 15% involves a small reservoir upgrade that will support a limited are of land use intensification.

16. Equally concerning is that current social assessment of the subproject had failed to identify any such issues raising the risk of inaccurate safeguard reviews as part of subproject feasibility assessments.

Table 6: Summary of Findings

Sub Project	Scale	Planned Work	Total Cost (US\$)	Unit Cost (US\$)	Eligibility	Feasibility	Recommendation
Yen Loc Fruit Farm Irrigation and Roads	60,000 m ³ reservoir 1.0 km irrigation canal 5.1 km road upgrade (A) 3.7 km new road (A)	Upgrade of a small catchment reservoir from 18,000 to 60,000 m ³ , for mixed irrigation (10 ha rice and vegetables, 70 ha orange orchards), rehabilitation of 1.0 km of small box section lined irrigation canal 8.8 km of rural Class A access roads for acacia plantation	\$4,200,000.00	15% for irrigation US\$ 7,875/ha 85% for roads US\$ 477 / m	Yes	High cost for irrigation, when averaged across combined 10 ha rice plus 70 ha fruit. Return on fruit, which is the main growth in irrigated production may justify.	Roads not approved in plans. Irrigation has marginal benefits, despite increased fruit area. Technically viable, but in revised scope, may have limiting EIRR.
Prawn Farm Drainage and Roads	4.1 km concrete roads (A) plus 70 m bridge 2.2 km of rural lined drain	Internal rural roads (Class A) for prawn farm, access road and bridge for processing factory, and improvement of xx km of earth drains with embankments with roads	\$3,030,000.00	54% drains US\$ 317/m 46% roads US\$299/m	No	High cost for irrigation, when averaged across combined 10 ha rice plus 70 ha fruit. Return on fruit, which is the main growth in irrigated production may justify.	Not eligible - urban wastewater entering drains supplying food chain, likely environmental Category A.

17. The screening criteria summary is presented below with the detailed subproject screening reports provided in Sections VII to IX and includes the required actions and where agreements have been reached these are recorded in the appended subproject reports.

Table 7: Output 2 Subproject Screening Findings

Subproject Name	Eligibility						Safeguard Compliance		GAP	Feasibility and Viability indicators					Sustainability	Eligibility
	C1	C2	C3	C4	C5	C6	C7	C8		C9	C 10	C11	C12	C13		
Yen Loc Fruit Farm Irrigation and Roads	✓	✓	✓	✓	?	?	?	X	?	?	?	?	?	?	No	
Prawn Farm Drainage and Roads	✓	✓	✓	✓	?	?	?	X	?	?	?	?	?	?	No	

III. APPROACH AND METHODOLOGY

A. Introduction

18. The subproject screening was undertaken by the PPTA during July 2017 based on the longlist of subprojects proposed by the DPI/PMU. The longlist was modified and confirmed during loan fact finding. The proposed subprojects once screened will form the basis of the Government Investment proposal (IP) report.

19. The screening process is presented below however, it was far more than a simple eligibility screening with a need to review both eligibility and likely feasibility. In doing so significant issues arose in terms of eligibility and also the likelihood of the proposed subprojects being feasible. As part of the PPTA review process additional input was provided to each PMU to review current and alternative formulation of each subproject that would reduce the risk of ineligibility and or a lack of feasibility.

20. Significant weaknesses in road subprojects relate to (i) proposed new alignments that are yet to be approved or marked on the ground with often unclear justification for the proposed road design category, (ii) the inconsistent data sets relating to length of roads, costs and date of costings with the possibility of cost estimates being out of date and or inaccurate, and (iii) road sections being proposed to pass through grave sites, wetlands, and reservoir /hydraulic disruption.

21. For the **road's subprojects** significant social and environmental safeguard issues were identified for three road subprojects. Others still have missing data. No roads have traffic counts that were available and master plan categories are simply proposed... As such the justification for road categories and the economic feasibility of the proposed roads is not necessarily consistent and these were not made available to the PPTA.

22. **Productive infrastructure for business development improved** subprojects involves 2 subproject proposals with both being ineligible due to safeguards, and economic rationale issues. The quality of these subproject FS is lower than the road subprojects with weaknesses in rationale, design and commensurate risks in terms of safeguards and economic viability. During debriefing and consultation phases these issues have been discussed in depth with the PMU who have started to make suggested changes or look at alternative options for the formulation of these subprojects.

1. Documents Reviewed

23. The screening involved a review of documentation including sector plans, provincial plan and subproject documentation. Wherever possible local engineering consultants' concept and design documents were reviewed if available. Consultation meetings were held with sector and DPI representatives and the PMU staff as well as field visits made to each subproject site with consultation of District and Commune staff.

2. Field Surveys

24. During the screening each field site was visited. For output 1 road alignments were inspected from end to end, maps reviewed and visual assessments, with field visits for social and environmental safeguard purposes however this is caveated as the center line is often yet to be surveyed and marked. Based on the visual assessment the likelihood of severely affected

households was assessed by number of households to identify the likelihood of triggering a category A classification.

25. Each visit involved DPI and local consultant staff and where possible DOT representatives, meetings were held with district and commune officials. For many sites local PMU staff had not previously visited the site and the inspections provided an improved awareness of proposed subproject scope and issues.

26. For output 2 subproject proposed sites visited, often more than once, including the observation of all structures, potential beneficiary impact zones and related infrastructure. The field work involved local consultants and in most cases local staff of Districts and communes and the PMU representatives. Overall the level of preparedness of the output 2 subproject is less advanced than for output 1 with as a result there being far higher degrees of uncertainty about these proposals. However meetings with DONRE, DARD and DPI were held to discuss the subprojects. Notably, no such meetings had previously been held by the PMU and on review of the project proposals a wide range of serious legal and safeguard issues were quickly noted by the other Departments. The lack of such consultation by the PMU as required by Viet Nam regulation raises serious capacity issues.

B. Screening Criteria

1. Output One: Road Infrastructure

27. The eligibility criteria for subproject screening are presented in the following table.

Table 8: Assessment Criteria for Output One Road Subprojects

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the FNCP Master Plan outcome theme of improved connectivity
	C3: aligned with the FNCP Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of Subproject scope and works program C6: Preliminary design drawings and supporting technical assessments available
Safeguard Compliance	
REMDF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with traffic count and network derived demand forecasts and the Provincial planning documents C11: New alignments have PPC approval and are marked on the ground
Financial Cost Estimates between \$8 and \$15 million	C12: Current cost estimate consistent with benchmarks for road categorization

Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with traffic forecast
Sustainability	C14: Road category standard consistent with forecast Passenger Car Unit (PCU) at Project completion

2. Output 2: Productive Infrastructure for Business Development Improved

28. The eligibility criteria for subproject screening are presented in the following table.

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the provincial SEDP and or sector Master Plan outcome theme of improved connectivity
	C3: aligned with the Provincial Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of subproject scope and works program C6: Preliminary design drawings and social survey to ascertain demand available
Safeguard Compliance	
REMDF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with needs C11: Supports a clear rationale and beneficiary impact
Financial Cost Estimates between \$1 and \$5 million	C12: Current cost estimate consistent with benchmarks for cost
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with demand estimate
Sustainability	C14: Cost per ha protected or irrigated is within affordability benchmarks

IV. SUBPROJECT 1: CAN LOC – HUONG KHE INTER-DISTRICT ROAD

A. Subproject Description

29. The subproject is the Can Loc – Huong Khe Inter-district road subproject.
- (i) Starting point: at Km0+0.00 connects to PR548 at Km18+875 in Binh Minh hamlet, Trung Loc commune, Can Loc district.
 - (ii) End point: at Km14+133, 22 connects to the concrete road in Tan Thanh hamlet, Phuong My commune, Huong Khe district.
 - (iii) Total length of the road: 14, 13 km.
30. Under the transport masterplan, DR10 and inter-commune road 7: starting point connects to PR548 at Km18+875, the road follows the existing asphalt DR10 of 7,7km with width of 3,5m seriously degraded. 6,5km of the end section is not formed; a new alignment goes along Truong Vat mountain side and through the territory of two districts at the lowest point of the mountain (height+197m).
31. The road goes through many small streams, suitable culverts are proposed at these sites. The road goes through forest such as rubber trees, acacia, and pine trees. The end point connects to the inter-commune road 7 with concrete road width of 3m in Phuong My commune, Huong Khe district.
32. The proposed works includes 02 small bridges with HL-93 and 83 culverts of all types, and drainage works, protection works, and traffic systems.

B. Existing Status

- (i) DR10 from Km0+00 to Km5+188 with length of 5.188km, goes through Ky Dong, Ky Trung communes, Ky Anh district. This is a new road. Section from Km0+0.00 – Km0+160 is a rural road, cement concrete road with Bm=3m; Bn=5m in good condition. The road goes through residential area and crops. Section from Km0+160 – Km5+188 is a new road section, passing through rubber and acacia forests in Ky Dong, Ky Giang, and Ky Trung communes, Ky Anh district.
- (ii) Section 1: from Km0+00-:-Km7+700 follows the existing DR10. This is an asphalt road, Bm=3,5m; Bn=5-:-6m. The road surface is seriously degraded, many peeled and cracked section, large potholes, making travel very difficult. At Km0+555, 29 is Roc Can bridge with length of 12m, width of 5m and Kenh Linh Bridge (Lien Tan bridge) with length of 15m, width of 5m. The bridge is degraded, not meeting the load design. At Km1+573-:-Km1+725, there is a spillway of 152m long, 6,5m wide with cement concrete road surface in good condition.
- (iii) Section 2: from Km7+700-:-Km14+133. This road is not formed. The new alignment goes along the hillside through the territory of two districts continuing to the end point connected to the inter-commune road 7. This is a concrete road of 3m wide in Phuong My commune, Huong Khe district. The terrain and vertical slope are large. The road goes through many small streams and forests such as rubber trees, acacia, and pine trees.
- (iv) There are two small bridges at Km0+550 and Km1+450 over the ditch and 01 cross-road drainage at Km3+050, in which two small bridges have structures of 3÷3,5m width, span length of L=6÷8m, this bridge is downgraded due to long-time

use and unable to carry heavy truck. Therefore, along with the proposed upgraded and expanded this road, the province also proposed to construct these bridges to fit the proposed upgrade scale of the road. The cross-road sewer at Km3+050 is slab reinforced concrete bridge, the road surface width at the sewer is about 4.5m, the quality of the drainage is good; however, bridge stability under heavy trucks needs to be checked.

C. Proposed Road Categorization

33. The road is proposed to be developed to mountainous road category V standards specified in TCVN 4054 – 2005. Design speed: $V_{TK} = 30\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 30\text{m}$; Maximum vertical slope: $I_{max} = 9\%$; Roadbed width: $B_{h\grave{e}n} = 6,5\text{m}$; Road surface width: $B_{m\grave{a}t} = 3,5\text{m}$; Roadside width: $B_{l\grave{e}} = 2 \times 1,5 = 3\text{m}$; $B_{l\grave{g}c} = 2 \times 1,0 = 2\text{m}$. The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Bridge design load of HL93; culverts of H30-XB80; axle road pavement is 10T. Asphalt concrete road surface A1, $E_{yc} = 130\text{MPa}$.

D. Proposed Investment

- (i) Proposed investment \$ total: US\$ 6,577,478 in the IP.
- (ii) Proposed investment \$ /km: US\$ 460,963 /km.

E. Rationale

- (i) The subproject, will complete the traffic network in the West of Hà Tĩnh province; connect to important roads which pass Can Lộc district such as QL1A, DT 548, QL15, axial road of Phương Mỹ commune to ensure the traffic continuity and reduce travel distances and time for people in the communes of two districts Can Lộc and Hương Khê.
- (ii) The road will support the development of agricultural output of two districts in the project through a more efficient transport route and strengthen the competitive advantages for agricultural products.
- (iii) The road will become the arterial route, shorten the time and distance for travelling and goods exchanges among the communes separated from provincial cultural, commercial and administrative centers and reduce flood response times for evacuation.
- (iv) Upgrading the road provides connectivity between the 2 districts of Can Loc – Huong Khe and 3 communes: Trung Loc and Thuong Loc in Can Loc district and Phuong My in Huong Khe district.

F. Findings

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	at Km0+0.00 connects to PR548 at Km18+875 in Binh Minh hamlet, Trung Loc commune, Can Loc district.	Confirmed	Confirmed
End point	at Km14+133,22 connects to the concrete road in Tan Thanh hamlet, Phuong My commune, Huong Khe district. Total length of the road: 14,13 km.	Confirmed	Confirmed

Length	14.13km	<p>14.13km</p> <p>Requires clarification and confirmation:</p> <p>(i) PMU reconfirms the total length of the proposed road subproject including the new alignment.</p> <p>(ii) Based on the PPTA consultant's site visit findings, and FS review: the end road point (new alignment should follow the existing road (not following the new road), technically, the new alignment goes through the paddy field and along the stream, weak and unstable soil base and easily prone to be submerged and flooded in the rainy/flood season); as currently there is an existing cement concrete road LX7 in good condition passing through the residential areas where the local populations live, it is better to make use of the existing road. The end point connects to the existing cement concrete road.</p> <p>(iii) The new road should use Bituminous Surface Treatment (BST), (if using asphalt concrete, it Design should follow Decision 3230). The first section - PR28 is proposed to be developed to IV category under masterplan (currently, the FS presented a lower scale / category than the masterplan), Asphalt road surface.</p> <p>(iv) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(v) the Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and site clearance for the construction of 7,7km upgraded road and 6,5km of new end road involving loss of 14.3ha of mainly agricultural land, production forest land and public land will be affected.</p> <p>No household will be relocated and resettled</p>	<p>DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.</p> <p>Proposed options for further discussions and final agreement.</p>
Road category	<p>The road is proposed to be developed to mountainous road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 30Km/h; Minimum horizontal curve radius: Rmin = 30m; Maximum vertical slope: Imax = 9%; Roadbed width: Bnền = 6,5m; Road surface width: Bmặt = 3,5m; Roadside width: Blề = 2x1,5 = 3m; Blgc = 2x1,0 = 2m. The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Bridge design load of HL93; culverts of H30-XB80; axle</p>	<p>Requires traffic count data of DR10 and traffic count data of 548 (PR6) to justify the proposed mountainous road design category V.</p> <p>Confirmed the road is proposed to be developed to mountainous road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 30Km/h; Minimum horizontal curve radius: Rmin = 30m; Maximum vertical slope: Imax = 9%; Roadbed width: Bnền = 6,5m; Road surface width: Bmặt = 3,5m; Roadside width: Blề = 2x1,5 = 3m; Blgc = 2x1,0 = 2m. Asphalt concrete road surface A1, Eyc =130MPa.</p>	<p>To be confirmed with traffic forecast</p>

	road pavement is 10T. Asphalt concrete road surface A1, Eyc =130MPa.		
Proposed works	02 small bridges with HL-93 and 83 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

G. Eligibility

Criteria	Status		Risk of Non-compliance and Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050.</p> <p>The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam's northern and coastal region through 2020", in which the plan gives priority to the regional connection.</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People's Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People's Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030.</p> <p>Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people's demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.</p> <p>In line with Decision No. 3435/QĐ-UBND dated 30/10/2009 of PPC of Ha Tinh province approving Traffic development planning for Huong Khe district to 2020.</p> <p>In line with Decision No.2701/QĐ-UBND dated 23/9/2016 of Ha Tinh People's Committee approving the adjustment of traffic development planning for Can Loc district to 2020 and vision to 2030.</p>
3: Proposed design concept exists – if yes state date of proposal	✓		<p>MOU of HT DPI, DOT, Ky Anh DPC dated 21/02/2017 agreed upon the mountainous road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 30Km/h; Minimum horizontal curve radius: Rmin = 30m; Maximum vertical slope: lmax = 9%; Roadbed width: Bnền = 6,5m; Road surface width: Bmặt = 3,5m; Roadside width: Blề = 2x1,5 = 3m; Blgc = 2x1,0 = 2m. Asphalt concrete road surface A1, Eyc =130MPa.</p>
4: Proposed design standard identified – if yes what standard,	✓		<p>The road subproject is proposed to be developed to the mountainous road category V standards specified in TCVN 4054 – 2005.</p>

What is the projected economic life of the subproject			
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport masterplan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is plain road Cat IV towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data of DR10 and traffic count data of 548 (PR6) to justify the proposed mountainous road design category V.
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		Not provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	??		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat V.
9: Is the Preliminary design already approved by DoT		x	Not provided
10: Is the preliminary design already approved by PPC		x	Not provided
11: Is there a bill of quantities with the preliminary design	✓		Not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		Not provided
13: Are there significant structures required – if yes please identify	✓		Not provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not provided
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

H. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor

A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and the clearance for the construction of 7.7km road and 6.5km end road involving loss of 14.3ha of mainly agricultural land, production forest land and public land will be affected. 1 household will be relocated and resettled.
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Not yet
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		Substantial loss of production forest land – needs to be confirmed as production forestry
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they	✓		Section 2: from Km7+700-:-Km14+133 is not formed. The new alignment road goes through many small streams, paddy field and forests such as rubber trees, acacia, and pine trees.
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts	✓		Section from Km7+700-:-Km14+133, a new alignment road cut through paddy field and forest land areas.
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 3 communes of two districts Can Loc – Huong Khe: Trung Loc Thuong Loc in Can Loc district Phuong My in Huong Khe district

Is the population data available	Yes	Can Loc district total population as of 2016 is 38,683 HHs, and Huong Khe district (31,344 HHs); Trung Loc commune (1,308 HHs); Thuong Loc commune (1,426 HHs); Phuong My commune (663 HHs). The subproject will directly benefit totally 18,249 people.
Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, (i) Can Loc district (including 3,465 poor HHs accounting for 8,92%, 3,586 near poor HHs, accounting for 9,23%). (ii) Huong Khe district (including 4,962 poor HHs accounting for 15,83%, 2,582 near poor HHs, accounting for 8,07%). Trung Loc commune (1,308 HHs/81PHHs (0.06%); Thuong Loc commune (1,426 HHs/62 PHHs (0.04%); Phuong My commune (663 HHs/76 PHHs (0.11%).
Is the number of near poor households available	Not yet	Not available
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

J. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not provided
Is there a detailed worksheet for the EIRR		x	Not provided
Is it linked to the traffic forecast		x	Not provided

K. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data of DR10 and traffic count data of 548 (PR6) to justify the proposed mountainous road design category V. MOU of HT DPI, DOT, Ky Anh DPC dated 21/02/2017 agreed upon the mountainous road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 30Km/h; Minimum horizontal curve radius: Rmin = 30m; Maximum vertical slope: Imax = 9%; Roadbed width: Bnền = 6,5m; Road surface width: Bmặt = 3,5m; Roadside width: Blề = 2x1,5 = 3m; Blgc = 2x1,0 = 2m. Asphalt concrete road surface A1, Eyc = 130MPa.

Are there outstanding approvals required	✓	<p>Requires clarification and confirmation:</p> <p>(a) PMU needs to confirm the total length of the proposed road subproject including the new alignment.</p> <p>(c) Based on the PPTA consultant's site visit findings, and FS review: the end road point (new alignment should follow the existing road (not following the new road – as required by DoT regulation).</p> <p>Technically, the proposed new alignment goes through paddy field and along a stream, where there is weak and unstable soil base that is prone flooding in the rainy/flood season); as currently there is an existing cement concrete road LX7 in good condition passing through the residential areas where the local populations live, it is better to make use of the existing road. The end point connects to the existing cement concrete road.</p> <p>The new road should use Bituminous Surface Treatment (BST), (if using asphalt concrete, it Design should follow Decision 3230). The first section - PR28 is proposed to be developed to IV category under masterplan (currently, the FS presented a lower scale / category than the masterplan), Asphalt road surface.</p> <p>(d) the Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and site clearance for the construction of 7,7km upgraded road and 6,5km of new end road involving loss of 14.3ha of mainly agricultural land, production forest land and public land will be affected.</p> <p>No household will be relocated and resettled.</p>
Is there a preliminary design	✓	There is already a preliminary design
Is there a Feasibility study	✓	There is a Feasibility study but this needs to be revised to reflect the required changes to the alignment and the use of the existing concrete road.
Is the Subproject category A for resettlement and affected persons	✓	<p>Unknown requires PMU clarification</p> <p>As per the PPTA consultant's field visit to the subproject sites,</p> <p>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.</p>
Is the Subproject category A for environment	?	<p>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.</p> <p>However the FS will need to provide evidence that no protection forest is involved in the final alignment and that the new alignment will not require significant cuts and waste disposal</p>
Does the Subproject have clear economic inclusiveness outcomes	✓	As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes especially relating to flood evacuation and also reduced travel times to the administrative and economic centre
Does the subproject have clear network connectivity benefits	✓	<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>This road, after constructed, will complete the traffic network in the West of Hà Tĩnh province; connect to important roads which pass Can Lộc district such as QL1A, DT 548, QL15, axial road of Phương Mỹ commune to ensure the traffic continuity and shorten the travel distance and time for people in the communes of two districts Can Lộc and Hương Khê and help to expand the agricultural land area of two districts in the project, form an economic corridor for transporting and consuming agricultural products in the locality, enhance garden-hill economy, and expand the</p>

			<p>vast unexploited agricultural land area, strengthen the development and create advantages for agricultural products from garden-hill economy of the region.</p> <p>The road will become the arterial route to end the isolation, shorten the time and distance for travelling and goods exchanges among the communes which is separated from the cultural, commercial and administrative centers of the province, and also shorten the time for rescuing activities in flood season.</p> <p>Upgrading this road will provide connectivity between 2 districts Can Loc – Huong Khe and 3 communes: Trung Loc and Thuong Loc in Can Loc district and Phuong My in Huong Khe district, rather than being intended for through traffic.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

L. Recommendation

34. The subproject as proposed is not eligible on the grounds that it does not respond to the regulation of the DoT with respect to the alignment and the duplication of the existing concrete road that has not been included in the design. As such the proposed alignment and scope of the subproject needs to be revisited and reformulated.

M. Response to Screening

35. The DPI has confirmed that the DPI and the DoT have a memorandum of understanding to adjust the alignment to make it consistent with the requirements to utilize the existing alignments.

36. As a result the PMU has received and will modify the subproject to:

- (i) The ending point of the route is adjusted to connect with the ending point of the existing concrete cement road.
- (ii) After adjustment the alignment, the total length of the route is 13.86 km compared to the current proposal of 14.13km

N. Road Alignment Map



O. Road Chainage Photos



Starting point Km0+00 connecting to ĐT548



Km0+00: road entry point



Km0+555: Rọc Cắn bridge location



Km0+555: Rọc Cắn bridge site taken from below



Km0+800: existing road



Km0+555: Rọc Cắn bridge site taken from underneath



Km1+550+0.00: Liên Tân bridge surface site



Km1+550+0.00: Liên Tân bridge left side



Km1+550+0.00: Lien Tan bridge surface



Km1+550+0.00: Lien Tan bridge over the irrigation river



Km1+550+0.00: Liên Tân bridge surface site



Km1+575: intersection site with the existing spillway



Intersection site with NH 15A



Intersection site with NH 15A



Slab culvert site at Km2+500



Intersection site at Km3+00



Intersection site at Km3+100



Intersection site at Km3+450



Intersection site with irrigation culvert system



Intersection site with irrigation canal system



Km7+800: starting point of the road entry in Can Loc district



Km9+200: new alignment goes through Ha Tinh rubber JSC rubber forest



Km9+300: New alignment/road Can Loc district side



Km13+00: New alignment/road Huong Khe district side



Km13+700: existing earth road surface with large pothole



End point at Km14+133 connected to the existing cement concrete road (proposed by the PPTA)



End point at Km14+133 (based on the FS)



Km14+00 new alignment / road goes along the stream uphill

V. SUBPROJECT 2: CAN LOC – LOC HA ROAD

A. Subproject Description

37. The subproject is the Can Loc – Loc Ha Inter-district road, Ha Tinh province. Overview of proposed works: the road subproject will construct 62 culverts of H30-XB80 and 3 cement concrete bridges of HL-93 and drainage works, protection works, and traffic systems

- (i) Starting point: at Km0+00: Adjacent to asphalt road (on district road 3), the location of District Road 3 planning road is in Tan Thuong hamlet, Thien Loc commune, Can Loc district.
- (ii) End point: at Km11+950: Intersecting with Thach Bang commune - Thinh Loc at km5 + 111.36, located in Thinh Loc commune, Loc Ha district.
- (iii) Total length (km+m): 10km.

B. Alignment

38. The proposed road subproject follows the existing road. The road Subproject involves improvement and upgrading of Can Loc – Loc Ha inter-district road comprising the renovation and upgrading of 10km (based on the PPTA field visit findings) of inter-commune roads – 01 and 03, connecting Can Loc – Loc Ha districts with the communes of Thien Loc (Can Loc dist.) and Thinh Loc (Loc Ha dist). Its alignment is shown in Annex 1.

C. Road Category

39. It is proposed to upgrade the road to Class IV plain road from its current commune road classification. The current road has a narrow carriageway (6.5 base width), is of very poor quality and on the PPTA's site visit was extremely difficult for vehicles to travel in the wet season and the poor road condition makes connectivity often severed.

1. Current Status

40. Road Categorization: from Km 0+00 to Km 10+500: Total length L = 10,500 m. This is an asphalt-paved road surface with the width of 6,5m and ROW of 3,5m. The road surface has been seriously degraded with many peeled sections and potholes.

41. In rainy season, the road surface is extremely difficult for vehicle to travel. In addition, there are a number of irrigation canals and streams with crossing culverts and bridges. This is gravel and earth road section in An Loc commune (Loc Ha district). Many sections along the road through the residential areas in Can Loc and Loc Ha districts have no drainage and ditch systems. In rainy season, the road surface is extremely difficult for vehicle to travel.

2. Proposed

42. The proposed road categorization is to be upgrade to plain road category IV according to TCVN 4054 - 2005.

D. Proposed Investment

- (i) Proposed investment US\$ 3,455,939 in the IP.
- (ii) Proposed investment \$ /km: US\$ 345,593 /km

E. Rationale

- (i) Can Loc – Loc Ha inter-district road, Ha Tinh province is located in the area with incomplete connectivity due to the poor road. This road, when built, will help to connect the project area to Can Loc – Loc Ha districts of Ha Tinh province via provincial Road 547, then connect the tourism from National Road 1A to the Thach Bang beach resort, Cua Sot Vinpearl Resort and to east-west economic corridor.
- (ii) The road will be considered as a branch road on the East-West Economic Corridor, connecting Viet Nam and other countries in the Greater Mekong Sub-region to transform the East-West Traffic Corridor into the fully developed economic corridor to improve the cooperative and strategic development of the East-West Economic Corridor focusing on 5 areas: Agriculture, Industry and Industrial Zones, Infrastructure, Tourism - Services, Trade and Investment of which this proposed project meet two main objectives: Agriculture, Industry and Industrial Zones.
- (iii) Connecting Coastal National Road, National Road 1A to East-West Economic Corridor, increasing commercial value, goods circulation from countries in the west to Ha Tinh.
- (iv) Upgrading this road will provide connectivity between the communes of Thien Loc (Can Loc dist) and Thinh Loc (Loc Ha dist.), rather than being intended for through traffic.
- (v) It would provide reliable accessibility for residents in the vicinity, to reduce transport costs on products (and so increase earnings from agriculture) and improving access to healthcare, education and employment opportunities.

F. Findings

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	at Km0+00: Adjacent to asphalt road (on district road 3), the location of District Road 3 planning road is in Tan Thuong hamlet, Thien Loc commune, Can Loc district.	Confirmed	Confirmed

End point	at Km11+950: Intersecting with Thach Bang commune - Thinh Loc at km5 + 111.36, located in Thinh Loc commune, Loc Ha district.	at Km10 connecting to provincial road 547.	Confirmed
Length	11.95km:	<p>Requested clarification and confirmation:</p> <p>(i) Based on the consultant's FS survey document and the IP, the proposed road length of 11.95km while the PMU confirmed at the site that the proposed road length is 10km with the end point connecting to PR547.</p> <p>(ii) the consistency of the total road length and the end point in the FS</p> <p>(iii) There are 3 existing bridges in poor condition (km 0+750; km 3+720; Km 8+420; pre-stressed reinforced concrete girder bridges, 1 span L = 12m, design load HL93, bridge width 9.0 m, span length B = 12m), which need replacing. Re. bridge #3 at km 8+420 next to "Den Cua Tho – Prayer Temple in Tan Loc commune on one side of the road and the other side is the High power voltage pole, PPTA commented "the FS should take a very careful consideration of design and central line of the bridge construction width consistent with the plain road Cat IV base width of 9m and ROW of 7m) so that the Temple and the high power voltage pole may not be affected.</p> <p>(iv) the PPTA commented that the road section through Tung Loc commune may cause substantial land acquisition and houses affected.</p> <p>(v) requested traffic count data of PR22 and HL-1 to justify the proposed road design category IV.</p> <p>(vi) - Providing legal documents on red line boundaries of sections of residential areas; Bn = 12m.</p> <p>(vii) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(viii) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p> <p>Note: During the design, note the canal system along the road, the location of the bridge just near the Prayer Temple, weak soil treatment, supplement the survey data of the existing road surface (existing road Eyc), select the appropriate Eyc. The sections through the residential area should design a</p>	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.

		two-sided reinforced drainage and ditch system.	
Road category	Category IV plain road according to TCVN 4054-05 Road pavement =9m, Right of Way (ROW) = 7m. Shoulders: 2 x 1,5m, reinforced shoulder width: 2 x 1,0m; proposed asphalt concrete road structures	Confirmed Cat IV according plain road to TCVN 4054-05 Road pavement =9m, Right of Way (ROW) = 3,5m. Shoulders: 2 x 1,0m, proposed asphalt concrete road structures	Confirmed
Proposed works	62 culverts of H30-XB80 and 3 cement concrete bridges of HL-93 and drainage works, protection works, and traffic systems	Confirmed, however, it is suggested that bridge #3 at km 8+420 next to “Den Cua Tho – Prayer Temple in Tan Loc commune on one side of the road and the other side is the High power voltage pole, PPTA commented “the FS should take a very careful consideration of design and central line of the bridge construction width consistent with the plain road Cat IV base width of 9m and ROW of 7m) so that the Temple and the high power voltage pole may not be affected.	confirmed

G. Eligibility

Criteria	Status		Risk of Non-compliance and Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050. The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam’s northern and coastal region through 2020”, in which the plan gives priority to the regional connection.
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People’s Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People’s Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030. Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people’s demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.
3: Proposed design concept exists – if yes state date of proposal	✓		Decision No.2701/QĐ-UBND dated 23/09/2016 of the provincial People’s Committee, DOT Decision No.3154/DOT dated 19/09/2016, and Can Loc & Loc Ha DPCs Decision No.397/TTs-

			UBND dated 13/09/2016 approving Can Loc – Loc Ha district master planning of the road category IV mountainous road (2012-2020) and IV plain road (2021-2030).
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road subproject will be constructed according to the scale of grade IV plain road according to TCVN 4054-2005
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport masterplan for districts. The current road standard on each end point is commune road and the network connection now and planned is Cat IV plain road towards 2030. No traffic forecast provided
6: is the date of traffic forecast or base traffic forecast after 2015	✓		April 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		The PPTA requested the traffic count and traffic forecast for justification of the proposed road design category.
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017 with a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat IV plain road.
9: Is the Preliminary design already approved by DoT		x	Not provided
10: Is the preliminary design already approved by PPC		x	Not provided
11: Is there a bill of quantities with the preliminary design	✓		The PMU and local consultant will send the BoQ with the preliminary designs to the PPTA for verification
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		As above
13: Are there significant structures required – if yes please identify		x	No
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent		x	No
15: is the current Right of Way sufficient for the proposed or required road design	✓		Yes

H. Safeguard Compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		minor
	Urban Private Land	✓		Extent
A.2 Structures	Private houses	✓		Extent

	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA consultant's field visit findings there will be about more than 15 households which will be affected by the subproject (either loss of their residential and agricultural land.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Both PMU and districts have confirmed their availability of the Land Acquisition and compensation budget
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		Minor
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they	✓		Yes, some road sections go along or over streams and flood plain streams. To minimize the negative impacts, all 3 existing bridges will be reconstructed to meet the road requirements and design and culverts.
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	No risk of land slips.
	Risk of Large cuts		x	As presented above
	Water course disruption		x	As presented above
	Flood Plain Disruption		x	As presented above

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 4 communes: Thien Loc, Thuan Thien, Tung Loc Hong Loc, and An Loc
Is the population data available	Yes	Loc Ha district total population as of 2016 is 81,611 with almost 100 percentage of the rural population and high poverty rate of 6,4% while Can Loc district total population as of 2016 is 130,350 with very high percentage of the rural population (116,773) and high poverty rate of 6,07%. The subproject will directly benefit totally 8,237 local people in Loc Ha -Can Loc districts and four communes (total 37,140).

Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, Loc Ha dist (2016 poor HHs (8,8%); Can Loc dist (3,465 poor HHs (8,92%); (Thien Loc commune (7,137 population/195 poor HHs (11%), Thuan Thien commune (7,495population/308 poor HHs (15%), Tung Loc (8,258 population/122 poor HHs (0.56%), Hong Loc (7,495 population/248 poor HHs (11%), An Loc (3052 population/41poor HHs (0.4%).
Is the number of near poor households available	Not yet	N/A
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

J. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR	✓		Not Provided
Is there a detailed worksheet for the EIRR	✓		Not Provided
Is it linked to the traffic forecast	✓		Not Provided

K. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan.
Is there a clear design standard that is justified	✓		Yes, the FS presented the proposed design standard.
Are there outstanding approvals required	✓		<p>Requested confirmation:</p> <p>Requested clarification and confirmation:</p> <p>(i) Based on the consultant's FS survey document and the IP, the proposed road length of 11.95km while the PMU confirmed at the site that the proposed road length is 10km with the end point connecting to PR547.</p> <p>(ii) the consistency of the total road length and the end point in the FS</p> <p>(iii) There are 3 existing bridges in poor condition (km 0+750; km 3+720; Km 8+420; pre-stressed reinforced concrete girder bridges, 1 span L = 12m, design load HL93, bridge width 9.0 m, span length B = 12m), which need replacing. Re. bridge #3 at km 8+420 next to "Den Cua Tho – Prayer Temple in Tan Loc commune on one side of the road and the other side is the High power voltage pole, PPTA commented "the FS should take a very careful consideration of design and central line of the bridge construction width consistent with the plain road Cat IV base width of 9m and ROW of 7m) so that the Temple and the high power voltage pole may not be affected.</p> <p>(iv) the PPTA commented that the road section through Tung Loc commune may cause substantial land acquisition and houses affected.</p> <p>(v) requested traffic count data of PR22 and HL-1 to justify the proposed road design category IV.</p>

			<p>(vi) - Providing legal documents on red line boundaries of sections of residential areas; Bn = 12m.</p> <p>(vii) Design dossier, FS, BOQ, Cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p> <p>Note: During the design, note the canal system along the road, the location of the bridge just near the Prayer Temple, weak soil treatment, supplement the survey data of the existing road surface (existing road Eyc), select the appropriate Eyc. The sections through the residential area should design a two-sided reinforced drainage and ditch system.</p>
Is there a preliminary design	✓		The local consultant presented a preliminary design in hard copy
Is there a Feasibility study	✓		The local consultant already prepared a FS
Is the Subproject category A for resettlement and affected persons		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for minor resettlement and affected persons
Is the Subproject category A for environment		x	As per the PPTA consultant's site visit to the subproject sites, the Subproject is classified under category B or C for environment
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>Can Loc – Loc Ha inter-district road, Ha Tinh province is located in the area with incomplete connectivity due to the poor road. This road, when built, will help to connect the project area to Can Loc – Loc Ha districts of Ha Tinh province via provincial Road 547, then connect the tourism from National Road 1A to the Thach Bang beach resort, Cua Sot Vinpearl Resort and to east-west economic corridor.</p> <p>Connecting Coastal National Road, National Road 1A to East-West Economic Corridor, increasing commercial value, goods circulation from countries in the west to Ha Tinh.</p> <p>Upgrading this road will provide connectivity between the communes of Thien Loc (Can Loc dist) and Tinh Loc (Loc Ha dist), rather than being intended for through traffic.</p> <p>It would provide reliable accessibility for residents in the vicinity, to reduce transport costs on products (and so increase earnings from agriculture) and improving access to healthcare, education and employment opportunities.</p> <p>In addition to the social (poverty alleviation) and agricultural development rationales, this subproject also contributes to the overall development of the road network in Ha Tinh and the FNCP region alike.</p>
Is the project expected to achieve a 9% EIRR	✓		EIRR to be provided by PMU and local consultants

L. Road Alignment Map



Road Sections Chainage Photos



Starting point at Km0+00: Adjacent to asphalt road (on district road 3) in Tan Thuong hamlet, Thien Loc commune, Can Loc district.



Km 0+ 750: bridge#1 in poor and damaged condition



Km 1+685: earth road with large potholes and irrigation canal along the road



Km 2:00 gravel and earth road connecting to Tung Loc and Thuan Thien



Km 2:500: gravel and earth road with large potholes through the paddy field area



Km 3+720: bridge#2 seriously degraded condition



Km 5+00: gravel and earth road with large potholes



Km6+450: road surface seriously degraded with big potholes



Bridge #3 at km 8+420 next to "Den Cua Tho – Prayer Gate Temple in Tan Loc commune



Km9+00



Km9+500



Ending point at km10+00 connecting to provincial road 547 (at Petro station in An Loc commune, Loc Ha dist.)

VI. SUBPROJECT 3: DISTRICT ROAD 6 (DR6) OF HUONG KHE DISTRICT

A. Subproject Description

43. The subproject is the District Road 6 of Huong Khe district subproject. Total length of 10.36km

- (i) Starting point (Km0 + 0.00) connects to NR15A at km411+00 in Huong Thuy commune, Huong khe district.
- (ii) End point: Km10+361,12 connects to HCM Trail at Km824+800 in Huong Long commune, Huong Khe district.
- (iii) Total length 10.36 km.

B. Road Alignment

44. The proposed road alignment follows the approved masterplan for DR6 as follows: the starting point connects to NR15A follows the existing road (asphalt road with width of 3-3,5m, seriously degraded, some sections of cement concrete surface of 5,0m wide in good condition) through Hương Thủy, Gia Phố and Hương Long communes, Hương Khê district. End point connects to HCM Trail. The alignment was approved under Decision No. 3435/QĐ-UBND dated 30/10/2009.

C. Existing Road Status

- (i) Km0+0.00 -:- Km2+73.9; Km2+536-:-Km4+824; Km5+463-:-Km7+877.38 và Km9+926.9-:-K10+361.16. This is an asphalt rural road, Bm= 3-:-3,5m, Bn= 5,0m. The road surface is seriously degraded with many peeled sections, large potholes, and is extremely difficult for vehicles to travel in the wet season and the poor road condition makes connectivity often severed. Works on the road is deteriorated. Tan bridge at m5+778.16 was constructed in 2003; the bridge consists of 3 spans of 9m, designed according to the load H13, the bridge width of 6m. At present the deck has been degraded. The topography of the two sides of the route is residential area and land for growing crops.
- (ii) Section from Km2 + 73.9 -:- Km2 + 536: the current status is concrete road with road surface width of 5.5m; road base of 6.5m wide. This road section under Tro bridge construction project at Km2 + 334.03 with a bridge span of 8m and a length of 24m was constructed in 2016. It is strongly recommended to keep this road section.
- (iii) Section from Km4 + 824 -:- Km5 + 463: The current state of the section is a concrete road with a road surface of 5.5m wide; road base of 6.5m wide. This road section of Dat bridge construction project at Km5 + 053.24 with a bridge span of 8m, 15m long was constructed in 2016. It is strongly recommended to keep this road section.
- (iv) Section from Km7 + 877 -:- Km9 + 926.9: The current state of the road section is a concrete road with the width of 5.0 - 5.5m; road base of 6.0m wide was invested in 2011. The road is also good. It is strongly recommended to keep this road section.

D. Proposed Road Categorization

45. The subproject will upgrade to plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: $R_{min} = 60m$; Maximum vertical slope: $I_{max} = 7\%$; Roadbed width: $B_{nền} = 7,5m$; Road surface width: $B_{mặt} = 5,5m$; Roadside width: $Blề = 2 \times 1,0 = 2m$; Reinforced shoulders $Blềgc = 2 \times 0,5 = 1m$; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Bridge design load of HL93; culverts of H30-XB80; axle road pavement is 10T. Asphalt concrete road surface A1, $E_{yc} = 130MPa$.

46. Section through Hương Thuy commune at Km4+179.03-: -Km4+825.24 designed in accordance with plain road category IV (TCVN 4054-2005). Standards are specified as follows: Design speed: VTK = 60Km/h; Minimum horizontal curve radius: $R_{min} = 125m$; Maximum vertical slope: $I_{max} = 6\%$; Roadbed width: $B_{nền} = 9,0m$; Road surface width: $B_{mặt} = 7,0m$; Roadside width: $Blề = 2 \times 1,0 = 2m$.

E. Proposed Investment

- (i) Proposed investment \$ total: US\$ 2,687,304 in the IP.
- (ii) Proposed investment \$ /km: US\$ 370,662 /km.

F. Rationale

- (i) The road subproject will complete the traffic network in the West of Hà Tĩnh province; connect to important roads which pass Can Lộc district such as QL1A, DT 548, QL15, axial road of Phương Mỹ commune to ensure the traffic continuity and shorten the travel distance and time for people in the communes of two districts Can Lộc and Hương Khê and help to expand the agricultural land area of two districts in the project, form an economic corridor for transporting and consuming agricultural products in the locality, enhance garden-hill economy, and expand the vast unexploited agricultural land area, strengthen the development and create advantages for agricultural products from garden-hill economy of the region.
- (ii) The road will become the arterial route to end the isolation, shorten the time and distance for travelling and goods exchanges among the communes which is separated from the cultural, commercial and administrative centers of the province, and also shorten the time for rescuing activities in flood season.
- (iii) Phương Mỹ commune with the population of over 3,000 people is the most difficult area of Hương Khê district and located in the flood-concentrated area of Hà Tĩnh province. The area where Ngàn Sâu river flows through in Phương Mỹ commune but in the rainy season, the entire eastern bank is flooded and isolated from outside area creating significant risk to human life and safety. Can Lộc - Hương Khê inter-district is the road for rescue in rain and flood season and also the one that breaks the exclusive position of the main road of Phương Mỹ commune connecting to National Road QL15A at Hà Linh commune, which is regularly flooded. The road then connects to QL1A, QL15A, QL15B, and DT 548 roads system for quick movement of people to safety.
- (iv) Currently, farming and forestry (rubber and acacia) of local people in Phương Mỹ, Thượng Lộc, and Trung Lộc communes face a lot of difficulties due to access difficulties and the cost of freight for production and transport of agricultural products. When Can Lộc- Hương Khê inter-district road is finished, it will shorten the time and distance of transporting products including wood (1794ha of acacia), fruit trees (127ha of oranges and pomelo), paddy (240ha, 1400 tons/annum),

- peanut (174ha, approximately 400 tons/annum), corn (75ha, 300 tons/annum), bean (236ha, 162 tons/annum), etc. to consumers and processing places in and out of the neighbor province.
- (v) On completion of the road connections the agricultural production is expected to increase with the agricultural land expanding primarily through the movement of low returning rubber and acacia land into higher value fruit trees including pomelo and mandarin. The proposed section 2 will form an economic corridor for transporting and consuming agricultural products in the locality, enhance garden-hill economy, and expand agricultural land area, strengthen the development and create advantages for agricultural products of the region.
- (vi) Upgrading this road will provide connectivity between 2 communes Huong Thuy and Gia Pho in Huong Khe district, rather than being intended for through traffic.

G. Summary of Subproject FS

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	at Km0+0.00 connects to NR15A at km411+00 in Huong Thuy commune, Huong Khe district.	Confirmed	Confirmed
End point	at End point: Km10+361,12 connects to HCM Trail at Km824+800 in Huong Long commune, Huong Khe district.	Confirmed	Confirmed
Length	10.36km	<p>10.36km</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the total length of the proposed road subproject excluding 3 existing road sections in good condition (constructed in 2016).</p> <p>The proposed road length as per approval is 10.36 km, of which the total length of the road sections to be upgraded is 7.243km, and the total length of the existing road sections recently constructed (remain unchanged) is 3.118km. The road sections to be upgraded are divided into four sections:</p> <p>(i) Section 1: From Km0 + 0.00 to Km2 + 073.97.</p> <p>(ii) Section 2: From Km2 + 536.0 to Km4 + 825.24.</p> <p>(iii) Section 3: From Km5 + 463.2 to Km7 + 877.38.</p> <p>(iv) Section 4: From Km9 + 926.9 to Km10 + 361.12.</p> <p>(b) PPTA recommended that Tan bridge be reconstructed new as the existing bridge built in 2003 degraded and load design of H13 does not meet the demand</p>	<p>DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.</p> <p>Proposed options for further discussions and final agreement.</p>

		<p>and requirements of the proposed road category.</p> <p>(c) At the intersection of railroad design, it is proposed to expand the pavement and adjust the road alignment to connect to the existing road so as to avoid site clearance and houses to be reallocated as well as ensure Road safety across the railway and train passing.</p> <p>(d) Based on the PPTA consultant's site visit findings, and FS review: The new road sections should use Bituminous Surface Treatment (BST), (if using asphalt concrete, design should follow Decision 3230). The road is proposed to be developed to plain road Cat IV under transport masterplan, however, (currently, in the FS the road proposed to plain road Cat V and some existing road sections constructed in 2016 are kept unchanged and construction of Tan bridge at ferry No.2 site on the left side of the road.</p> <p>(f) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(g) based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and site clearance for the upgrading of 7.243km road sections and involving loss of 15ha of mainly agricultural land, production forest land and public land will be affected.</p> <p>No household will be relocated and resettled.</p> <p>(g) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>	
--	--	--	--

Road category	The road is proposed to be developed to plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: Imax = 7%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1,0 = 2m; Reinforced shoulders Blềgc = 2x0,5 = 1m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Bridge design load of HL93; culverts of H30-XB80; axle road pavement is 10T. Asphalt concrete road surface A1, Eyc =130MPa.	Requires traffic count data of DR6 and traffic count data of NH15A to justify the proposed plain road design category V. Confirmed the road is proposed to be developed to plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: Imax = 7%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1,0 = 2m; Reinforced shoulders Blềgc = 2x0,5 = 1m; Asphalt concrete road surface A1, Eyc =130MPa.	Agreed V
Proposed works	02 small bridges with HL-93 and 83 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

H. Eligibility

Criteria	Status		Risk of Non-compliance and Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050. The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam's northern and coastal region through 2020", in which the plan gives priority to the regional connection.
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People's Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People's Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030. Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people's demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.

			in line with transport masterplan of Huong Khe district which was approved by Ha Tinh PPC in Decision No.3435/QD-UBND dated 30/10/2009.
3: Proposed design concept exists – if yes state date of proposal	✓		MOU of HT DPI, DOT, Huong Khe DPC dated 21/02/2017 agreed upon the plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: lmax = 7%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1,0 = 2m; Reinforced shoulders Blềgc = 2x0,5 = 1m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Bridge design load of HL93; culverts of H30-XB80; axle road pavement is 10T. Asphalt concrete road surface A1, Eyc =130MPa.
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road subproject is proposed to be developed to the plain road category V standards specified in TCVN 4054 – 2005.
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport masterplan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is plain road Cat IV towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data of DR6 and traffic count data of NH15A to justify the proposed plain road design category V.
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat V.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		To be provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		To be provided
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

I. Safeguard Compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts related to land acquisition of garden lands, arable land, and site clearance for the upgrading of 7.243km road sections and involving loss of area of mainly agricultural land, production forest land and public land will be affected. One household will be relocated and resettled.
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Not yet
B: Environmental Screening				
B.1 Forests	Production forest land	✓		Minor loss of production forest land
- are there any of the following along the alignment of within close proximity – if yes is the risk significant	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	N/A

	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed Risk
Are communes identified and named	Yes	If yes please list communes 2 communes in Huong Khe district: Huong Thuy, and Gia Pho
Is the population data available	Yes	Huong Khe district total population as of 2016 is 31,344 HHs; Huong Thuy commune (1,362 HHs); Gia Pho commune (1,622 HHs). The subproject will directly benefit totally 10,400 people.
Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, (i) Huong Khe district (including 4,962 poor HHs accounting for 15,83%, 2,582 near poor HHs, accounting for 8,07%). Huong Thuy commune (1,362 HHs/496 poor HHs accounting for (0.36%); Gia Pho commune (1,622 HHs/182 PHHs (0.11%).
Is the number of near poor households available	Not yet	Not available
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not Provided
Is there a detailed worksheet for the EIRR		x	Not Provided
Is it linked to the traffic forecast		x	Not Provided

L. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data of DR6 and traffic count data of NH15A to justify the proposed plain road design category V.

			MOU of HT DPI, DOT, Huong Son DPC dated 21/02/2017 agreed upon plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: lmax = 7%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1,0 = 2m; Reinforced shoulders Blềgc = 2x0,5 = 1m; Asphalt concrete road surface A1, Eyc =130MPa.
Are there outstanding approvals required	✓		<p>Requires clarification and confirmation:</p> <p>(a) PMU reconfirms the total length of the proposed road subproject excluding 3 existing road sections in good condition (constructed in 2016).</p> <p>The proposed road length as per approval is 10.36 km, of which the total length of the road sections to be upgraded is 7.243km, and the total length of the existing road sections recently constructed (remain unchanged) is 3.118km. The road sections to be upgraded are divided into four sections:</p> <p>(i) Section 1: From Km0 + 0.00 to Km2 + 073.97. (ii) Section 2: From Km2 + 536.0 to Km4 + 825.24. (iii) Section 3: From Km5 + 463.2 to Km7 + 877.38. (iv) Section 4: From Km9 + 926.9 to Km10 + 361.12.</p> <p>(b) PPTA recommended that Tan bridge be reconstructed new as the existing bridge built in 2003 degraded and load design of H13 does not meet the demand and requirements of the proposed road category.</p> <p>(c) At the intersection of railroad design, it is proposed to expand the pavement and adjust the road alignment to connect to the existing road so as to avoid site clearance and houses to be reallocated as well as ensure Road safety across the railway and train passing.</p> <p>(d) Based on the PPTA consultant's site visit findings, and FS review: The new road sections should use Bituminous Surface Treatment (BST), (if using asphalt concrete, design should follow Decision 3230). The road is proposed to be developed to plain road Cat IV under transport masterplan, however, (currently, in the FS the road proposed to plain road Cat V and some existing road sections constructed in 2016 are kept unchanged and construction of Tan bridge at ferry No.2 site on the left side of the road.</p> <p>(f) Road safety measures and signs should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(g) the Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and site clearance for the upgrading of 7.243km road sections and involving loss of 15ha of mainly agricultural land, production forest land and public land will be affected. No household will be relocated and resettled.</p> <p>(g) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>
Is there a preliminary design		✓	There is already a preliminary design needs to be revised to reflect the finding including the additional cost of bridge reconstruction etc.
Is there a Feasibility study		✓	There is a Feasibility study but this needs to be revised to reflect the finding including the additional cost of bridge reconstruction etc.
Is the Subproject category A for resettlement and affected persons		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial

			Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment	✓		As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>the road subproject will complete the traffic network in the West of Hà Tĩnh province; connect to important roads which pass Can Lộc district such as QL1A, DT 548, QL15, axial road of Phương Mỹ commune to ensure the traffic continuity and shorten the travel distance and time for people in the communes of two districts Can Lộc and Hương Khê and help to expand the agricultural land area of two districts in the project, form an economic corridor for transporting and consuming agricultural products in the locality, enhance garden-hill economy, and expand the vast unexploited agricultural land area, strengthen the development and create advantages for agricultural products from garden-hill economy of the region.</p> <p>The road will become the arterial route to end the isolation, shorten the time and distance for travelling and goods exchanges among the communes which is separated from the cultural, commercial and administrative centers of the province, and also shorten the time for rescuing activities in flood season.</p> <p>Phương Mỹ commune with the population of over 3,000 people is the most difficult area of Hương Khê district and located in the flood-concentrated area of Hà Tĩnh province. The area where Ngân Sâu river flows through in Phương Mỹ commune but in the rainy season, the entire eastern bank is flooded and isolated from outside area creating significant risk to human life and safety. Can Lộc - Hương Khê inter-district is the road for rescue in rain and flood season and also the one that breaks the exclusive position of the main road of Phương Mỹ commune connecting to National Road QL15A at Hà Linh commune, which is regularly flooded. The road then connects to QL1A, QL15A, QL15B, and DT 548 roads system for quick movement of people to safety.</p> <p>Currently, farming and forestry (rubber and acacia) of local people in Phương Mỹ, Thượng Lộc, and Trung Lộc communes face a lot of difficulties due to access difficulties and the cost of freight for production and transport of agricultural products. When Can Lộc-Hương Khê inter-district road is finished, it will shorten the time and distance of transporting products including wood (1794ha of acacia), fruit trees (127ha of oranges and pomelo), paddy (240ha, 1400 tons/annum), peanut (174ha, approximately 400 tons/annum), corn (75ha, 300 tons/annum), bean (236ha, 162 tons/annum), etc. to consumers and processing places in and out of the neighbor province.</p> <p>On completion of the road connections the agricultural production is expected to increase with the agricultural land expanding primarily through the movement of low returning rubber and acacia land into higher value fruit trees including pomelo and mandarin. The proposed section 2 will form an economic corridor for transporting and consuming agricultural products in the locality, enhance garden-hill economy, and expand agricultural land area, strengthen the development and create advantages for agricultural products of the region.</p>

			<p>Upgrading this road will provide connectivity between 2 communes Huong Thuy and Gia Pho in Huong Khe district, rather than being intended for through traffic.</p> <p>In addition to the social (poverty alleviation) and agricultural development, flood evacuation and prevention rationales, this subproject also contributes to the overall development of the road network in Ha Tinh and the FNCP region alike.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

M. Road Map



N. Road Chainage Photos



Starting point Km0+00: connects to NR15A at km411+00 in Huong Thuy commune



Km1+450: degraded gravel road through the residential and garden group areas



Km1+600: degraded gravel road through the residential and garden group areas



Km1+650: pomelo and oranges gardens along the road right side



Km 2+00: corn fields along the road left side



Km2+



Km



Km2+074:



Km



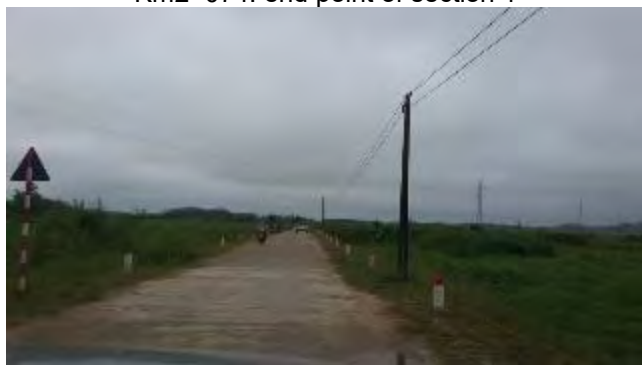
Km



Km2+074: end point of section 1



Km2+100: Tro bridge



Km2+350: existing road section (constructed in 2016)
good condition



Km2+536: starting point of section 2 to be upgraded



Km2+900: degraded gravel road section with peanut crop fields along both sides of the road



Km3+00: degraded gravel road section with large water pools and potholes on both sides



Km3+250: Ferry port No.2 cross Ngan Sau river to Huong Thuy village



Km3+250: Ferry port No.2 cross Ngan Sau river to Huong Thuy village



Km3+250: the other side of Ferry port No.2 in Huong Thuy village



Km3+300: degraded road surface with large water drainages both sides and acacia trees on the left side of the road



Km3+800: Ferry port No.3



Km3+850: acacia and peanut field along the concrete road



Km4+00: degraded with water drainages and potholes through the residential area



Km4+852: End point of section 2



Km5 + 053.24: Dat bridge with a span of 8m, 15m long was constructed in 2016



Km5+463: starting point of section 3



Km5+800: Tan bridge (constructed in 2003) is deteriorated



Km6+00: corn fields along both sides of the asphalt concrete road



Km6+500: asphalt concrete road narrow width of 3,5m



Km7+00



Km7+877: fly bridge load design 10T



Km7+877: intersection site with the railway



Km7+877: intersection site with the railway



Km7+900: asphalt concrete road narrow width of 3,5m



Km8+500: asphalt concrete road narrow width of 3,5m



K9+926.9: starting point of section 3 upgrading the road before the world bank funded road project from km7+877.38 to km9+926.9



K9+926.9: starting point of section 4 upgrading the road after the world bank funded road project from km7+877.38 to km9+926.9



Km10+00: road surface degraded with large potholes



Km10+300: road surface degraded with large potholes



End point at Km10+361,12 connects to HCM Trail at Km824+800 road surface degraded with large potholes



End point at Km10+361,12 connects to HCM Trail at Km824+800 at T-Junction Huong Long commune

VII. SUBPROJECT 4: KY DONG – KY TRUNG INTER-COMMUNE ROAD

A. Subproject Description

47. The subproject is the Ky Dong – Ky Trung (Ky Anh district) Inter-commune road subproject, Ky Anh district, Ha Tinh province. Starting point: at km0 + 00 intersects with NH1A at km552+800 at the intersection point of road 70 planned in Ky Dong commune.

- (i) End point: at km6+100 connects to “Kinh Te-Quoc Phong – Economics –Defense) Road in Ky Trung commune.
- (ii) Total length (km+m): 6.1km.

48. Currently, the road passes through the low hilly and mountainous areas in the upstream of Mac Khe Lake in 3 communes, Ky Dong, Ky Giang and Ky Trung. There are a total of 3 separate sections:

- (i) Section 1 is DR139 from Km0 + 00 to Km5 + 188 with a length of 5.188km, passing through communes; Ky Dong; Ky Trung in Ky Anh district. This road section is not formed, a new alignment.
- (ii) Section 2 from Km0 +0.00 - Km0 + 160 is rural road, cement concrete road surface with width of road surface $B_m = 3m$, $B_n=5m$. This is in good condition. Along the road sides are residential and horticultural and crops areas.
- (iii) Section 3 from Km0 + 160 to Km5 + 188 is a completely new alignment, passing through hills of forest trees in Ky Dong, Ky Giang and Ky Trung communes of Ky Anh district.

49. Overview of proposed works: the road subproject will construct 01 small bridge with HL-93 and 23 culverts, and drainage works, protection works, and traffic systems.

B. Proposed Road Categorization

50. The road is proposed to be developed to mountainous road category IV standards specified in TCVN 4054 – 2005. Design speed: $V_{TK} = 40Km/h$; Minimum horizontal curve radius: $R_{min} = 60m$; Maximum vertical slope: $I_{max} = 8\%$; Roadbed width: $B_{nèn} = 7,5m$; Road surface width: $B_{mặt} = 5,5m$; Roadside width: $B_{è} = 2x1 = 2m$; $B_{lgc} = 2x0,5 = 1m$. Asphalt concrete road surface A1, $E_{yc} = 130MPa$.

C. Proposed Investment

- (i) Total investment \$ total: US\$ 3,660,807 in the IP.
- (ii) Investment \$ /km: US\$ 600,000 /km.

D. Rationale

- (i) Ky Dong - Ky Trung road will combine with the Kinh Te Quoc Phong road, Ky Tay – Ky Thuong inter-commune road to form the horizontal axis connecting the National Highway 12 and National Highway 1A, forming the main axis connecting to the administrative center of the newly established Ky Anh district. It will increase the regional connectivity, and the mountainous area to the west of the district

- including Ky Trung, Ky Tay, Ky Lam, Ky Thuong communes with the district administrative center.²
- (ii) The road will improve traffic condition, facilitating people in communes of Ky Dong, Ky Giang, Ky Trung, Ky Thuong, Ky Tay of Ky Anh district to access district center and provincial capital.
 - (iii) The road will enhance transportation development, production, consumption of agricultural and forestry products, shortening the traveling time for 15km of road, reducing travel time of 25 minutes from communes in the west of the district to central area of the district.
 - (iv) This road connects between the central economic zones, which is the main arterial road connecting Ky Anh administrative centre and mountainous and remote communes to the livestock production concentrated area and agricultural and forest production areas.

E. Findings

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	at km0 + 00 intersects with NH1A at km552+800 at the intersection point of road 70 planned in Ky Dong commune.	Confirmed	Confirmed
End point	at km6+100 connects to "Kinh Te-Quoc Phong – Economics – Defence) Road in Ky Trung commune.	(i) based on the consultant's FS, the end point connects to the Economics – Defence road in Ky Trung commune; (ii) at site the end point connects to DR143 at Km22+200 in Ky Trung commune, Ky Anh district.	Confirmed
Length	6.1km	5.19km Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP and FS review, (a) Requires the consistency of the total proposed road length in the IP vs the FS: the proposed road length of 6.1km in the IP while the consultant's FS confirmed at the site that the proposed road length is 5.19km. (b) PMU reconfirms the total length of the proposed road subproject including the new alignment. (c) Road options; (i) at Km0 + 700, the road intersects the Ky Anh town centre cemetery (as reported by the PMU and local consultants, about from 33 to 40 graves will be resettled. Ky Anh district Vice chairman said that they will consult the local communes about the resettlement of graves and resettlement	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment. Proposed options for further discussions and final agreement.

² From 16 May 2015, Ky Anh District separated into two administrative units: Ky Anh Town and Ky Anh District (new). Ky Anh town is split on the basis of old Ky Anh district with Resolution 903 / NQ-UBTVQH13 of the Standing Committee of the National Assembly to become Ky Anh town and Ky Anh district, date of split 16/05/2015.

		<p>plan and compensation budget on 20 June, 2017).</p> <p>As proposed the road alignment is considered to be ineligible for ADB funding as a Category a social safeguard classification</p> <p>Based on the PPTA consultant's site visit findings, to minimize risks and negative impacts on the graves resettled and resettlement plan (not to be confirmed nor public consultations), it is proposed to adjust the alignment to the new location to the left avoiding the cemetery grave resettlements. (ii) Proposed alignment at Km3 + 750 for connection to the existing concrete, cement concrete road surface with width of 5m from Km3 + 750 to the end of the same road connecting to DR143.</p> <p>(d) Road section from Km3 +750 to the end point of the connection to DR143 is reconsidered for options, select Eyc for appropriate process, pavement structure should proposed two options for comparison. It is recommended to use asphalt pavement or asphalt with the budget constraint and local suitable construction technology.</p> <p>(e) requires additional existing road surface pavement survey data (existing road E), select Eyc for appropriate process.</p> <p>(f) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(g) the Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and site clearance for the construction of the new road and. 10.5 ha of mainly agricultural land, production forest land and public land will be affected.</p> <p>No household will be relocated and resettled.</p>	
Road category	The road is proposed to to be developed to mountainous road category IV standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: lmax = 8%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt =	Requires traffic count data of DR139 and traffic count data of QL1A to justify the proposed mountainous road design category IV.	Agreed IV
		Confirmed the road is proposed to be developed to mountainous road category IV standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin =	

	5,5m; Roadside width: Bl _è = 2x1 = 2m; Bl _{gc} = 2x0,5 = 1m. Asphalt concrete road surface A1, Eyc =130MPa.	60m; Maximum vertical slope: I _{max} = 8%; Roadbed width: B _{nền} = 7,5m; Road surface width: B _{mặt} = 5,5m; Roadside width: Bl _è = 2x1 = 2m; Bl _{gc} = 2x0,5 = 1m. Asphalt concrete road surface A1, Eyc =130MPa.	
Proposed works	01 small bridge with HL-93 and 75 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

F. Eligibility

Criteria	Status		Risk of Non-compliance and Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050.</p> <p>The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam's northern and coastal region through 2020", in which the plan gives priority to the regional connection.</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People's Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People's Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030.</p> <p>Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people's demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.</p> <p>In line with the adjustment and addition of traffic development master plan for Ky Anh district to 2020 and orientation to 2030 under management of the district.</p>
3: Proposed design concept exists – if yes state date of proposal	✓		<p>MOU of HT DPI, DOT, Ky Anh DPC dated 21/02/2017 agreed upon the mountainous road category IV standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: R_{min} = 60m; Maximum vertical slope: I_{max} = 8%; Roadbed width: B_{nền} = 7,5m; Road surface width: B_{mặt} = 5,5m; Roadside width: Bl_è = 2x1 = 2m; Bl_{gc} = 2x0,5 = 1m. Asphalt concrete road surface A1, Eyc =130MPa.</p>

4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road subproject is proposed to be developed to the mountainous road category IV standards specified in TCVN 4054 – 2005.
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport masterplan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is plain road Cat III towards 2030. No traffic forecast has been provided
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data of DR139 and traffic count data of QL1A to justify the proposed mountainous road design category IV.
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		No traffic forecast has been provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat IV.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		Not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		Not provided
13: Are there significant structures required – if yes please identify	✓		Not provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

G. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor

	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		<p>Based on the PPTA's site visit findings and interview with the local officials and local people, the road section from km0+700 involves resettlement of as many as of from 35 to 40 graves of Ky Anh town centre cemetery.</p> <p>The subproject also causes some impacts related to land acquisition of garden lands, traffic land, and site clearance for the construction of the new road and 10.5 ha of mainly agricultural land, production forest area and public land will be affected. One household will be relocated and resettled.</p>
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Not yet
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	?		Substantial loss of production forest land
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they	✓		Anh town centre cemetery with more than 40 graves to be affected and resettled
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	As presented above
	Water course disruption		x	As presented above
	Flood Plain Disruption		x	As presented above

H. Social Considerations

Criteria	Yes /No	Explanation and Assessed Risk
Are communes identified and named	Yes	If yes please list communes 3 communes of Ky Anh district: Ky Dong, Ky Giang and Ky Trung
Is the population data available	Yes	Ky Anh district total population as of 2016 is 34,928 HHs, and Ky Dong commune (1,648 HHs); Ky Giang commune (1,662 HHs); Ky Trung commune (541 HHs). The subproject will directly benefit totally 12,324 people.
Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, Ky Anh district (including 5,372 poor HHs accounting for 15,38%, 3,178 near poor HHs, accounting for 9,10%). Ky Dong commune (1,648 HHs/195 poor HHs (0.11%); Ky Giang commune (1,662 HHs/247 PHHs (0.14%); Ky Trung commune (514 HHs/50 PHHs (0.9%).
Is the number of near poor households available	Not yet	Not available
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

I. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not Provided
Is there a detailed worksheet for the EIRR		x	Not Provided
Is it linked to the traffic forecast		x	Not Provided

J. Summary

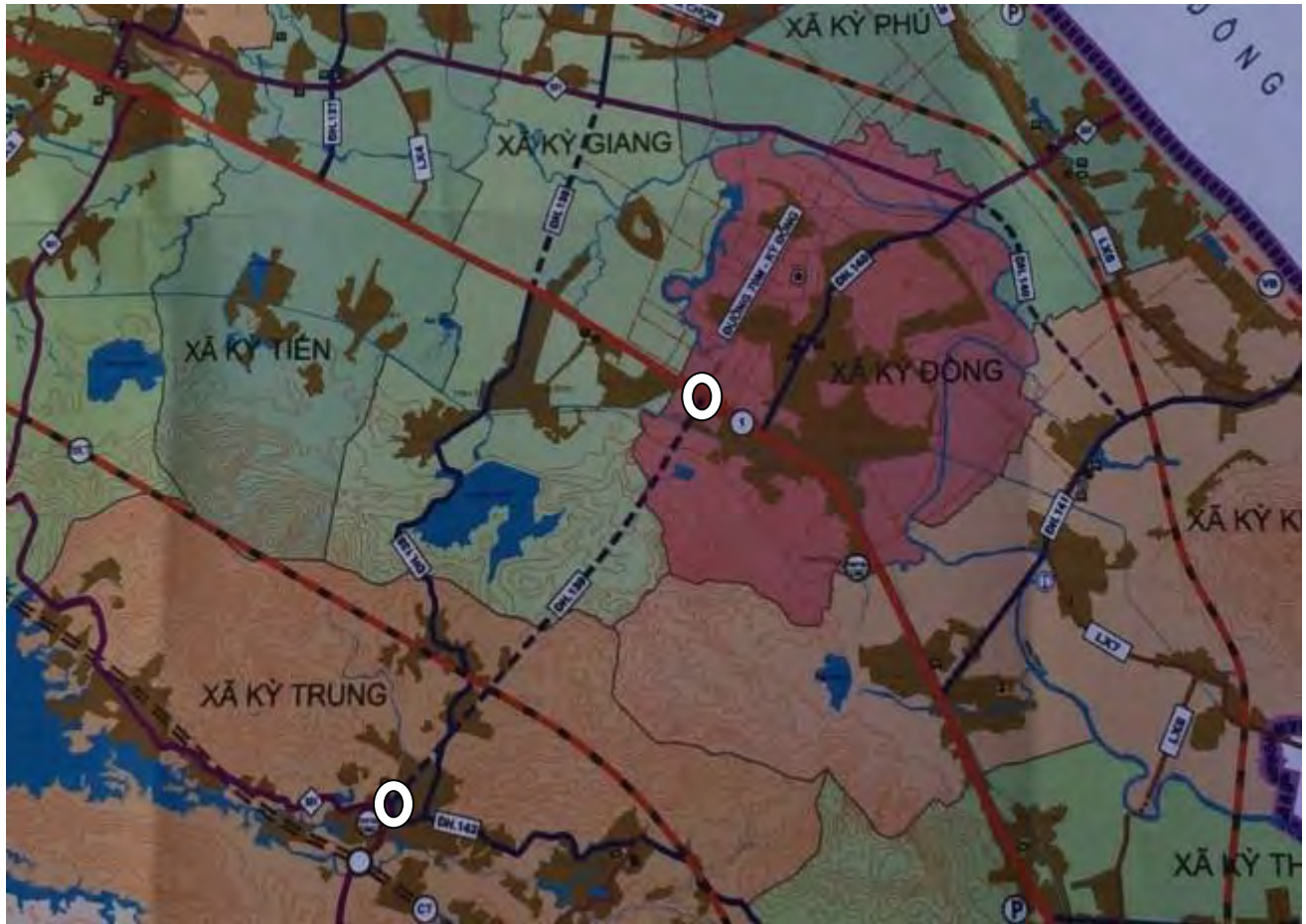
Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data of DR139 and traffic count data of QL1A to justify the proposed mountainous road design category IV. MOU of HT DPI, DOT, Ky Anh DPC dated 21/02/2017 agreed upon the mountainous road category IV standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: Imax = 8%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1 = 2m; Blgc = 2x0,5 = 1m. Asphalt concrete road surface A1, Eyc = 130MPa.

Are there outstanding approvals required	✓		<p>Requires clarification and confirmation:</p> <p>(a) Requires the consistency of the total proposed road length in the IP vs the FS: the proposed road length of 6.1km in the IP while the consultant's FS confirmed at the site that the proposed road length is 5.19km.</p> <p>(b) PMU reconfirms the total length of the proposed road subproject including the new alignment.</p> <p>(c) Road options; (i) at Km0 + 700, the road intersects the Ky Anh town centre cemetery (as reported by the PMU and local consultants, about from 33 to 40 graves will be resettled. Ky Anh district Vice chairman said that they will consult the local communes about the resettlement of graves and resettlement plan and compensation budget on 20 June, 2017).</p> <p>Based on the PPTA consultant's site visit findings, to minimize risks and negative impacts on the graves resettled and resettlement plan (not to be confirmed nor public consultations), it is proposed to adjust the alignment to the new location to the left avoiding the cemetery grave resettlements. (ii) Proposed alignment at Km3 + 750 for connection to the existing concrete, cement concrete road surface with width of 5m from Km3 + 750 to the end of the same road connecting to DR143.</p> <p>(d) Road section from Km3 +750 to the end point of the connection to DR143 is reconsidered for options, select Eyc for appropriate process, pavement structure should proposed two options for comparison. It is recommended to use asphalt pavement or asphalt with the budget constraint and local suitable construction technology.</p> <p>(e) requires additional existing road surface pavement survey data (existing road E), select Eyc for appropriate process.</p> <p>(f) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons	✓		<p>As presented the subproject is Category A for resettlement of graves and tombs and is therefore ineligible for inclusion</p> <p>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category A or not for substantial Resettlement.</p>
Is the Subproject category A for environment		✓	<p>Category B but caveat to be addressed with respect to the production forestry classification</p> <p>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.</p>
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>Ky Dong - Ky Trung road will combine with the Kinh Te Quoc Phong road, Ky Tay – Ky Thuong inter-commune road to form the horizontal axis connecting the National Highway 12 and National Highway 1A, forming the main axis connecting to the administrative center of the newly established Ky Anh district. It will increase the regional connectivity, and the mountainous area to the west of the district</p>

			<p>including Ky Trung, Ky Tay, Ky Lam, Ky Thuong communes with the district administrative center.³</p> <p>The road will improve traffic condition, facilitating people in communes of Ky Dong, Ky Giang, Ky Trung, Ky Thuong, Ky Tay of Ky Anh district to access district center and provincial capital more easily and conveniently.</p> <p>The road will enhance transportation development, production, consumption of agricultural and forestry products, shortening the traveling time for 15km of road, reducing travel time of 25 minutes from communes in the west of the district to central area of the district.</p> <p>The road will contribute to the expansion and development of infrastructure for new district's center in accordance with the approved masterplan to 2025 with a vision to 2030.</p> <p>This road connects between the central economic zones, which is the main arterial road connecting Ky Anh administrative centre and mountainous and remote communes to the livestock production concentrated area and agricultural and forest production areas.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

³ From 16 May 2015, Ky Anh District separated into two administrative units: Ky Anh Town and Ky Anh District (new). Ky Anh town is split on the basis of old Ky Anh district with Resolution 903 / NQ-UBTVQH13 of the Standing Committee of the National Assembly to become Ky Anh town and Ky Anh district, date of split 16/05/2015.

K. Road Map



L. Road Sections Chainage Photos



Starting point Km0+00 connecting to QL1A



Km0+00: road entry point



Km0+170: location to cut new (alignment) road



Km0+200: location to cut new road section (alignment)



Km0+700 new alignment passes through the Ky Anh town centre cemetery



Km0+700 new alignment passes through middle of the Ky Anh town centre cemetery



Km0+800: new road (alignment) location proposed by the PPTA to avoid the cemetery



Km0+800: new road location



Km3+0.00: new alignment location cutting through the agricultural area and production acacia forest



Km3+0.00: straight alignment location



Km3+750.00: location intersecting with the cement concrete road



Km4+100: cement concrete road



Km4+150.00: existing culvert location on the cement concrete road



Km4+150.00: existing culvert location on the cement concrete road



Km5+100: Intersection point with DR143



Km5+100: Intersection point with DR143



End point Km5+188 (based on the FS report): connects to the intersection point between “economic-defence road of Ky Phu-Ky Thuong” and the red soil road in Ky Trung commune



End point Km5+188 (based on the FS report): connects to the intersection point between “economic-defence road of Ky Phu-Ky Thuong” and the red soil road in Ky Trung commune

VIII. SUBPROJECT 5: MAIN CENTRE ROAD OF HONG LINH TOWN

A. Subproject Description

51. The subproject is the main centre road of Hong Linh town subproject. Total length of 4.075km

52. The road subproject consists of two interconnected roads which form the main road axis of Hong Linh town, which is to the west of Hong Linh town and runs parallel to National Highway 1A, in direction from north to south connecting National Highway 1A and National Road 8A, passing through Trung Luong, Duc Thuan and Bac Hong wards, Hong Linh town.

53. The main axis of Hong Linh town is in the west and runs parallel to NH1A from north to south.

- (i) Starting point (Km0 + 0.00) connects to the end point of ring road of Hong Linh town at Km0 + 543.00 (in the area of Trung Luong ward, Hong Linh town).
- (ii) End point: (Km3 + 527.67) connecting to NH8A at Km1 + 459.80 (in Bac Hong ward of Hong Linh town).

54. The second section

- (i) The ring road of Hong Linh town (L = 505.00 m) intersects with NH1A with the starting point (Km0 + 0.00) intersected with NH1A at Km478 + 309.00 (in the area of Trung Luong ward) Hong Linh); the end point (Km0 + 505.00) intersects with the starting point of the main axis of Hong Linh town (in Trung Luong ward of Hong Linh town)
- (ii) Total length L = 0.54km.
- (iii) The central section of the main axis through Hong Linh town center is located in the west and runs parallel to NH1A in the direction from the North to the South, with the starting point (Km0 + 0.00) intersects with the end point of the ring road of Hong Linh town at Km0 + 505.00 (in Trung Luong ward of Hong Linh town); End point (Km3 + 570.00) intersect with NHL8A at the Km1 + 459.80 (in the North Hong Hong Townlet).
- (iv) Total Length L = 3.570 km

55. The overall length of road in the subproject is 4.075km

B. Road Alignment

56. The proposed alignment is the alignment approved in the masterplan: the starting point of the road subproject connecting to National Road 1A is aligned with the planned ring road of 0.54km. From here, the road will go along the planned main axis of Hong Linh town; end point connects to NH 8A. The total length of the whole road is 4.07 km.

57. The alignment was approved according to Decision 43/2007 / QĐ-UBND of Ha Tinh province on 22/10/2007.

C. Existing Status

- (i) The main road of Hong Linh town is not formed. The proposed road is proposed to be constructed as per masterplan approved from Km0 + 540.00 - Km3 + 527.67 in the area of Trung Luong ward; Bac Hong Hong Linh town. The topography of the two sides is the residential areas and agricultural fields. The total length of 3.53 km.
- (ii) The ring road of Hong Linh town: the current road status is 250m long; the rest is a new road alignment as planned from Km0 + 00 - Km0 + 540.00. The topography of the two sides is the residential areas and agricultural fields. The total length of 0.54 km.
- (iii) At km3 + 158.08, build 01 new bridge, L = 18m using permanently reinforced concrete, design load HL93 - Bridge width: 2 sections $B=(0.5+7+0.5)+10+(0.5+7+0.5)$
- (iv) Drainage along the road surface on the existing are natural, no complete drainage system.

D. Proposed Road Categorization

58. The subproject is proposed to be urban road standards specified in TCXDVN 104-2007 being:

- (i) Central main road: Roadbed width: $B_{nh} = 23,0m$; Road surface width: $B_{m\grave{a}t} = 2 \times 6 = 12,0m$; Roadside width: $B_{l\grave{e}} = 2 \times 0,5 = 1,0m$; $B_{barrier} = 10m$; Talus Mdao = 1:1; Talus Mdap = 1:1,5.
- (ii) Ring road: $B_n = 16,0m$; $B_m = 2 \times 6,0m = 12m$; $B_{barrier} = 3,0m$; roadside width $B_{l\grave{e}} = 2 \times 0,5m$, Talus Mdao = 1:1; Talus Mdap = 1:1,5
- (iii) Asphalt concrete Road surface.
- (iv) Bridge: 01 bridge to be constructed with $L = 28m$; $P = 4\%$; HL93.
- (v) Culverts: H30-XB80.

E. Proposed Investment

- (i) Total investment \$ total: US\$ 3,662,392 in the IP.
- (ii) Proposed investment \$ /km: US\$ 898,746 /km.

F. Rationale

- (i) The main road of Hong Linh town center is located in the West and runs in parallel with National Road 1A in the direction from North to South. This is a very important road in the development strategy of Hong Linh town. The road links national road network from National Road 1A to National Road 8A and with the main roads crossing National Road 1A into the center of Trung Luong, Duc Thuan and Thuan Loc communes, but there is no route formed yet.
- (ii) The roads will connect to the National Road network from National Road 1A to National Road 8A and connect to the major roads crossing National Road 1A into the center of Trung Luong, Duc Thuan, Thuan Loc and adjacent areas.
- (iii) The road will improve traffic conditions, making it convenient for people in Trung Luong, Duc Thuan and Bac Hong wards of Hong Linh town where the road goes through to access the district and province center as well as linking commercial,

service and tourism activities of the town with the Cau Treo international border gate economic zone to Laos, Thailand and Vietnam central region.

- (iv) Upgrading this road will provide connectivity between 3 communes Trung Luong, Duc Thuan and Thuan Loc communes in Hong Linh town, rather than being intended for through traffic.

G. Summary of Subproject Site Visits Findings and FS Review and Recommendations

1. Construction Scale and Technical Specifications

59. According to the approved planning, these roads are designed to meet the criteria of minor urban main street (according to TCVN 104-2007) with the central main route Bnen = 70.0m and ring road Bnen = 60.0 m. But within the scope of the project, due to limited funds and, at the same time, to facilitate traffic connection between National Road 1A and National Road 8A. Therefore, the route direction design will follow the approved plan, but the cross-sectional dimension will be invested in two phases, details as below:

- (i) Phase 1: Site clearance; Construction of 23.0m of roadbed (for central main route) and 16.0m (for ring road); Completion of horizontal drainage system under the roadbed of the first phase road construction; Construction of pavement along two sides of the road barrier, each side has a width of 6.0 m to ensure the traffic and put into operation phase 1.
- (ii) Phase 2 (invest): Completion of the roadbed and road surface in accordance with the approved planning, completion of longitudinal drainage systems, horizontal drainage, lighting systems, green trees and sidewalks.

2. Construction Scale of Phase 1

a. Roads:

60. Investment projects to build central main route and ring road of Hong Linh town going through Trung Luong, Duc Thuan and Bac Hong ward of Hong Linh town with a total length of 4,070.67 m, details as below:

- (a) The main route of Hong Linh town center is in the west and runs parallel with National Road 1A from north to south, the start point (Km 0 + 0.00) intersects with the end point of the ring road of Hong Linh town at Km0 + 543.00 (in Trung Luong ward of Hong Linh town); the end point (Km3 + 527.67) intersects with National Road 8A at Km1 + 459.80 (in Bac Hong ward of Hong Linh town) with the length of L = 3,527.67 m;
- (b) The ring road of Hong Linh town runs perpendicular to National Road 1A with the start point (Km0 + 0.00) intersects National Road 1A at Km478 + 309.00 (in Trung Luong ward of Hong Linh town); the end point (Km0 + 543.00) intersects with one end of the main route of Hong Linh town center (in Trung Luong ward of Hong Linh town) with the length of L = 543.00 m.
- (i) Cross-sectional dimension (phase 1) will be invested, details as below:

- (ii) Central main route: Roadbed width $B_{\text{rèn}} = 23,0\text{m}$; road surface width $B_{\text{mặt}} = 2 \times 6,0\text{m}$; B barrier = 10,0m; B = 2x0,5m. Design speed $V_{\text{tk}} = 50\text{km/h}$. Cutting talus coefficient $m_{\text{đào}}=1:1$, filling talus coefficient $m_{\text{đắp}}=1:1,5$.
- (iii) Ring road: Roadbed width $B_{\text{rèn}} = 16,0\text{m}$; Road surface width $B_{\text{mặt}} = 2 \times 6,0\text{m}$; B barrier = 3,0m; B walkway = 2x0,5m. Design speed $V_{\text{tk}} = 50\text{km/h}$. Cutting talus coefficient $m_{\text{đào}}=1:1$, filling talus coefficient $m_{\text{đắp}}=1:1,5$.
- (iv) Arrangement of circle-typed vertical curve at locations of grade change with the algebraic sum of two grade $> 1.0\%$

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	Starting point (Km0 + 0.00) connects to the end point of ring road of Hong Linh town at Km0 + 543.00 (in the area of Trung Luong ward, Hong Linh town).	Confirmed	Confirmed
End point	End point: (Km3 + 527.67) connecting to NHL8A at Km1 + 459.80 (in Bac Hong ward of Hong Linh town).	Confirmed	Confirmed
Length	4.075km	<p>4.075km</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the total length of the proposed road subproject including the new alignment and the existing road section.</p> <p>(b) legal document (masterplan approved for phase I with scale/scope of $B_n=23\text{m}$, smaller than the approved masterplan $B_n=70\text{m}$).</p> <p>(c) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented according to the urban road standards and specifications, in particular through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(d) the subproject involves impacts related to</p> <p>(i) 15 households will be affected and approximately 10 households will be relocated and resettled.</p> <p>(ii) land acquisition of garden lands, traffic land, and site clearance for the upgrading of 3.52km road section and involving loss of 14.25 ha of mainly agricultural land, production forest land and public land will be affected.</p>	<p>DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.</p> <p>Proposed options for further discussions and final agreement.</p>
Road category	The road is proposed to be developed to urban road standards specified in TCXDVN 104-2007.	Requires traffic count data of intersection and connection roads (NH1A, Ring road of Hong Linh town, NH8A) to justify the proposed urban road plain road	Agreed to urban road standards specified in TCXDVN 104-2007

	<p>Central main road: Roadbed width: B_n = 23,0m; Road surface width: B_m = 2x6=12,0m; Roadside width: B_l = 2x0,5 = 1,0m; B_{barrier} = 10m; Talus M_{dao} =1:1; Talus M_{dap}=1:1,5.</p> <p>Ring road: B_n=16,0m; B_m=2x6,0m=12m; B_{barrier} =3,0m; roadside width B_l=2x0,5m, Talus M_{dao}=1:1; Talus M_{dap}=1:1,5</p> <p>Asphalt concrete Road surface.</p> <p>Bridge: 01 bridge to be constructed with L=28m; P=4%; HL93.</p> <p>Culverts: H30-XB80.</p>	<p>standards specified in TCXDVN 104-2007.</p> <p>Confirmed the road is proposed to be developed to urban road standards specified in TCXDVN 104-2007.</p> <p>Central main road: Roadbed width: B_n = 23,0m; Road surface width: B_m = 2x6=12,0m; Roadside width: B_l = 2x0,5 = 1,0m; B_{barrier} = 10m; Talus M_{dao} =1:1; Talus M_{dap}=1:1,5.</p> <p>Ring road: B_n=16,0m; B_m=2x6,0m=12m; B_{barrier} =3,0m; roadside width B_l=2x0,5m, Talus M_{dao}=1:1; Talus M_{dap}=1:1,5</p> <p>Asphalt concrete Road surface.</p> <p>Bridge: 01 bridge to be constructed with L=28m; P=4%; HL93.</p> <p>Culverts: H30-XB80.</p>	
Proposed works	01 small bridges with HL-93 and 29 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

H. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050.</p> <p>The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam's northern and coastal region through 2020", in which the plan gives priority to the regional connection.</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People's Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People's Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030.</p> <p>Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people's demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.</p> <p>In line with Decision No. 2558/2007 / QĐ-UBND dated 19/8/2013 of People's Committee of Ha Tinh Province approving the partial adjustment of land use planning of Hong Linh town in the project of adjusting the master plan for construction of Hong Linh town in the</p>

			<p>period of 2005-2015, vision to 2015 and Decision No. 1786 / QD-TTg dated 27/11/2012 of the Prime Minister approving the master plan for socio-economic development of Ha Tinh province to 2020 with a vision to 2050.</p> <p>Ha Tinh PPC Decion No.43/2007 dated 22/10/2017 on readjusting the masterplanning of Hong Linh town to 2015 towards 2025: Hong Linh town ring road to be upgraded to urban road cat III: Bm=2x10,5+2x7,5m, Bn=60m, Bbarrier=3+2x6m; Bvh=2x4,5m and Hong Linh town ring road with the urban road cat III road, Bm=2x12+2x7m, Bn=70m, Bbarrier =10+2x3m, Bvh=2x8m.</p>
3: Proposed design concept exists – if yes state date of proposal	✓		<p>MOU of HT DPI, DOC, Hong Linh Town PC dated 21/02/2017 agreed upon the urban road standards specified in TCVN 104-2007.</p> <p>Urban road standards specified in TCXDVN 104-2007.</p> <p>Central main road: Roadbed width: B_{nền} = 23,0m; Road surface width: B_{mặt} = 2x6=12,0m; Roadside width: B_{lề} = 2x0,5 = 1,0m; B_{barrier} = 10m; Talus M_{dao} =1:1; Talus M_{dap}=1:1,5.</p> <p>Ring road: B_n=16,0m; B_m=2x6,0m=12m; B_{barrier} =3,0m; roadside width B_{lề}=2x0,5m, Talus M_{dao}=1:1; Talus M_{dap}=1:1,5</p> <p>Asphalt concrete Road surface.</p> <p>Bridge: 01 bridge to be constructed with L=28m; P=4%; HL93.</p> <p>Culverts: H30-XB80.</p>
4: Proposed design standard identified – if yes what standard, wat is the projected economic life of the subproject	✓		The road subproject is proposed to be developed to the urban road standards specified in TCXDVN 104-2007
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		<p>The proposed designed standard is derived from the provincial transport masterplan for districts.</p> <p>The current road standard on each end point is asphalt concrete road and the network connection now and planned is urban road Cat III towards 2030.</p>
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data of intersection and connection roads (NH1A, Ring road of Hong Linh town, NH8A) to justify the proposed urban road plain road standards specified in TCXDVN 104-2007.
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		not provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		<p>There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings.</p> <p>The proposed design standard is urban road.</p>
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		not provided
13: Are there significant structures required – if yes please identify	✓		not provided

14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design		x	Based on the PPTA's site visit and measures of the road base, the proposed road is not formed and the Right of Way will acquire residential, agricultural and private lands for the proposed or required road design

I. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Extent
	Private other	✓		Extent
	Public Structures	✓		extent
A.3	Other Assets	✓		Extent
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves impacts related to (i) 15 households will be affected and approximately 10 households will be relocated and resettled. (ii) land acquisition of garden lands, traffic land, and site clearance for the upgrading of 3.52km road section and involving loss of 14.25 ha of mainly agricultural land, production forest land and public land will be affected.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		To be provided
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		x	No
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed

B.5 Alignments	New	Risk of land slips		x	N/A
		Risk of Large cuts		x	No
		Water course disruption		x	N/A
		Flood Plain Disruption		x	As presented above

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed Risk
Are communes identified and named	Yes	If yes please list communes 3 wards in Hong Linh town: Trung Luong, Bac Hong, Duc Thuan
Is the population data available	Yes	Hong Linh town total population as of 2016 is 10,866 HHs; Trung Luong ward (1,587 HHs); Bac Hong (2,577 HHs); Duc Thuan (1,784 HHs). The subproject will directly benefit totally 16,500 people.
Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, (i) Hong Linh tow (including 583 poor HHs accounting for 5,37%, 460 near poor HHs, accounting for 4,23%). Trung Luong ward (1,587 HHs/96 PHHs accounting for 0.6%); Bac Hong (2,577 HHs/54 PHHs (0.2%)); Duc Thuan (1,784 HHs/132 PHHs (0.7%).
Is the number of near poor households available	Not yet	Not available
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not provided
Is there a detailed worksheet for the EIRR		x	Not provided
Is it linked to the traffic forecast		x	Not provided

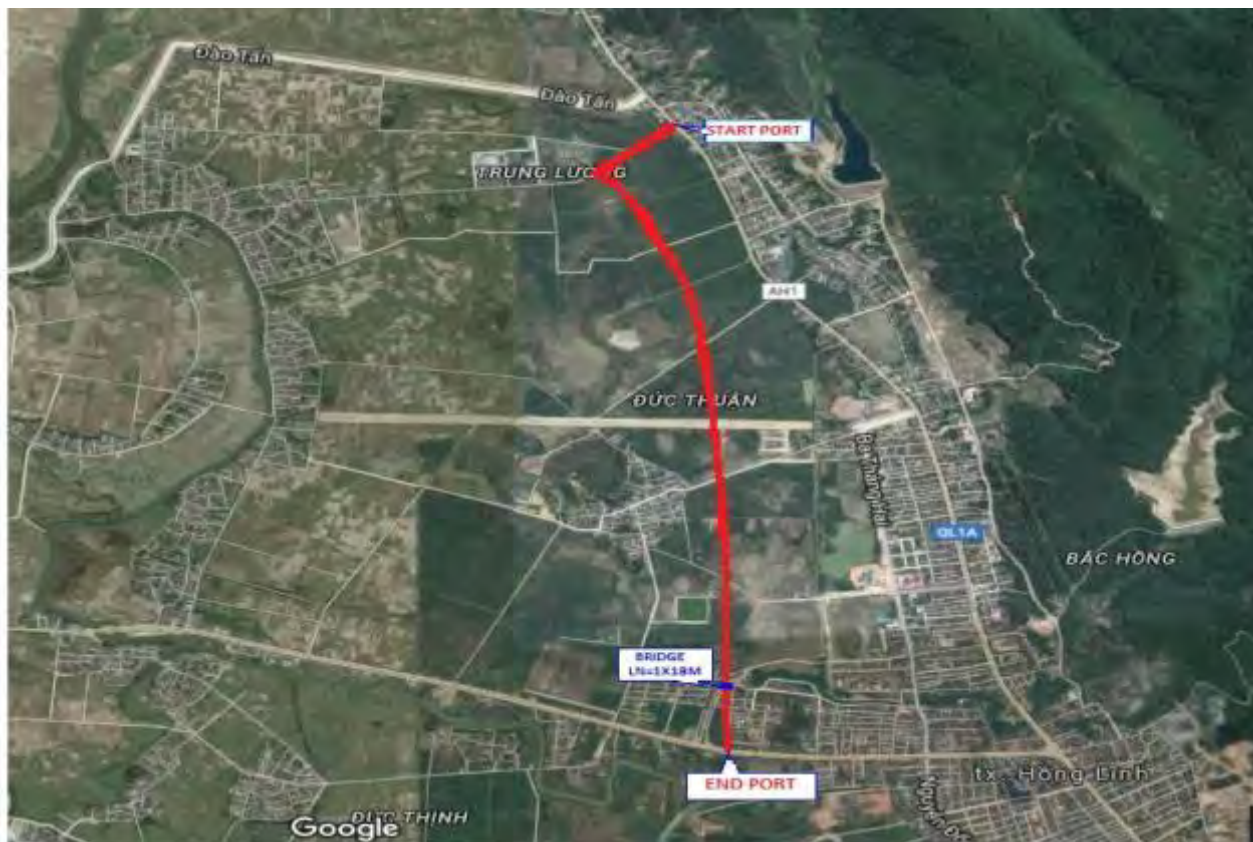
L. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.

Is there a clear design standard that is justified	✓		<p>Requires traffic count data of intersection and connection roads (NH1A, Ring road of Hong Linh town, NH8A) to justify the proposed urban road plain road standards specified in TCXDVN 104-2007.</p> <p>Confirmed the road is proposed to be developed to urban road standards specified in TCXDVN 104-2007.</p> <p>Central main road: Roadbed width: $B_{n\grave{e}n} = 23,0m$; Road surface width: $B_{m\grave{a}t} = 2 \times 6 = 12,0m$; Roadside width: $B_{l\grave{e}} = 2 \times 0,5 = 1,0m$; $B_{barrier} = 10m$; Talus Mdao = 1:1; Talus Mdap=1:1,5.</p> <p>Ring road: $B_n=16,0m$; $B_m=2 \times 6,0m=12m$; $B_{barrier} = 3,0m$; roadside width $B_{le}=2 \times 0,5m$, Talus Mdao=1:1; Talus Mdap=1:1,5</p> <p>Asphalt concrete Road surface.</p> <p>Bridge: 01 bridge to be constructed with $L=28m$; $P=4\%$; HL93.</p> <p>Culverts: H30-XB80.</p>
Are there outstanding approvals required	✓		<p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the total length of the proposed road subproject including the new alignment and the existing road section.</p> <p>(b) legal document (masterplan approved for phase I with scale/scope of $B_n=23m$, smaller than the approved masterplan $B_n=70m$.</p> <p>(c) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented according to the urban road standards and specifications, in particular through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(d) the Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves impacts related to</p> <p>(i) 15 households will be affected and approximately 10 households will be relocated and resettled.</p> <p>(ii) land acquisition of garden lands, traffic land, and site clearance for the upgrading of 3.52km road section and involving loss of 14.25 ha of mainly agricultural land, production forest land and public land will be affected.</p>
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		✓	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>The main road of Hong Linh town center is located in the West and runs in parallel with National Road 1A in the direction from North to South. This is a very important road in the development strategy of Hong Linh town. The road links national road network from National Road 1A to National Road 8A and with the main roads crossing National Road 1A</p>

			<p>into the center of Trung Luong, Duc Thuan and Thuan Loc communes, but there is no route formed yet.</p> <p>The roads will connect to the National Road network from National Road 1A to National Road 8A and connect to the major roads crossing National Road 1A into the center of Trung Luong, Duc Thuan, Thuan Loc and adjacent areas.</p> <p>The road will improve traffic conditions, making it convenient for people in Trung Luong, Duc Thuan and Bac Hong wards of Hong Linh town where the road goes through to access the district and province center as well as linking commercial, service and tourism activities of the town with the Cau Treo international border gate economic zone to Laos, Thailand and Vietnam central region.</p> <p>Upgrading this road will provide connectivity between 3 communes Trung Luong, Duc Thuan and Thuan Loc communes in Hong Linh town, rather than being intended for through traffic.</p> <p>In addition to the social (poverty alleviation) and commerce, service and tourism activities of the town with the Cau Treo international border gate economic zone to Laos, Thailand, rationales, this subproject also contributes to the overall development of the road network in Ha Tinh and the FNCP region alike.</p>
<p>Is the project expected to achieve a 9% EIRR</p>		<p>x</p>	<p>To be provided</p>

M. Road Alignment Map



N. Road Chainage Photos



Starting point Km0+00: (Km0 + 0.00) connects to the end point of ring road of Hong Linh town at Km0 + 543.00



Km 0+00: road entry to ring road of Hong Linh town



Km0+300 Hong Linh town ring road



Km0+540 intersection point between Hong Linh town ring road and the proposed road



Km0+540: intersection point of the new alignment through the agricultural (paddy) field



Km1+600: connection point to the new alignment through the agricultural field



Km1+900: connection point to the new alignment through the agricultural field



Km2+00 mark point of the new alignment connecting new alignment from the agricultural field to residential area



Km:2+300: new bridge to be constructed over the river



Km3 + 158.08, build 01 new bridge, L = 18m using permanently reinforced concrete, design load HL93 - - Bridge width: 2 sections $B=(0.5+7+0.5)+10+(0.5+7+0.5)$



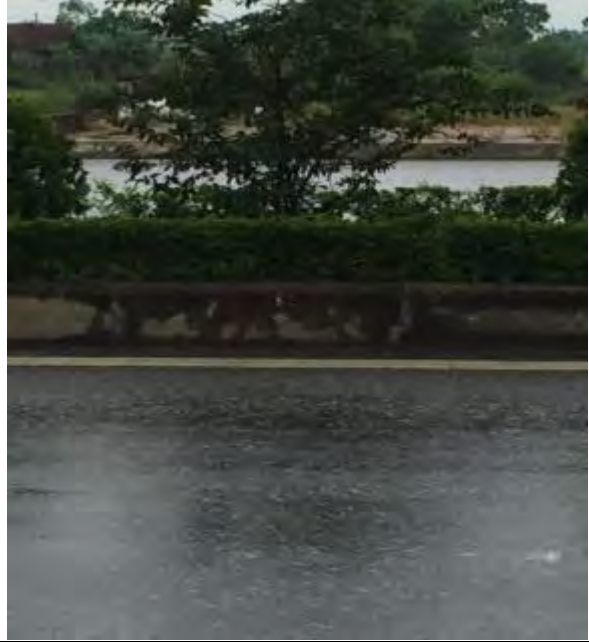
Km2+500 household to be affected and resettled



Km2+900 household to be affected and resettled



Km3+00 new alignment through the agricultural field and private gardens



Km3+200 connects to the ring road



Km:3+100: new alignment road through the residential area



Km:2+100: new alignment road through the residential area



Km:2+100: new alignment road through the residential area



Km3+150 new alignment through the agricultural field



Km3 + 158.08, build 01 new bridge, L = 18m using permanently reinforced concrete, design load HL93 - - Bridge width: 2 sections $B=(0.5+7+0.5)+10+(0.5+7+0.5)$



Km3 + 527.67 end points connects to 214 lane, Tran Phu street



Km3 + 527.67: household 216 to be affected and resettled



Km3 + 527.67: household No.214 to be affected and resettled



End point at km Km3 + 527.67 (Household 214 to be resettled at No.214 Tran Phu street



End point at km (Km3 + 527.67) connecting to NH8A at Km1 + 459.80 (in Bac Hong ward of Hong Linh town)

**IX. SUBPROJECT 6: SON LE – SON AN – SON TIEN INTER-COMMUNE ROAD
(HUONG SON DISTRICT ROAD)**

A. Subproject description

61. The subproject is the Son Le – Son An – Son Tien Inter-commune road, Huong Son district, Ha Tinh province. The subproject will construct 3 bridges (bridge#1 of 12m long; bridge#2 of 2x18m long; bridge#3 of 3x15m long, bridge span is 9m (the road proposed to be developed to provincial road, load design is HL93), and 22 culverts with the opening $\leq 1.0\text{m}$, and 19 culverts with the opening $> 1.0\text{m}$, and drainage works, protection works, and traffic systems.

- (i) Starting point: at km0 + 00 connects to Ho Chi Minh trail at km770+471 in Son Le commune, Huong Son district, Ha Tinh province.
- (ii) End point: at km9 + 785 connects to rescue road 22 of Nam Dan district, Nghe An province. Total length (km+m):
- (iii) Total Length 10.1km.

B. Alignment

- (i) Son Le – Son An – Son Tien inter-district road subproject follows the existing road. The starting point of the road at km0+0 to km4+200 connects to Ho Chi Minh Trail at Km770+471 in Son Le Commune. 4.2km of the starting road section follows the existing arterial Son Le commune road. Currently, this is the concrete road with the average road surface of 3m and has been severely degraded with peeled road surface and potholes.
- (ii) The following 4km from Km4+200 to Km8+200 is a new alignment through the paddy field with the existing irrigation canals of the local commune. The terrain is relatively flat. 1.9km of the end road section is upgraded on the existing road of Son Tien commune. This is an asphalt road with average width of 3m.
- (iii) 4.2km of upgraded starting road section is included in Huong Son district transport masterplan under Decision No.1479/QD-UBND dated 22/05/2012 (HL13 road category IV mountainous road standards, Bm=7,5m, Bn=5,5m, Bl=2,0m); 5,9km is included in the district PC's masterplan (HL3A mountainous road category III standards; Bm=9,0m; Bn=6,0m; Bl=3,0m). The proposed alignment approval status: is approved in the provincial and district masterplan.
- (iv) The road section from Km8+200 to Km10+100 follows the existing gravel and earth rural road. The road is asphalted with the road width of 3-3.5m and severely degraded. The end point of the road connecting to rescue Road 22 in Nam Dan district, Nghe An province. The rescue road 22 in Nam Dan district is completely connected to the end point of road subproject in Huong Son district, Ha Tinh province.

C. Proposed Road Categorization

62. Based on transport demand, and traffic forecast in the region and budget allocation, the road is proposed to be developed to plain road category V standards specified in TCVN 4054 - 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: R_{min} = 60m; Maximum vertical slope: I_{max} = 7%; Roadbed width: B_{nền} = 7.5m; Road surface width: B_{mặt} = 5,5m; Roadside width: B_{lề} = 2x1 = 2m; Reinforced shoulders B_{lgc}=2x0,5=1,0m and works. The road is proposed to construct with asphalt concrete M300.

D. Proposed Investment

- (i) Total investment \$ total: US\$ 3,840,113 in the IP.
- (ii) Investment \$ /km: US\$ 380,209 /km.

E. Rationale

- (i) Son Le – Son An – Son Tien inter-commune road, Huong Son district, Ha Tinh province is located in the area with incomplete connectivity between Huong Son district, Ha Tinh province and Nam Dan district, Nghe An province.
- (ii) This is an inter-regional road between Ha Tinh and Nghe An Provinces as well as a strategic horizontal axis connecting HCM Trail, National Highway 15 and a part of National Highway 1A to Nghe An.
- (iii) This road subproject will form the cross road with NH8, shortening distance and traveling time from communes in the district to Vinh city, improving traffic capacity and goods for socio-economic development. The subproject will also improve the current infrastructure system, combining with road 22 in Nam Dan to facilitate rescuing and excavating work in the rainy and flood season.
- (iv) Upgrading this road will provide connectivity between the communes of Son Le, Son An, Son Tien Communes, rather than being intended for through traffic.
- (v) It would provide reliable accessibility for residents in the vicinity, to reduce transport costs on products (and so increase earnings from agriculture) and improving access to healthcare, education and employment opportunities.

F. Findings

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	at km0 + 00 connects to Ho Chi Minh trail in Son Le commune, Huong Son district, Ha Tinh province.	Confirmed	Confirmed
End point	at km9 + 785 connects to rescue road 22 of Nam Dan district, Nghe An province.	Confirmed	Confirmed
Length	10.1km	<u>10.1km requires clarification and confirmation:</u> (i) Based on the PPTA's subproject site visit findings and interviews with local authorities and local people, (a) the road section from Km4+200 to Km8+200 is a new alignment, which	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road

		<p>needs an official approval with a clear mark of the starting and end points</p> <p>(b) PMU reconfirms the total length of the proposed road subproject including the new alignment. In the IP stated 10.1km while the consultant's FS report and drawings confirmed 9.785km.</p> <p>(c) <u>Reconsider the removal of the spillway to stop the water-flow running over the road surface to the downstream. Both sides of the existing spillway have ecosystem and environment for rice and corn irrigations (upstream is a lake to release water flow in the rainy /flood season over the spillway downstream while containing water for rice and corn irrigation in the dry season. Requires DARD and DONRE and PMU to review the design and take into account the integration of the ecosystem and the environment so that water course disruption may be avoided and the ecosystem and the environment not negatively affected.</u></p> <p>(d) Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, site clearance for the construction of fences, plants. 10.05 ha of mainly agricultural land, production forest land and public land will be affected. No household will be relocated and resettled.</p> <p>(e) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets. When the road is put into operation.</p>	subproject including the new alignment.
Road category	<p>The inter-commune road is proposed to be upgraded to plain road category V standards specified in TCVN 4054 - 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: Imax = 7%; Roadbed width: Bnền = 7.5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1 = 2m. The road is proposed to construct with asphalt concrete M300.</p>	<p>Requires traffic count data to justify the proposed plain road category V.</p> <p>Confirmed plain road category V standards specified in TCVN 4054 - 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: Imax = 7%; Roadbed width: Bnền = 7.5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1 = 2m. The road is proposed to construct with asphalt concrete M300.</p>	Agreed V
Proposed works	3 bridges and 22 culverts with the opening $\leq 1.0m$, and 19 culverts with the opening $> 1.0m$, and drainage works, protection	Confirmed	Confirmed

	works, and traffic systems to be constructed		
--	--	--	--

G. Recommendations

63. During the design the location of the spillway should be taken into account, a thorough discussion with the management agencies (DARD and DONRE) for final decision. In reference with the MOU signed by DOT, Huong Son DPC, and PMU dated 21/02/2017, “at the location of the spillway in the starting road section, a thorough review of the suitable design and most cost effective approach be taken into a careful consideration.

64. From the site visit it was apparent that the spillway design proposed changes surface water hydrology, reservoir elevations and linked upstream wetland habitats whilst also potentially changing the downstream flood spill pattern from one water course (500M) to another through spillways that will be constructed using project funds. Despite the nature of the works there is a lack of water balance and flood level modelling, unclear hydrological impact, and a lack of social impacts for water use, water access, and risk of flooding downstream. The REA assessment provided by the FS consultant to the PPTA reported no impacts on surface hydrology and no wetland involvement both of which are significant oversights.

65. The subproject as proposed is classified as category A for ADB environmental safeguards and is therefore ineligible.

66. Secondly the proposed new alignment section will be built to Road Category 4 for a length of approximately 4km. The PPTA considers the traffic forecast and demand unlikely support the category 4 in the subproject plans and suggests a traffic forecast model be provided to assess the design requirement.

H. Eligibility

Criteria	Status		Risk of Non-compliance and Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050. The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam’s northern and coastal region through 2020”, in which the plan gives priority to the regional connection.
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People’s Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People’s Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030. Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people’s

			demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.
3: Proposed design concept exists – if yes state date of proposal	✓		Decision No.1273/UBND-GT1 dated 17/03/2017 of the provincial People's Committee, Huong Son Decision No. 1009/UBND-KTKT dated 22/02/2017 and DOT Decision No.541/SGTVT-KH dated 06/03/2017, Huong Son district master planning of plain road category V standards specified in TCVN 4054 – 2005.
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road subproject will be constructed according to the scale of grade V plain roads according to TCVN 4054-2005
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport masterplan for districts. The current road standard on each end point is cement concrete commune road with average width of 3m and the network connection now and planned is:4.2km of upgraded starting road section is included in Huong Son district transport masterplan under Decision No.1479/QD-UBND dated 22/05/2012 (HL13 road category IV mountainous road standards, Bm=7,5m, Bn=5,5m, Bl=2,0m); 5,9km is included in the district PC's masterplan (HL3A mountainous road category III standards; Bm=9,0m; Bn=6,0m; Bl=3,0m). The proposed alignment approval status: is approved in the provincial and district masterplan.
6: is the date of traffic forecast or base traffic forecast after 2015		✓	2016, to be provided Not provided
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject		✓	Requires traffic count data to justify the proposed plain road category V. Not provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2016, but it is a draft with supporting engineering field surveys and drawings. However without traffic forecast there is considerable risk in the wrong design standards. The proposed design standard is Cat V plain road.
9: Is the Preliminary design already approved by DoT		x	Not provided
10: Is the preliminary design already approved by PPC		x	Not provided
11: Is there a bill of quantities with the preliminary design	✓		Not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		Not provided
13: Are there significant structures required – if yes please identify	✓		Not provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not provided

15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design
---	---	--	---

I. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		minor
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		sides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic and, site clearance for the construction of fences, etc. 10.05 ha of mainly agricultural land, production forest land and public land will be affected. household will be relocated and resettled.
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Not yet
B: Environmental Screening				
B.1 Forests	Production forest land	✓		Extent
- are there any of the following along the alignment of within close proximity – if yes is the risk significant	Protection forest land		x	
	Protected areas		x	
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they	✓		consider the removal of the spillway to stop the water-flow running over the road surface to the downstream. Both sides of the existing spillway have ecosystem and environment for rice and corn plantations (upstream is a lake to release water flow during the rainy /flood season over the spillway to the downstream while containing water for rice and corn irrigation in the dry season. Requires DARD and DONRE and PMU to review the design and take into account the integration of the ecosystem and the environment so that water course disruption may be avoided and the ecosystem and environment not negatively affected.

B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips	✓		Some sections along the road are considered prone to risk of land slips.
	Risk of Large cuts	✓		As presented above
	Water course disruption	✓		As presented above
	Flood Plain Disruption	✓		As presented above

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed Risk
Are communes identified and named	Yes	If yes please list communes 3 communes: Son Le, Son An, and Son Tien
Is the population data available	Yes	Huong Son district total population as of 2016 is 34,942 HHs, and Son Le commune has 1,164 HHs; Son An commune (643 HHs); Son Tien commune (1,738 HHs). The subproject will directly benefit totally 15,000 people.
Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, Huong Son district (including 4,174 poor HHs accounting for 11,94%, 3,337 near poor HHs, accounting for 9,55%). Son Le commune has 164 poor HHs/3,865 population accounting for 0.14%; Son An commune (107 poor HHs/2,107 population (0.16%); Son Tien commune (295 poor HHs/5,902 population (0.16%))
Is the number of near poor households available	Not yet	Not available
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

K. Economic Assessment

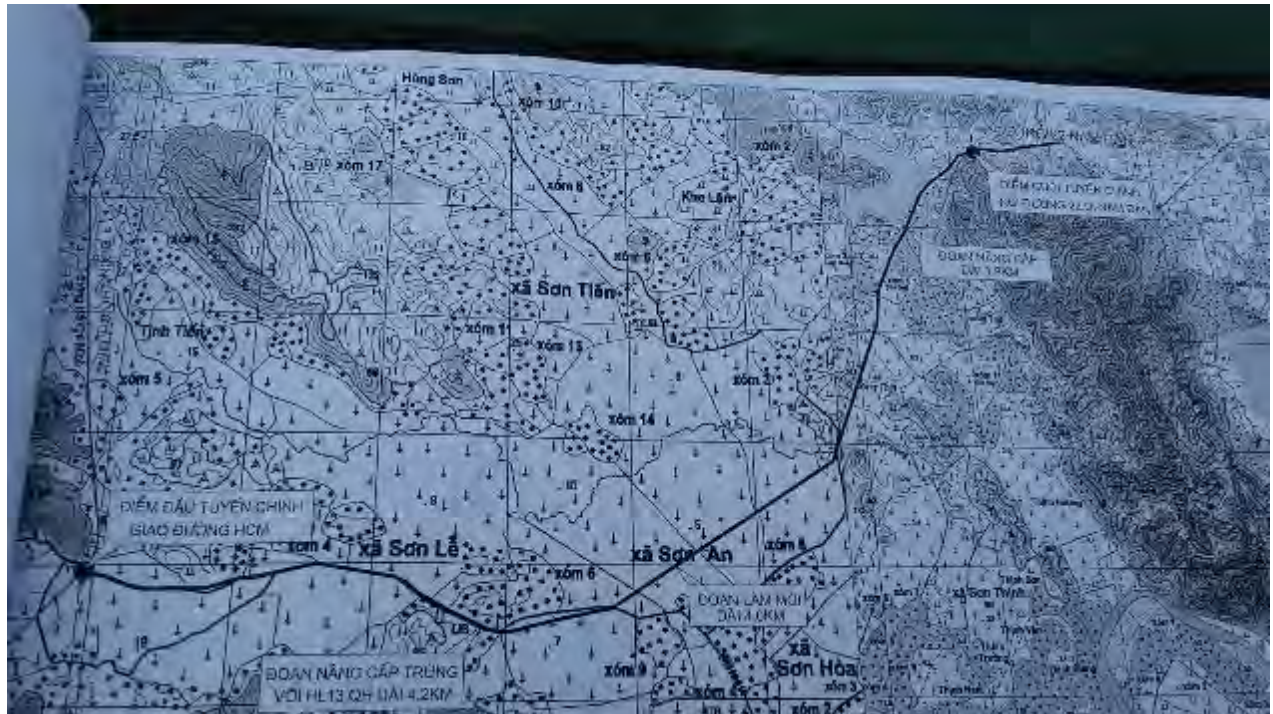
Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not provided
Is there a detailed worksheet for the EIRR		x	Not provided
Is it linked to the traffic forecast		x	Not provided

L. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed plain road category V. 4.2km of upgraded starting road section is included in Huong Son district transport masterplan under Decision No.1479/QD-UBND dated 22/05/2012 (HL13 road category IV mountainous road standards, Bm=7,5m, Bn=5,5m, Bl=2,0m); 5,9km is included in the district PC's masterplan (HL3A mountainous road category III standards; Bm=9,0m; Bn=6,0m; Bl=3,0m). The proposed alignment approval status: is approved in the provincial and district masterplan. While the inter-commune road is proposed to be upgraded to plain road category V standards specified in TCVN 4054 - 2005.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and interviews with local authorities and local people, (a) the road section from Km4+200 to Km8+200 is a new alignment, which needs an official approval with a clear mark of the starting and end points (b) PMU reconfirms the total length of the proposed road subproject including the new alignment. In the IP stated 10.1km while the consultant's FS report and drawings confirmed 9.785km. (c) Reconsider the removal of the spillway to stop the water-flow running over the road surface to the downstream. Both sides of the existing spillway have ecosystem and environment for rice and corn irrigations (upstream is a lake to release water flow in the rainy /flood season over the spillway downstream while containing water for rice and corn irrigation in the dry season. Requires DARD and DONRE and PMU to review the design and take into account the integration of the ecosystem and the environment so that water course disruption may be avoided and the ecosystem and the environment not negatively affected. (d) Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, site clearance for the construction of fences, plants. 10.05 ha of mainly agricultural land, production forest land and public land will be affected. No household will be relocated and resettled. (e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study

Is the Subproject category A for resettlement and affected persons		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for minor resettlement and affected persons
Is the Subproject category A for environment	✓		<p>Category A For ADB Safeguards</p> <p>Requires reconsidering the removal of the spillway to stop the water-flow running over the road surface to the downstream. Both sides of the existing spillway have ecosystem and environment for rice and corn irrigations (upstream is a lake to release water flow in the rainy /flood season over the spillway downstream while containing water for rice and corn irrigation in the dry season. Requires DARD and DONRE and PMU to review the design and take into account the integration of the ecosystem and the environment so that water course disruption may be avoided and the ecosystem and the environment not negatively affected.</p>
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>Son Le – Son An – Son Tien inter-commune road, Huong Son district, Ha Tinh province is located in the area with incomplete connectivity between Huong Son district, Ha Tinh province and Nam Dan district, Nghe An province.</p> <p>This is an inter-regional road between Ha Tinh and Nghe An Provinces as well as a strategic horizontal axis connecting HCM Trail, National Highway 15 and a part of National Highway 1A to Nghe An.</p> <p>This road subproject will form the cross road with NH8, shortening distance and traveling time from communes in the district to Vinh city, improving traffic capacity and goods for socio-economic development. The subproject will also improve the current infrastructure system, combining with road 22 in Nam Dan to facilitate rescuing and excavating work in the rainy and flood season.</p> <p>Upgrading this road will provide connectivity between the communes of Son Le, Son An, Son Tien Communes, rather than being intended for through traffic.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

M. Road Map



N. Road Sections Chainage Photos



Starting point Km0+00 connecting to HCM Trail



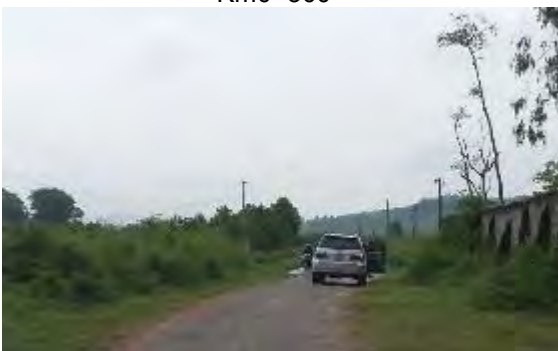
Km0+00: road entry point



Km0+300



Km0+500



Km0+600: starting point of the spillway



Km0+800: spillway crossing over the road



Km0+800: stream and ecosystem on the right side of spillway crossing over the road



Km0+800: stream and ecosystem on the left side of spillway crossing over the road



Km2+480: Car reversing on the narrow bridge



Km2+480: poor bridge status



Km2+480: bridge blocks



Km2+480: connection point of the road to bridge



Km3+00



Km3+300



Km3+500



Km3+900



Km4+200 starting point of new alignment



Km4+200 starting point of new alignment through the paddy field



Km5+00 new alignment



Km5+00 new alignment mark



Km5+00 new alignment through the agricultural field



Km6+200 new alignment mark



Km6+200 new alignment through the agricultural and corn areas



Km7+650 new alignment through paddy field



Km8+00 end point of new alignment



Km8+300



Km 8+500



Km 9+ 600



km9 + 785: the site visit team and local authorities stand at the border mark between Huong Son district (Ha Tinh province) and Nam Dan district (Nghe An province)



End point at km9 + 785 connects to rescue road 22 of Nam Dan district, Nghe An province

X. SUBPROJECT 7: AN VIEN – MY THANH NGHI XUAN DISTRICT ROAD

A. Subproject Description

67. The subproject is the upgrading of the An Vien – My Thanh (Nghi Xuan dist) road, Ha Tinh province. The road subproject will construct 02 bridges with HL-93 and 21 culverts with the load capacity H30-XB80, and drainage works of 7km through the residential areas, protection works, and traffic systems.

- (i) Starting point: at km0 + 00 intersects with NH1A near Kenh bridge at the starting point of HL-12.
- (ii) End point: at km8+00 intersects with Xuan Thanh tourism road at Xuan Thanh intersection.
- (iii) Total length (km+m): 8.0km.

B. Alignment

- (i) Chainage from km0+00 to km1+500 (intersecting with NH1A) is a new alignment through the agricultural field.
- (ii) Chainage from km1+500 to km8+00 follows the existing asphalt concrete road with average width $B_m = 6m$. The road surface is seriously degraded with many peeled sections, outcrops and potholes.
- (iii) Proposed Road Categorization: the road is proposed to be developed to plain road category III standards specified in TCVN 4054 – 2005, and urban road standards TCVN4054-05.
- (iv) Chainage from km0+00 to km1+500 (intersecting with NH1A): the road is proposed to be developed to urban road category III standards TCVN104-2007 with key parameters: $B_{\text{subgrade}} = 25m$, $B_{\text{pavement}} = 2 \times 10.5m$, $B_{\text{separator}} = 2m$, $B_{\text{shoulder}} = 2 \times 0.5m$. Slope 1:1.5.
- (v) Chainage from km1+500 to km8+00 is proposed to be developed to plain road category III standards TCVN4054-2005: Design speed: 80km/h) with main parameters: $B_n = 12m$, $B_{\text{pavement}} = 7m$, $B_{\text{reinforced shoulder}} = 2 \times 2m$, slope: 1:1.5. The road is proposed to construct with asphalt concrete.

C. Proposed Investment

- (i) Total investment \$ total: US\$ 5,225,078 in the IP.
- (ii) Proposed investment \$ /km: US\$ 653,134 /km.

D. Rationale

- (i) The road from Xuân An town passing Xuân Viên and Xuân Mỹ communes to Xuân Thành sea tourist area is the arterial road which plays a very important role to connect Vinh city (Nghe An), Hà Tĩnh city, Hồng Lĩnh town (Hà Tĩnh) and neighbour districts along National Road 1A to production and concentrated

breeding farms, aquacultural farming and especially to serve the domestic and foreign visitors to Xuân Thành sea tourist area.

- (ii) The road will link the important traffic routes in the area including National Road 1A, Provincial Road 547, inter-commune roads of Nghi Xuân district and main roads in the communes where passed by the road, detailed as follows: in the north and south connect to Vinh city, Nghệ An province and Hồng Lĩnh town, Hà Tĩnh district; connect to Xuân Thành sea tourist area and coastal communes of Nghi Xuân district in the east; and the main road in the communes of which the road goes through; southern connection with the Loc Ha District, Thạch Hà, Cam Xuyen, Kỳ Anh through the coastal axis of the province's investment plan based on provincial highway 547 and provincial road 19-5, thereby connecting to the Hà Tĩnh provincial highway 550 through stems from Loc Hà.
- (iii) An – Viên – Mỹ - Thành inter-commune road will expand the traffic network between important economic zones, complete the traffic network from urban areas and Xuân An industrial zone to Xuân Thành sea tourist area, and enhance exploitation efficiency of marine economy; facilitate the travel of local people, domestic and foreign visitors, and cross-border trade, take initiative in sea tourism and Xuân Thành Golf course; attract investors to Nghi Xuân district and motivate the socio-economic development and enhance the flexibility in ensuring natural disaster prevention.
- (iv) This road connects between the central economic zones, which is the main arterial road connecting Vinh city and neighboring districts to the livestock production concentrated area and aquaculture production area, especially for serving tourists inside and outside the country coming to Xuân Thành Beach resort and Golf course.
- (v) The road will contribute to the expansion and development of urban area of Xuân An town according to the approved plan to 2025 with a vision to 2030.
- (vi) Upgrading this road will provide connectivity between 4 communes in Nghi Xuân district, across Xuân An small town and Xuân Viên, Xuân Mỹ and Xuân Thành communes, rather than being intended for through traffic.

E. Findings

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	at km0 + 00 intersects with NH1A near Kênh bridge at the starting point of HL-12.	Confirmed	Confirmed
End point	at km8+00 intersects with Xuân Thành tourism road at Xuân Thành intersection.	Confirmed	Confirmed
Length	8km	8km Requires clarification and confirmation:	DPI confirmed and will reply to the consultant with the official

		<p>(i) Based on the PPTA's subproject site visit findings and interviews with local authorities and local people,</p> <p>(a) Chainage from km0+00 to km1+500 (intersecting with NH1A) is a new alignment through the agricultural field. This new alignment needs an official approval with a clear mark of the starting and end points</p> <p>(b) PMU reconfirms the total length of the proposed road subproject including the new alignment.</p> <p>(c) requires transportation masterplan towards 2020 (including transportation planning and Decision of Approval). Other legal document related to 1.5km starting road section. Why the cross section drawing (staged investment: Bn=25m (Bn planning =35m). Legal document readjusting the master planning of PR546 to plain road III category.</p> <p>(d) requires the clarification on location of the starting point complying with the masterplan. If the road category is changed this will have to receipt the official approval from a competent authority.</p> <p>(e) requires additional existing road surface pavement survey data (existing road E), select Eyc for appropriate process.</p> <p>(f) note the geological section of the 1.5km of new urban road.</p> <p>(g) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(h) the Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and site clearance for the construction of the new road section of 1.5km and. 6.5 ha of mainly agricultural land, and public land will be affected.</p> <p>No household will be relocated and resettled.</p>	<p>approval of the new alignment and total length of the proposed road subproject including the new alignment.</p>
Road category	<p>The road is proposed to be developed to plain road category III standards specified in TCVN 4054 – 2005, and urban road standards TCVN4054-05.</p> <p>Chainage from km0+00 to km1+500 (intersecting with NH1A): the road is proposed to be developed to urban road category III standards TCVN104-2007 with key parameters: Bsubgrade =25m,</p>	<p>Requires traffic count data of PR 546 and DT547 and QL1A to justify the proposed plain road design category III.</p> <p>Confirmed the road is proposed to be developed to plain road category III standards specified in TCVN 4054 – 2005, and urban road standards TCVN4054-05.</p>	Agreed III

	<p>Bpavement =2x10.5m, Bseparator =2m, Bshoulder =2x0.5m. Slope 1:1.5.</p> <p>Chainage from km1+500 to km8+00 is proposed to be developed to plain road category III standards TCVN4054-2005: Design speed: 80km/h) with main parameters: Bn = 12m, Bpavement =7m, Breinforced shoulder =2x2m, slope: 1:1.5. The road is proposed to construct with asphalt concrete.</p>		
Proposed works	3 bridges and 22 culverts with the opening ≤1.0m, and 19 culverts with the opening >1.0m, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

F. Eligibility

Criteria	Status		Risk of Non-compliance and Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050.</p> <p>The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam's northern and coastal region through 2020", in which the plan gives priority to the regional connection.</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People's Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People's Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030.</p> <p>Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people's demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.</p> <p>In line with Decision No.1404/QĐ-UBND dated 16/5/2012 of Ha Tinh People's Committee approving the transportation development plan of Nghi Xuan district to 2030.</p>
3: Proposed design concept exists – if yes state date of proposal	✓		Decision No.7015/UBND-GT1 dated 21/12/2016 of the provincial People's Committee, approving plain road category III: Bm=7; Bn=12m; Bl=2x2,5m.
4: Proposed design standard identified – if yes what standard,	✓		The road subproject is proposed to be developed to plain road category III standards specified in TCVN 4054 – 2005, and urban road standards TCVN4054-05.

What is the projected economic life of the subproject			
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓	✓	The proposed designed standard is derived from the provincial transport masterplan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is Cat III towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015		✓	Requires traffic count data of PR 546 and DT547 and QL1A to justify the proposed plain road design category III. Not provided
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject		X	Not provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat III.
9: Is the Preliminary design already approved by DoT		x	Not provided
10: Is the preliminary design already approved by PPC		x	Not provided
11: Is there a bill of quantities with the preliminary design	✓		Not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		Not provided
13: Are there significant structures required – if yes please identify	✓		Not provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not provided
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

G. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor

A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves some impacts related to land acquisition of garden lands, traffic land, and site clearance for the construction of the new road section of 1.5km and. 6.5 ha of mainly agricultural land, and public land will be affected. No household will be relocated and resettled.
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Not yet
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		x	No
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	As presented above
	Water course disruption		x	As presented above
	Flood Plain Disruption		x	As presented above

H. Social Considerations

Criteria	Yes /No	Explanation and Assessed Risk
Are communes identified and named	Yes	If yes please list communes 4 communes of Nghi Xuan district: Xuan An, Xuan Vien, Xuan My, and Xuan Thanh
Is the population data available	Yes	Nghi Xuan district total population as of 2016 is 27,790 HHs, and Xuan An commune (2,939 HHs); Xuan Vien commune (1,322 HHs); Xuan My commune (1,106 HHs); Xuan Thanh commune (1,331 HHs). The subproject will directly benefit totally 30,715 people.

Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, Nghi Xuan district (including 3,326 poor HHs accounting for 11,97%, 2,587 near poor HHs, accounting for 9,31%). Xuan An commune (2,939 HHs/29 poor HHs (0.9%); Xuan Vien commune (1,322 HHs/82 PHHs (0.2%); Xuan My commune (1,106 HHs/82 PHHs (0.7%); Xuan Thanh commune (1,331 HHs/117 PHHs (0.8%).
Is the number of near poor households available	Not yet	Not available
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

I. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not provided
Is there a detailed worksheet for the EIRR		x	Not provided
Is it linked to the traffic forecast		x	Not provided

J. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data of PR 546 and DT547 and QL1A to justify the proposed plain road design category III. Decision No.7015/UBND-GT1 dated 21/12/2016 of the provincial People's Committee, approving plain road category III: Bm=7; Bn=12m; Bl=2x2,5m. The road subproject is proposed to be developed to plain road category III standards specified in TCVN 4054 – 2005, and urban road standards TCVN4054-05.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (a) Chainage from km0+00 to km1+500 (intersecting with NH1A) is a new alignment through the agricultural field. This new alignment needs an official approval with a clear mark of the starting and end points (b) PMU reconfirms the total length of the proposed road subproject including the new alignment. (c) requires transportation masterplan towards 2020 (including transportation planning and Decision of Approval). Other legal document related to 1.5km starting road section. Why the cross section drawing (staged investment: Bn=25m (Bn planning =35m). Legal document readjusting the master planning of PR546 to plain road III category.

			<p>(d) requires the clarification on location of the starting point complying with the masterplan. If the road category is changed this will have to receipt the official approval from a competent authority.</p> <p>(e) requires additional existing road surface pavement survey data (existing road E), select Eyc for appropriate process.</p> <p>(f) note the geological section of the 1.5km of new urban road.</p> <p>(g) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p>
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for minor resettlement and affected persons
Is the Subproject category A for environment		✓	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>The road from Xuân An town passing Xuân Viên and Xuân Mỹ communes to Xuân Thành sea tourist area is the arterial road which plays a very important role to connect Vinh city (Nghe An), Hà Tĩnh city, Hồng Lĩnh town (Hà Tĩnh) and neighbour districts along National Road 1A to production and concentrated breeding farms, aquacultural farming and especially to serve the domestic and foreign visitors to Xuân Thành sea tourist area.</p> <p>The road will link the important traffic routes in the area including National Road 1A, Provincial Road 547, inter-commune roads of Nghi Xuân district and main roads in the communes where passed by the road, detailed as follows: in the north and south connect to Vinh city, Nghệ An province and Hồng Lĩnh town, Hà Tĩnh district; connect to Xuân Thành sea tourist area and coastal communes of Nghi Xuân district in the east; and the main road in the communes of which the road goes through; southern connection with the Loc Ha District, Thach Ha, Cam Xuyen, Ky Anh through the coastal axis of the province's investment plan based on provincial highway 547 and provincial road 19-5, thereby connecting to the Ha Tinh provincial highway 550 through stems from Loc Ha.</p> <p>An – Viên – Mỹ - Thành inter-commune road will expand the traffic network between important economic zones, complete the traffic network from urban areas and Xuân An industrial zone to Xuân Thành sea tourist area, and enhance exploitation efficiency of marine economy; facilitate the travel of local people, domestic and foreign visitors, and cross-border trade, take initiative in sea tourism and Xuân Thành Golf course; attract investors to Nghi Xuân district and motivate the socio-economic development and enhance the flexibility in ensuring natural disaster prevention.</p> <p>This road connects between the central economic zones, which is the main arterial road connecting Vinh city and neighboring districts to the livestock production concentrated area and aquaculture production area, especially for serving tourists inside and outside the country coming to Xuan Thanh Beach resort and Golf course.</p>

			<p>The road will contribute to the expansion and development of urban area of Xuan An town according to the approved plan to 2025 with a vision to 2030.</p> <p>Upgrading this road will provide connectivity between 4 communes in Nghi Xuân district, across Xuân An small town and Xuân Viên, Xuân Mỹ and Xuân Thành communes, rather than being intended for through traffic.</p>
Is the project expected to achieve a 9% EIRR		x	Not yet

K. Road Map



L. Road Sections Chainage Photos



Starting point Km0+00



Km0+00: road entry point



Km0+00



Intersection point of PR546-Km1+500



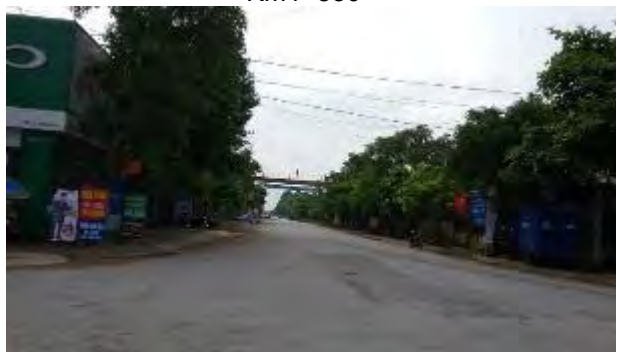
Km2+400.00



Km1+850



Km5+40.0



Intersection point of DR03 at Km5+40.0



Km5+40.0



Km5+100.0



Km5+50.0



Km5+100.0



Km5+100.0



Xuan My bridge at Km6+229



Km6+229



Km6+229



Km6+850



My Thanh bridge at Km6+903



Km6+903: My Thanh bridge



Km6+903: My Thanh bridge seen from below



End point entry to PR547 at Km8+00



Km8+00, turn left in PR547



Km8+00



End point at Km8+00

XI. SUBPROJECT 8: URBAN ROAD SUBPROJECT THE ROAD IN THE WEST OF LE VAN THIEM HIGH SCHOOL

A. Subproject Description

68. The subproject is the urban road subproject –road to the west of Le Van Thiem High School urban road subproject, Ha Tinh city, Ha Tinh province. Proposed works include: 29 horizontal drainage culverts including 16 box culverts of 1x (1.0x1.0m), 09 box culverts of 1x (2.0x2.0m) (including technical box culverts), 01 box culvert of 2 x (2.0x2.0m), 2 box culverts 3x (3.0x2.0m) and 1 box culvert 3x(3.0x2.0m), and water drainage, lighting system, traffic system and safety structures.

- (i) Starting point: at (Km0+00): connecting to Nguyen Xi street at Ha Huy Tap ward, Ha Tinh city
- (ii) End point: at (km1+400): crossing provincial road (PR) 17 of residential area group 3, Ha Huy Tap ward, Ha Tinh city.
- (iii) Total length (km+m): 1.4km

B. Alignment

69. The subproject is a new alignment that is approved in the city masterplan. Construction of the road will connect Ha Tinh city to Thach Ha district. Currently, there is no alternative vertical route parallel with NH1A to the west of the town, and cross roads to connect NH1A with the ward/communes in the west of Ha Tinh city.

C. Proposed Road Categorization

70. The subproject will be constructed to a **Urban road category III** standards specified in TCVN 104-2007 $B_{base} = 26m$, $B_{pavement} = 14m$, $B_{sidewalk} = 2x6m$. Asphalt concrete pavement, and other structures are designed to standard 22 TCN TCN 18-79 including water drainage, lighting system, safety structures.

D. Proposed Investment

- (i) Proposed investment US\$ 2,309,049 in the IP
- (ii) Investment \$ /km: US\$ 1,649,320 / km

E. Rationale

- (i) Urban road in the west of Le Van Thiem High school, Ha Tinh city, Ha Tinh province which suffers from incomplete connectivity. This road connects Ha Tinh the city with Thach Ha district to promote development in the area, contributing in completing urban transportation infrastructure for the expansion and growth of Ha Tinh city to type II city.
- (ii) Investment in the urban road will promote socio-economic development in Ha Huy Tap ward, improving the connectivity of the urban road Nguyen Xi and provincial Road 17 and connect with the horizontal main road running through NH 1A toward center of the Ha Huy Tap ward of Ha Tinh City and Thach Tan Commune of Thach Ha district, bringing efficiency for traffic system and land bank development, reducing population stress at central areas.

- (iii) Contribute to the ongoing development of the city's urban technical infrastructure and landscape aiming at expanding the city and finishing the infrastructure works under the approved planning by 2025 with a vision to 2030 that Ha Tinh city will become type II city by the end of 2017 and grade-I city in the future.

F. Findings

Subproject Road Name	Proposed by DPI	PPTA Findings and Recommendations	Conclusion
Start point	at (Km0+00): crossing with Nguyen Xi street at Ha Huy Tap ward, Ha Tinh city	Confirmed	Confirmed
End point	at (km1+400): crossing with provincial road 17 of residential area group 3, Ha Huy Tap ward, Ha Tinh city.	Confirmed	Confirmed
Length	1.4km	<p>1.4km</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and interview with Ha Huy Tap local authorities and local people, the urban road subproject alignment and Chainage goes through two cemeteries:</p> <p>(1) "Cồn Bông" cemetery of Hà Huy Tập ward but serve the burials of 5 other wards: Bắc Hà, Nam Hà, Trần Phú, Tân Giang.;</p> <p>(2) "Chùa Thiệu" cemetery located 100m away from "Cồn Bông" cemetery, this is the most ancient cemetery of Ha Tinh province.</p> <p>The subproject involves reallocation of many graves to connect to the end point of PR17 of residential area group 3, Ha Huy Tap ward.</p> <p>(ii) Besides, based on the PPTA's site visit findings and interview with the local consultant and local people, the subproject involves reallocation of 12 HHs and 15 other HHs severely affected, and about 5ha of mainly agricultural land, public land acquisition area.</p> <p>(iii) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross-section drawings, total project investment budget.</p>	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.
Road category	Urban road is proposed to be upgraded to urban road category III according to TCVN 104-2007. Bbase =26m, Bpavement=14m, Bsidewalk =2x6m.	<p>Requires traffic count data to justify the proposed road design category III.</p> <p>Confirmed planning documents category III according to TCVN 104-2007.</p> <p>Bbase =26m, Bpavement=14m, Bsidewalk =2x6m.</p>	Unconfirmed no traffic count or traffic forecast

	Asphalt concrete pavement, and other structures on the road are designed as in the standard 22 TCN TCN 18-79 including water drainage, lighting system, safety structures.	Asphalt concrete pavement, and other structures on the road are designed as in the standard 22 TCN TCN 18-79 including water drainage, lighting system, safety structures.	
Proposed works	29 horizontal drainage culverts including 16 box culverts of 1x (1.0x1.0m), 09 box culverts of 1x (2.0x2.0m) (including technical box culverts), 01 box culvert of 2x(2.0x2.0m), 02 box culverts 3x(3.0x2.0m) and 01 box culvert 3x(3.0x2.0m), and water drainage, lighting system, traffic system and safety structures.	Confirmed	confirmed

G. Eligibility

Criteria	Status		Risk of Non-compliance and Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QĐ-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050. The project complies with master plan of the North Central region as in Decision No. 1114/QĐ-TTg dated 09/7/2103 approving the master plan on socio-economic development of the Central Vietnam's northern and coastal region through 2020", in which the plan gives priority to the regional connection.
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 1902 / QĐ-UBND dated 11 July 2016 of People's Committee of Ha Tinh Province on approving local adjustment of transportation development plan of Loc Ha district to 2020 and Decision No. 2409 / QĐ-UBND dated 20/08/2012 of People's Committee of Ha Tinh Province on approving the planning of transport development in Can Loc district to 2030. Ha Tinh PPC issued the Document No.1023QĐ/UBND dated 11/04/2008 on approving the adjustment and supplementation of the master plan on transport network development of Ha Tinh Province toward 2020, which clearly determines: the development of passenger transport network by fixed intra-provincial roads that are convenient and reasonable with the province, meeting people's demands on traveling from region to region within the province, ensuring safety, environmental sanitation, convenience and affordability, making important contribution to the common socio-economic development of the province.
3: Proposed design concept exists – if yes state date of proposal	✓		Decision No.3926/QĐ-UBND dated 09/10/2015 of the provincial People's Committee, DOT Decision No.3926/DOT and DOC dated 9/10/2016, Ha Tinh city master planning of the urban road category III.
4: Proposed design standard identified – if yes what standard,		✓	The road subproject will be constructed according to urban road category III according to TCVN 104-2007.

what is the projected economic life of the subproject			However there is no justification for this
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport masterplan for districts. The current road standard on each end point is commune road and the network connection now and planned is Cat III urban road towards 2030. No traffic count or forecast provided Need traffic forecasts to justify the classification prior to FS
6: is the date of traffic forecast or base traffic forecast after 2015		x	Not provided
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject		x	Not provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.		x	As above
9: Is the Preliminary design already approved by DoT		x	Not provided
10: Is the preliminary design already approved by PPC		x	Not provided
11: Is there a bill of quantities with the preliminary design		x	Not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing		x	Not provided
13: Are there significant structures required – if yes please identify		x	No
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent		x	No
15: is the current Right of Way sufficient for the proposed or required road design		x	Sections goes through the residential areas and streets and the sections through cemeteries

H. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		Extent
A.2 Structures	Private houses	✓		Extent
	Private other	✓		Extent
	Public Structures	✓		Extent

A.3	Other Assets	✓		Extent
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA consultant's field visit findings there will be about more than (i) many graves of two cemeteries in Ha Huy Tap ward; (ii) 12 HHs resettled and (iii) 15 other HHs severely affected and about 5ha of mainly agricultural land, public land acquisition area affected by the subproject (either loss of their residential and agricultural land. <u>per the PPTA consultant's field visit to the bproject sites, the Subproject is classified der category A for Resettlement and is arefore ineligible as proposed.</u>
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Uncertain for the availability of the grave cemetery reallocation, Land Acquisition and compensation budget
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		x	No
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	No risk of land slips.
	Risk of Large cuts		x	As presented above
	Water course disruption		x	As presented above
	Flood Plain Disruption		x	As presented above

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed Risk
Are communes identified and named	Yes	If yes please list communes One ward and one commune: Ha Huy Tap district, and Thach Tan commune
Is the population data available	Yes	Ha Huy Tap district total population as of 2016 is 4,913 people, and Thach Tan commune total population as of 2016 is 7,151 people. The subproject will directly benefit totally 11,369 people.
Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, Ha Huy Tap district (including 43 poor HHs accounting for 2,8%, 32 near poor HHs, accounting for 2,1%). Thach Tan commune has no available poor HHs data
Is the number of near poor households available	Not yet	N/A
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

J. Economic Assessment

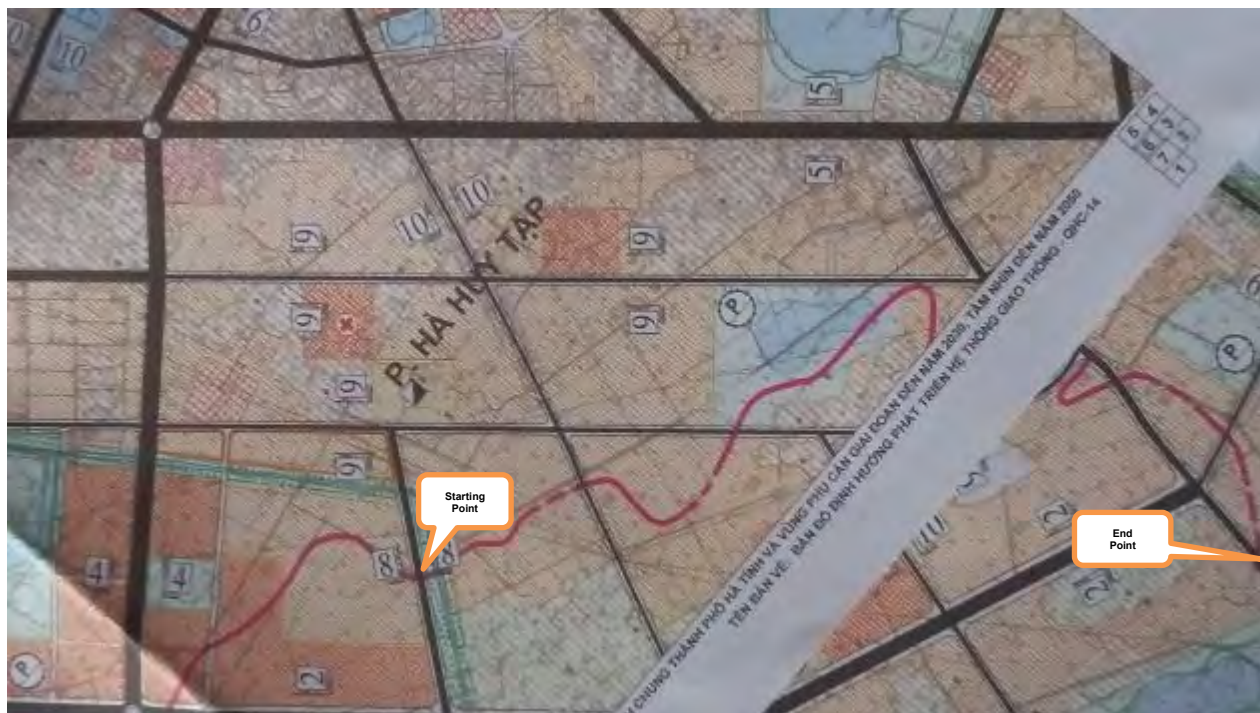
Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not provided
Is there a detailed worksheet for the EIRR		x	Not provided
Is it linked to the traffic forecast		x	Not provided

K. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified		x	there is no clear design standard that is justified
Are there outstanding approvals required		x	Requires clarification and confirmation: Requested clarification and confirmation: (i) Number of graves to be reallocated in two cemeteries to be affected by the subproject. (ii) traffic count data to justify the proposed road design category III. (iii) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design		x	There is not yet a preliminary design
Is there a Feasibility study		x	There is not yet a Feasibility study

Is the Subproject category A for resettlement and affected persons	✓		As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category A for substantial resettlement of graves and affected persons
Is the Subproject category A for environment		x	As per the PPTA consultant's site visit to the subproject sites, the Subproject is classified under category B or C for environment
Does the Subproject have clear economic inclusiveness outcomes	?		Limited inclusiveness the road is targeting future urban expansion and increasing network efficiency – limited number of poorer households.
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>Urban road in the west of Le Van Thiem High school, Ha Tinh city, Ha Tinh province is located in the urban area with incomplete connectivity. This road, when built, will help to connect Ha Tinh the city with Thach Ha district to promote development in the area, contributing in completing urban transportation infrastructure for turning Ha Tinh city to type II city.</p> <p>Investment in the urban road will help to promote socio-economic development in Ha Huy Tap ward, improving the connectivity of the urban road Nguyen Xi and provincial Road 17 and connect with the horizontal main road running through NH 1A toward center of the Ha Huy Tap ward of Ha Tinh City and Thach Tan Commune of Thach Ha district, bringing efficiency for traffic system and land bank development, reducing population stress at central areas.</p> <p>To step by step complete the city's urban technical infrastructure and landscape aiming at expanding the city and finishing the infrastructure works under the approved planning by 2025 with a vision to 2030 that Ha Tinh city will become type II city by the end of 2017 and grade-I city in the future.</p>
Is the project expected to achieve a 9% EIRR		x	Not available

L. Road Map



M. Road Sections Chainage Photos



Starting point at Km0+00): connecting to Nguyen Xi street in Ha Huy Tap ward



Km0+ 00 to km0+850: new alignment and Chainage goes through the paddy field and in the middle of) "Cồn Bông" cemetery of Hà Huy Tập ward



Km0+ 430 to km0+850: new alignment and Chainage goes through the paddy field and in the middle of) "Cồn Bông" cemetery of Hà Huy Tập ward



Km 0+00 to km0+950 new alignment through the field, private garden and "Cồn Bông" cemetery of Hà Huy Tập ward seen from the other side



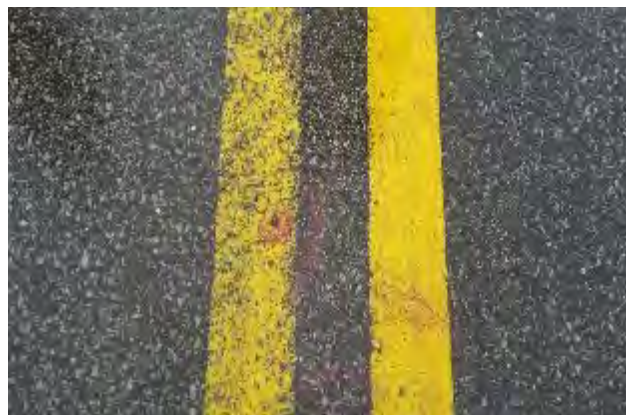
Km 0+00 to km0+950 new alignment through the field and "Cồn Bông" cemetery of Hà Huy Tập ward seen from the other side



Km 1+00 to km1+100: "Chùa Thiệu" cemetery located 100m away from "Cồn Bông" cemetery



Km1+300: connecting to provincial road 17 of residential area group 3, Ha Huy Tap ward goes through residential area and HHs to be reallocated



Ending point at (km1+400): connecting to provincial road 17 of residential area group 3, Ha Huy Tap ward, Ha Tinh city.

XII. OUTPUT 2 SUBPROJECT 1: PRAWN FARMS, THACH LONG (WEST) AND HO DO (EAST) DRAINAGE, LOC HA DISTRICT

A. Description Loc Ha District

71. The proposed works for the two prawn farm areas are to be constructed in two disconnected areas within Thach Long, Ho Do and Mai Phu Communes.

1. Ho Do Commune (East)

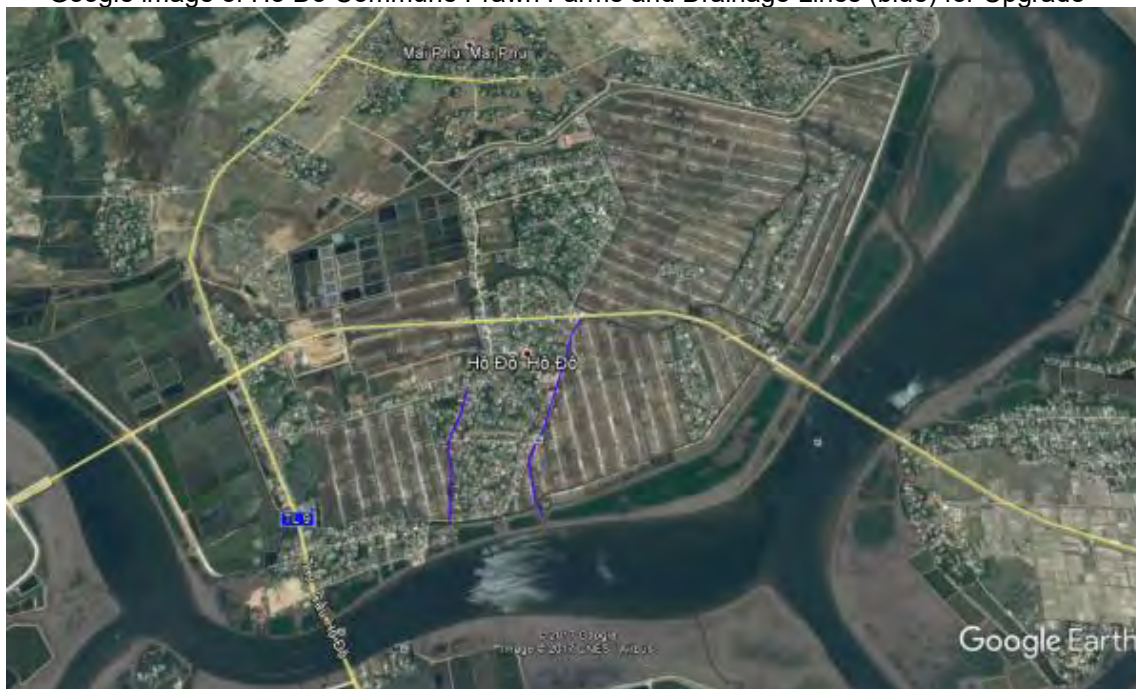
72. New and/or upgraded roads (about 2 km) to support proposed prawn farm development in Ho Do. The roads are designed as category Rural A based on a 3.5 m pavement.

- (i) Access Roads (rural Class A) that will expand the conversion of a commune operated salt farm land into prawn farm ponds. Currently a Japanese project is supporting infrastructure in an adjacent and significantly larger part of the salt farm covering 100 ha. The prawn farm developments are by enterprises, cooperatives or even individual farmers, however at the current time there is no confirmed investment in pond development, with some commune families still actively engaged in salt production.
- (ii) The proposed road layout, provides access between blocks of new ponds for 20 ha in the northeast of the overall development. The proposed new road alignments and particular the needs for some sections of these roads needs a thorough reassessment to avoid (i) duplication of assets, and (ii) adverse impacts on significant water bodies. The proposed roads could be rationalized (number and length), with some revision of alignments to minimize duplication with existing paved access roads (east side).
- (iii) **Recommendation** – that DPI consultants review and put forward a revised solution.

73. New and upgraded drains for prawn farms (1.45 km) in Ho Do

- (i) In Ho Do commune, two existing drains are to be upgraded (concrete/masonry lined) to take effluent from the prawn farms and/or adjacent residential areas. One section of the proposed drain has recently been upgraded and lined (300 m) but the hydraulic capacity needs to be verified for linkage to both upstream and downstream drain reaches under the project.
- (ii) Concern is raised about the provision to manage effluent water quality from the prawn farms that will enter these drains. The west area drain receives drainage runoff from an existing prawn farm and new residential development, which outfalls into an apparent wetland lagoon. The east drain will collect drainage water from agricultural land and from the as yet to be developed prawn farm to the east. Water quality within drains is an issue as yet to be considered and managed in accordance with appropriate process, compliant with DONRE standards 14 and 40. DONRE indicated an expectation that it would require waste water treatment to be installed. However this will be linked to the prawn farm as opposed to the drain and the PMU currently views this as external to the subproject.
- (iii) **Recommendation** – water quality be checked and more detail be obtained to clarify likely types of drainage effluent and whether to be pre-treated to acceptable standard before discharge into the drain (quantity and quality standard).

Google image of Ho Do Commune Prawn Farms and Drainage Lines (blue) for Upgrade



2. Thanh Long Commune (West)

74. New connection road (0.63 km) with bridge (70 m), for 9 m right of way with an 8 meter surface being Category 4 (Urban) in Thach Long

- (i) This provides a more direct link between the prawn processing plant in Thanh Long district, and the national highway No.1. This requires a bridge up to 70 m long over a waterway, plus about 630 m of link road Class 4, 9 m wide to join an existing rural road Class A, 5 m wide.
- (ii) DONRE indicated that an EIA may be required for the planning and approval of the bridge.
- (iii) **Recommendation** – detailed traffic forecast required based on counts on the current routes used.

75. Upgraded and New Rural Category A roads for existing prawn ponds in Thanh Long

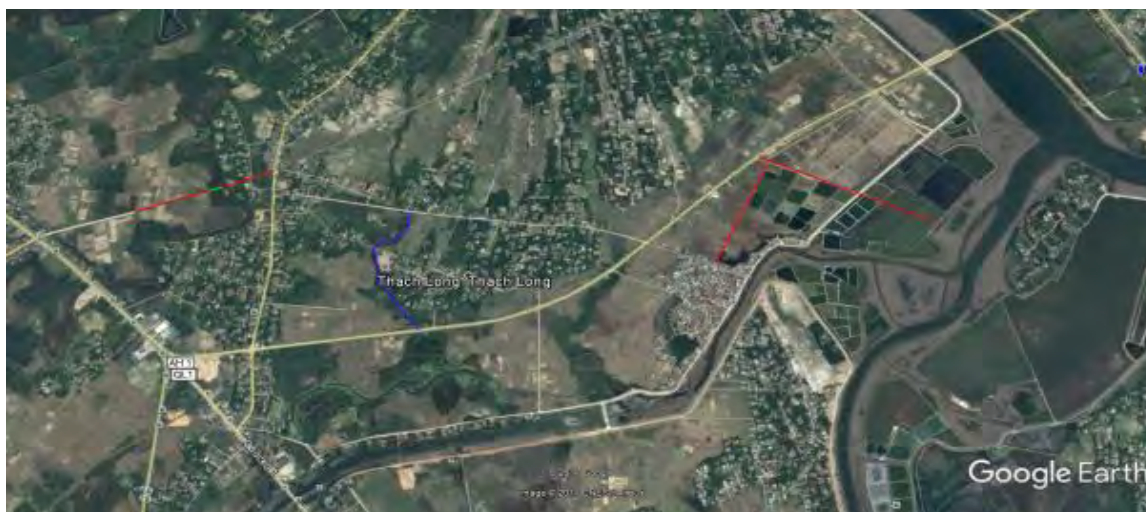
- (i) An existing development in the east of Thanh Long requires improved Class A rural roads to provide better access for farm to market operations. The main road section is 850 m long, runs perpendicular to the main highway towards the Tuoi Tre river. This is part upgrading of existing dirt road (50%) between ponds and the balance is new alignment (50%) towards the river across approximately 4 existing fishing ponds. No increase in productivity is expected, simply lower costs for prawn producers.
- (ii) The second section (600 m) runs from the start point of the first section but parallel to the highway and will connect into the existing urban residential road network. It is understood that the area between the road and the highway will be developed for urban, commercial use at some stage in the future while to the south existing ponds will be serviced.

- (iii) There appears to be less obvious justification for this road. The requirement is for rural road Class A, 3.5 m wide concrete finish.
- (iv) **Recommendation** – DPI reassess the purpose, detail and standard of the required road and adopt a solution that meets the specific needs for prawn farm operations. Should access be required for future residential, then developers may be asked to complete the upgrade for this when required.

76. New drain to replace an existing natural water way that passes through a narrow riparian wetland (and areas developed for paddy rice). The source of the drains collects water from an agricultural and residential area to the north of the starting point with the ending point an estimated 0.77 km in wetlands draining to a river in Thach Long

- (i) There is an existing unlined and irregular drainage channel through low lying wetland, which it is proposed should be regularized as a drainage channel through the edge of the wetlands, and which will discharge into more similar wetland area to the south of the highway. The impact will be turn a natural wetland area into a regulated wetland. Details are still to be assessed, but there appears to be limited scope for wetland/drain interaction, to maintain the wetlands functionality.
- (ii) It is proposed that the drain banks (above ground) will each carry a 3.5 m wide rural concrete road requiring a right of way totaling 7 m for roads and X m for the drain cross section. Justification for these roads is difficult, unless the intention is to be ready for eventual urban development adjacent to the drain. The drain will collect and convey runoff from agriculture area (... Ha) and existing and/or new residential areas, for discharge into the wetland area trapped behind the river dike. Given the nature of the existing wetland, conversion to an artificial condition with controlled drainage may invoke ADB Category A environmental provisions.
- (iii) Recommendation – DPI reconsider the approach required to effect required drainage without disrupting natural wetlands, and should a road alignment alongside the drain be assessed as necessary, that this be on one side only, and to a standard sufficient for local access only.

Google image of Thanh Luong Commune Prawn Farm Roads (red), new bridge (green) and Drain (blue) through Wetland Area



3. Overall Subproject Statistics

77. Project area that is to be drained:
- (i) Total project area – for prawns – 45 ha, for drainage area - tbc
 - (ii) Area drained in Mai Phu and Ho Do: x ha agriculture, y ha prawn farm, z ha residential
 - (iii) Area drained in Thach Long: x ha agriculture, z ha residential
78. Land use in project drainage Command area
- (i) Thach Long – residential (x ha), paddy rice (y ha), other (z ha)
 - (ii) Ho Do and Mai Phu – residential (x ha), paddy rice (y ha), prawn farms (z ha), other (zz ha)
 - (iii) The increase in area of crop land from improved drainage is nil. The gain from the project is more reliable and effective removal of effluent arising from prawn farm operations and/or the removal of rapid runoff from urbanized areas, plus the potential conversion of current agricultural land into residential, commercial or industrial land.
79. Structures required include:
- (i) Culverts (total number 48 culverts of all types),
 - (ii) Sluices, and
 - (iii) bridges – 3 (one bridge of 21m long and 2 of 9m long)
80. Water Quality – there is substantial concern over the need for water quality management of any effluent or residential runoff entering the drains. DONRE has indicated that pre-treatment should be installed at entry to the drains, with effluent discharge in accordance with the standards QCVN-14-2008-BTNMT and QCVN 40-2011-BTNMT.

B. Proposed Investment

- (i) Proposed investment \$ 3.03 million total of which the construction cost is \$ 2,910,333.
- (ii) Total investment \$ for roads: \$1,337,293
- (iii) Total investment \$ for drains: \$ 1,573,039
- (iv) Investment (construction cost investment) \$299,170/km for roads
- (v) Investment (construction cost investment) for drains - \$ 316,825/km

C. Rationale

- (i) Roads within prawn farms are required to facilitate inputs/outputs movement from the production ponds;
- (ii) The road (with bridge) from the national highway will significantly reduce the haul distance (by about 3 km/trip) to get the product to market, whilst avoiding more urbanized routes;
- (iii) The drainage system will more readily remove treated effluent and natural runoff from the prawn farms, agricultural and residential areas within the drainage catchments.

- (iv) How many farmers, people and households will benefit? 19,910 people in 3 communes.

81. Social Benefits – the expected benefits will be increased return to the prawn farmers, with improved access and more timely operations from harvest to processing plant, and steady and reliable removal of prawn farm effluent and runoff from agriculture and residential areas. Further social assessment is needed to identify how many of the poor or marginalized will benefit, and what if any benefits there are for ethnic minorities, female headed households, young, elderly and females.

D. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number			The road subproject has been included in the socio-economic development plan of the province under Decision No.1786/QD-TTg approving the master plan on of Ha Tinh province through 2020, with a vision to 2050.
2: Included in Sector Plan – if yes state page and section	Yes		In District and provincial aquaculture development plan
3: Proposed design concept document available for screening team – if yes state date of proposal	Yes		Not provided
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	Yes		Not provided
5: Proposed design standard – how does it incorporate the effect of climate change.		No	Details to be investigated and confirmed
6: Is a concept or preliminary engineering design available	Yes		Not provided
7: Is the preliminary design already approved by commune, district or PPC		No	Not provided
8: Is there a bill of quantities with the preliminary design		No	Not provided
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	Yes		Not provided.
10: Are there significant structures required – if yes please identify	Yes		A major highway bridge (70 m long, 9 m wide) plus culverts for other roads, and potentially sluice gate upgrades/renewal for drains.
11: What land is required (ha) and who owns land	Yes		For wider roads (630 m, X ha). Drain in Thach Long area
12: is there approval to build the structure on proposed alignments		No	

E. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition required if yes go to a.1	Yes		Extent – minor, moderate, substantial
A.1 Land Acquisition	Agriculture Land	Yes		Extent
	Urban Public Land	Yes		Minor
	Urban Private Land	Yes		Minor
A.2 Structures	Private houses		No	
	Private other		??	
	Public Structures	Yes		Existing sluice gates and culverts, connections to roads, across waterways New major bridge structure over riverine habitat
A.3	Other Assets			
A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much		??	Not available
A.6	Is other land effected from the discharge of water	Yes		Drain discharge into existing wetlands, partly cultivated for paddy rice
A.6	Is this category B, C or uncertain			Probably category B with uncertainty over the impacted number of commune members that lose significant amount of income.
B: Environmental Screening				
B.1 water source and network effect on forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		No	
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain	Is water evacuated into receiving bodies	Yes		From drains to wetlands and/or rivers
	Are their risks of water contamination from discharges	Yes		Yes, but any potential polluters are to install WWT facilities before discharge, sufficient to meet DONRE standards
	Is water use increased	No		
	Downstream impact of water discharge including increased amplitude of flood	Yes		Faster inflow to wetland areas and or other drains may have some backwater effects.

	events due to faster flood evacuations			
B.3 Does the proposal include any IEE screening			No	
B.4 Did the field visit identify issues from EARF that need to be addressed		Yes		Discharge of waste water
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change		No	
	Risk from contamination from human settlement or livestock	Yes		This cannot be ruled out given typical agricultural, aquaculture and residential land use and operations.
	Risk of deforestation devegetation		No	
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain	Possible Category A		Issues on drainage effluent, subject to further details

F. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	Thach Long, Ho Do and Mai Phu
Is the population data available for each commune, township	No	Not available
Is the number of Poor households available	No	Not available
Is the number of near poor households available	No	Not available
Are Ethnic minorities identified and specified	No	Not available
Is land use specified	Yes	As per planning documents
Are the number of female headed households specified	No	Not available
Is the GAP adequately reflected	No	Not available
Who in communes benefits most? Home owners or poor?	No	Not available

G. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
What is the cost per km	Yes		Investment (construction cost investment) \$299,170/km for roads Investment (construction cost investment) for drains - \$ 316,825/km
Is the asset owner identified	Yes		District People's Committee
Is the Cost of Maintenance identified?		No	Not available

Are scheme benefits clearly identified by category of benefit		No	Overall benefit streams and beneficiaries, other than prawn farm operators, remains unclear.
Is each benefit quantified		No	Not available
Is there an economic assessment – if yes what is EIRR		No	Not available
Is there a detailed worksheet for the EIRR		No	Not available

H. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
Is the subproject eligible by being part of Provincial plans	Yes		Decision No. 3198 / QĐ-UBND dated 25/10/2012 approving the planning of marine and brackish water aquaculture in Ha Tinh province in the period 2012-2015 with orientation to 2020. In line with the detailed planning of 1/1000 brackish water fisheries and aquaculture in Mai Phu and Ho Do communes, approved in Decision No. 4005 / QĐ-UBND dated 15/10/2015.
Is there a clear design standard that is justified	Yes		For the roads and drains, relevant VN standards are followed. Roads: Road Sections 1,2,3 in Prawn farm area 1: the roads are proposed to be developed to rural road category A: road pavement width of 6,0m; road surface width of 3,5m. Road cement concrete M250#. Road Sections 1,2 in prawn farm area 2: the roads are proposed to be developed to rural road category A: road pavement width of 5,0m; road surface width of 3,5m. Road cement concrete M250#. Road section 3 in area 2: the road is proposed to be developed to plain road category IV: road pavement width of 9,0m; road surface width of 7,0m. Road cement concrete M300#. Area 1: drain section 1: drain channel cross -section drawing: channel width B = 2.0m; Roof coefficient m = 2.0; Reinforced roof by fitting prefabricated concrete components M200 # (40x40x15 cm) in concrete girder frame. Drain section 2: drain channel cross -section drawing: channel width B = 2.0m (From Km0 + 00 - Km0 + 151.77); Roof coefficient m = 2.0; Reinforce the roof by fitting pre-cast concrete components M200 # (40x40x15 cm) in the concrete frame system. Area 2: Drain section 1: drain channel cross -section drawing: channel width B = 4.0m (from km0 + 00- Km0 + 900), with B = 5.0m (Km0 + 900- Km1 + 445.16; = 2.0; reinforced roof by prefabricated concrete components M200 # (40x40x15 cm) in concrete frame system.
Are there outstanding approvals required	Yes		Included and approved in (to be advised)
Is there a preliminary design? Is it sufficient to understand the proposal?		No	Maps have been developed and pre-feasibility analysis is completed.
Is there a Feasibility study		No	Incomplete and inadequate with respect to rationale, technical detail and safeguards (environment, social and water quality).
Is there sufficient data on the need and purpose of the investment		No	the infrastructure is for some unspecified future investor roads use demand is not specified

Is there sufficient data on risks and water levels - past and future water levels and flooding		No	It remains unclear to what degree, if any, the tidal and flood flow impacts in the receiving rivers may have on the conveyance and water levels within the drains through the year. There is a risk that potential backwater effects may cause land and properties to be partially inundated with low quality and contaminated drainage water. This potential situation requires more detailed analysis.
Is there a risk that the Subproject will be category A for resettlement and affected persons		No	Drains are aligned along existing waterways and will not require farm or residential property acquisition or resettlement.
Is there a risk that the Subproject will be category A for environment	Yes		Due to the natural characteristics of wetlands being changed, and/or impacted by the inflow of partly contaminated water from the prawn farms and residential areas. The proposed canalising of the natural drainage waterways that will drain wetlands Major bridge structure will require EIA/EMP
Does the Subproject have clear economic inclusiveness outcomes		No	It remains difficult to quantify likely economic outcomes for many of the component parts.
Does the subproject contribute to a system or extended protection network		No	It consists of five 'stand alone' component parts that collectively will help improve economic and commercial development around the prawn farming industry.
Is the project expected to achieve a 9% EIRR			Highly unlikely
Who will manage the assets identified			Remains unclear.

I. Conclusion

82. The project consists of two main parts:

- (i) Roads – 3.5 km within the prawn farm areas, and a main access road from the National Highway to the prawn processing facility (that requires a bridge, 70 m long, 9 m wide (Class 4 Road) plus 0.63 km of connecting road (Class 4), and a further 3 km of Class 5 rural road upgraded to take 40 tonne truck loads – Y No. per day) (details to be confirmed)
- (ii) Drains – 2.2 km of proposed masonry lined drains to take urban, prawn farm and farmland runoff to the nearby main waterways (rivers), through or past existing wetlands.

83. The roads are not difficult to design or construct, and all will follow some existing alignments, if properly reworked and rationalized. Current designs however are confused, and likely to be expensive, whilst necessitating additional segments over waterways and/or in parallel to existing (other agency) roads. The purpose for some of these roads is also dual rather than explicitly for prawn farm activities – providing access to residential areas (planned and/or developing), salt farm operations and to the prawn processing plant (there is an existing rural road but no connecting bridge).

84. The drains are also multi-purpose and do not solely remove flood waters from the prawn farm areas. They also act as outfall drains for urban storm water and wastewater drainage, and in this case would have to be Category A for environment. This classification can only be avoided if the urban (residential) developments include appropriate wastewater treatment facilities to

ensure discharged effluent is at a safe standard to enter waterways which contribute to the food chain – crop and/or prawn/fish production. Currently, there is no indication such provision is installed or planned.

85. Additionally, the drain in the western part of the prawn farm developments is a natural waterway through natural wetlands, and discharge to a wetland prior to final filtration and drainage to the river. If this is to be converted to a banked rain, with or without roads, then the overall impact to and future management of the wetlands needs to be assessed. An appropriate management strategy is required that minimizes any potential harm to the wetlands.

86. The prawn farm development may be feasible if the roads developments are rationalized to a minimal requirement sufficient to facilitate farm operations. These roads do not need to be of a standard suitable for large trucks – greater than say 4 tonnes. If anything, they should be of a form that would discourage any regular through traffic. They should also adhere to existing road corridors, as defined for the previous salt farm operations, and undue duplication should be avoided when there are already good quality roads available, even if they currently need a little additional investment to be completed. If the roads are to be multipurpose, and provide access to new residential developments, then funding support for the roads should be obtained from the developer, or perhaps even from the processing company requiring the heavy duty road for access to the plant.

J. Finding

87. Technically, there is no substantive difficulty to design and construct roads and drains, especially when following existing alignments. Any land acquisition and resettlement risks can be minimized, as can any temporary disruption during construction, and no houses were observed to be at risk from the proposed developments. However, under the current planning scenario, the drains may be ineligible due to category A EIA, unless appropriate effluent management provisions are included for wastewater from prawn farms and residential area. The specific needs for and form of the roads to be adopted should be rationalized to a least cost need that still fulfills the particular requirements for small local traffic, without any duplication. Whilst it is desirable to build the link road from the prawn processing plant to the national highway, the need for a substantial (70 m long) bridge and the high road standard for the proposed trucks to be used may be prohibitive. Consideration should be given, subject to traffic count and load factors, to utilize existing roads, with or without upgrades, or consider an alternative solution to the bridge (e.g. a causeway). Whichever solution is adopted, more specific attention must be given to river flow volumes, normal and extreme, and to the required approach and exist river bank stabilization measures needed to protect the adopted road crossing structure. A more detailed traffic study should be undertaken to verify all likely traffic loads, and to ascertain whether a least cost option with some rerouting may still be preferable to building yet another substantive bridge at this time.

K. Recommendations

88. The prawn farm roads need to be rescoped for appropriate levels of use, orientation and cost effectiveness. There are road sections proposed that make little sense other than future urban development without any thought to future traffic and loads, and rationalized to avoid any unwarranted duplication with other existing roads.

89. The main connecting road and bridge (Class 5) should be reassessed for need, based on traffic density, type and loading, to confirm scale. For drains, effluent inflows should be quantified and quality tested, as any potential reuse may be an environmental risk. Overall, the

reassessment should assess opportunities for cost saving and compliance with standards and safeguards. Technically, the particular types of work are viable.

L. Site Plans

Figure 1: Prawn Farm Area 1: Mai Phu and Ho Do communes, Loc Ha district

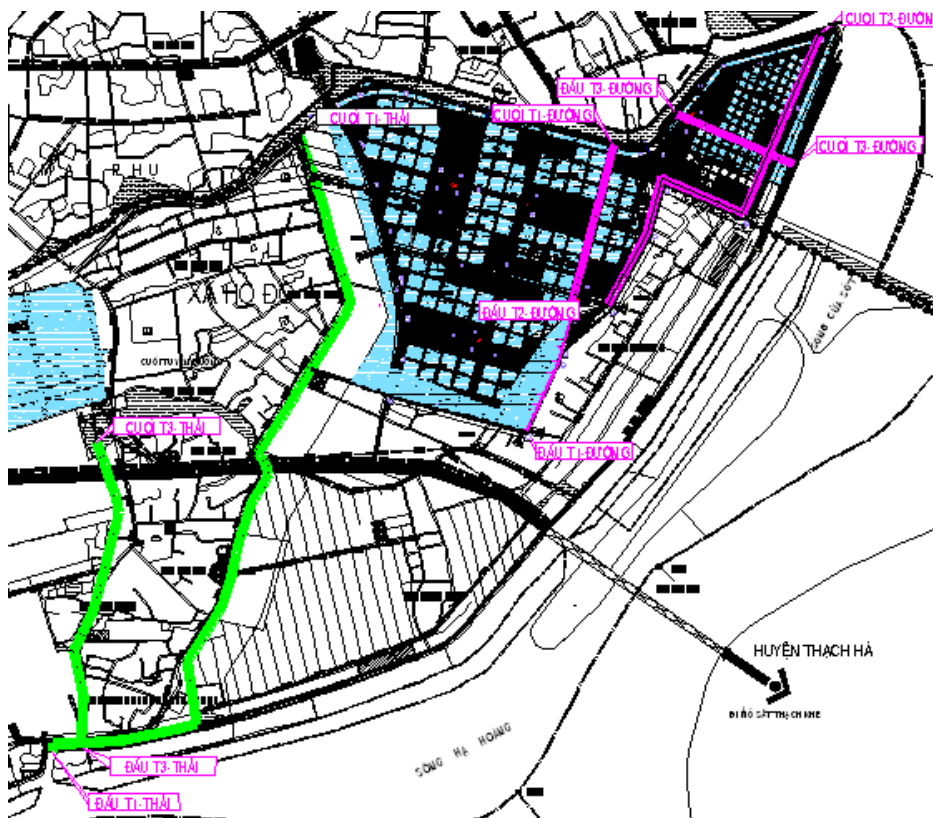
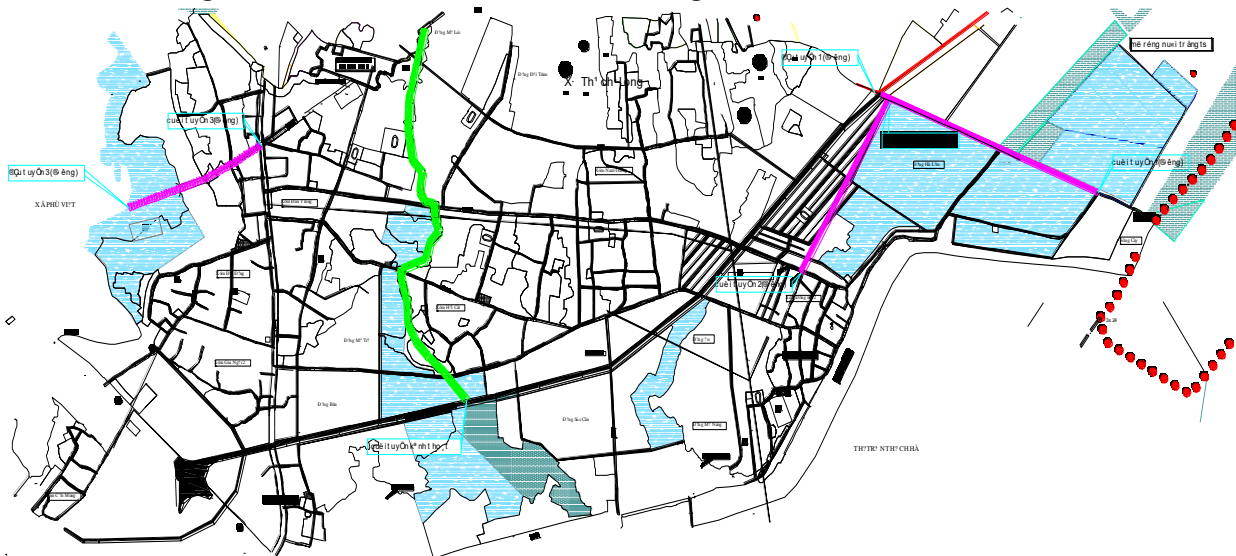


Figure 2: Prawn Farm Area 1: Thạch Long commune, Thạch Ha district



M. Site Visit Photos



The abandoned land of Mai Phu and Ho Do communes



Prawn farm area in Dong Ha district, Thach Long commune (30 ha)



Prawn farm area in Binh Ha (planned 30ha)



Status of drainage channel in Ho Do commune

XIII. OUTPUT 2 SUBPROJECT 2: INFRASTRUCTURE FOR FRUIT FARM DEVELOPMENT IN LOC YEN COMMUNE, HUONG KE DISTRICT

A. Description

90. The subproject is supporting infrastructure for Fruit Farm Development in Loc Yen and Huong Do communes, Huong Khe district, **Ha Tinh** province.

91. Proposed works –

- (i) upgrade a small (18,000 m³) reservoir in a 1.4 km² catchment to 60,000 m³ capacity, to supply up to 10 ha rice paddy/vegetables (2 crops) and 70 ha of expanding citrus orchards (orange, pomelo); and
- (ii) upgrading 5.1 km of Rural Road Class A (3.5 m) and development of 3.7 km of new Rural Road Class A (3.5 m) through or for access to/across existing acacia plantation land being progressively converted to citrus production and other uses.

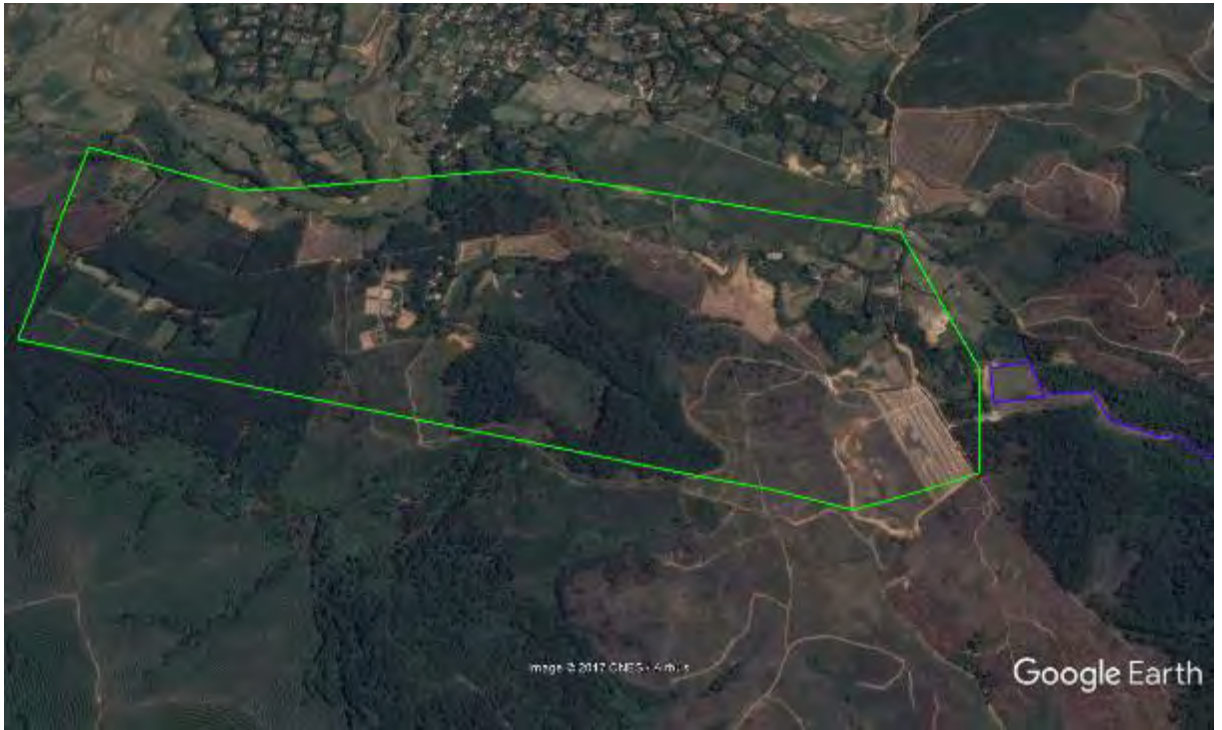
92. Project area includes:

- (i) 80 ha of irrigated command area (10 ha rice, 70 ha citrus (mostly orange, some pomelo) with an upgraded reservoir in a small upland 1.4 km² catchment area with surrounding upland acacia/forest land
- (ii) Irrigation water is supplied from an existing earth fill dam with:
 - (a) An embankment height 30.83 masl, 125 m long to be upgraded to a height of 33.85 masl; and an overall length of 274 m;
 - (b) a reservoir storage area of 9,800 m²; to be expanded with project to 20,322 m²;
 - (c) a Storage volume of 18,000 m³; to be increased with project to 60,000 m³;
 - (d) a peak inflow of 51,1 m³/s (1 in 50 year event), with a potential short term peak outflow of up to 51 m³/s (still to be verified, but appears to be a substantial overestimation). [Some cursory checks suggest a design peak flow in the order of 18 to 20 m³/s.]
 - (e) Design period – 1 in 50 year
- (iii) Spillway discharge – the existing discharge is not stated but the old spillway is 13 m wide, with washouts. The proposed new spillway will be 30 m wide. This appears to be excessive for the size of the catchment, and there appears to be an overestimation of the peak flow.
- (iv) The proposal is for the new dam to be built on (over) the alignment of existing dam (embankment). Original construction was a hand built embankment with locally won material, so construction quality is suspect and likely unsafe for a higher storage water level. Due process for design evaluation and safety assessment is being undertaken by DARD (June 2017).

93. **Recommendation:** The proposed reservoir solution should be thoroughly checked by DARD to verify safety (if and how constructed over the existing reservoir embankment alignment), with an appropriate safety first approach to construction and hydraulic capacity for flood passage (resulting from intense rainfall events, potentially increasing under climate change scenarios). A full water balance analysis should be completed for various cropping scenarios (winter, summer; rice, fruit and vegetables, other diversification in future?), and due allowance should be made for

seepage, evaporation (increasing with climate change) and environmental base flow provisions (DONRE to confirm any requirements). More complete hydraulic analysis is needed to verify the scale and functionality of the proposed spillway design, including safety against scour.

94. Google image of the reservoir (blue box), irrigated rice area and developing fruit farm areas in Huong Do and Loc Yen Communes area (green box), Huong Khe District, Ha Tinh Province.



Topographic survey map for reservoir (Dec. 2016)



95. Land use in project area

- (i) Irrigation Command area: existing 10 ha of paddy field and further development of fruit orchards up to 70 ha.
- (ii) Existing irrigated areas – rice, 10 ha, winter and 5.9 ha summer crops; 15 ha fruit, perennial; vegetables 4.1 ha, summer.
- (iii) Area of crop to be irrigated in the dry season: 10 ha of paddy field and 70 ha of fruit
- (iv) Area of irrigated crop wet season (March – October): 5.9 ha of paddy field, 4.1 ha of vegetables and 70 ha of fruit
- (v) Increase in area of crop land as a result of irrigation improvement with enlarged reservoir: from 15 ha (2016 - oranges) to 70 ha of fruit (future – mix of orange and Pomelo/ Citrus grandis)

B. Investment

- (i) Total overall investment for all works (roads and irrigation): \$ 4.20 million
- (ii) Proposed investment for irrigation \$ 630,000 (15%) for reservoir and irrigation system
- (iii) Proposed investment for roads \$3,570,000 (85%) for roads through acacia plantation with access to citrus areas
- (iv) Investment average \$7,875 /ha for incremental increase in area cropped (rice (10 ha winter, 5.9 ha summer), vegetables (4.1 ha summer), and citrus (70 ha) per annum.
- (v) Investment average for road upgrade (5.1 km) and new construction (3.7 km) is \$405 /m.

96. Structures affected by flooding – the dam is being redesigned with enlarged spillway for 1 in 50 year event. The spillway will discharge to an existing natural waterway which connects to a larger river system within 300 m.

97. Dam safety risks – insufficient spillway size; underbank piping failure; dam break, though into existing stream and alongside paddy land. Some houses could be at risk of a major dam break release. It should be noted that the proposed spillway size, as designed/costed, is potentially much larger than may be required. An updated FS, with reference to hydraulic and streamflow routing computations, should clarify this, along with quantification of risk based on geological and geotechnical assessment of the dam foundation and embankment].

98. At present, the investment for irrigation relates to the reservoir upgrade only, with new spillway, outlet sluice structure and upgrading of the existing irrigation canal (concrete lined box section). The investment does not include any costs for on-farm drip systems for oranges or rehabilitation of channels through the established rice paddy area. When investment is assessed against the net increase in citrus cropped area (rice and vegetable areas are unchanged) then the investment cost is \$ 10,000 / ha, made possible by the improved water supply.

C. Rationale

- (i) Loc Yen and Huong Do communes in Huong Khe district, Ha Tinh province experience extreme climate variance – hot with intense rain periods in the wet season and cold to cool dry periods in the winter and spring, which sees frequent

- drought when the available rainfall is low and stored water is depleted due to high irrigation water demand.
- (ii) Huong Khe DPC is supporting the development of high value fruit farms with up to 70 ha of orange and Pomelo/ Citrus grandis. The aim is to change low cost forest trees to high efficiency fruit which requires irrigation water to be sustainable year round. Electricity will be used to pump water from the reservoir to higher elevation tanks at the fruit farms from which controlled irrigation – preferably drip for increased efficiency (stated to be 40% more efficient) can be implemented. Farmers would be responsible for the necessary pumps, power connection and pipework, assisted by local government support.
 - (iii) The available and accessible water source for the project is a natural stream fed from a 1.4 km² catchment to fill a reservoir behind a newly enlarged embankment to store up to 60,000 m³. In the dry season when the natural stream flow is limited, the stored water is used as the main irrigation water supply, supplemented in part (3 %) by access to groundwater. The existing reservoir was constructed by local community with limited technical standard and a small capacity. The works are now damaged and degraded, and the safe stored volume each season is too small to last through to the dry season. The reservoir storage capacity needs to be increased to provide increased security of supply for the existing irrigated paddy (10 ha) and the small area of existing citrus orchards (15 ha), and to also enable the citrus orchards area to be expanded up to 70 ha.
 - (iv) There is a total of 1,562 people who will have direct benefits from the project. These are 1,362 people in Loc Yen commune (520 people in Truong Son village, 540 in Yen Binh village, 302 in Huong Yen village) and 200 people in Huong Do commune who will be involved and or receiving direct benefit from the project. There is another 3,705 people in the communes who stand to get indirect benefits.
 - (a) Where --Rice Production – 10 ha, 125 households and 450 people; Orange production – 70 ha, 50 households and 220 people, and
 - (b) With Dual production – 40 households and 170 people
 - (v) Infrastructure benefits and dam safety:
 - (a) without the project – there is an existing locally built embankment from storage area excavated material on an unprepared foundation, though with low storage level the bank has not failed, just washout around the spillway. An outlet sluice to the irrigation channel is non-operable. Though small, the storage needs reparations to re-instate safety. Dam will be able to supply water to current 10 ha of irrigated paddy.
 - (b) with project scenario – the plan is to overbuild the existing embankment but it really should be stripped down to foundation, the foundation should be properly prepared over the full length of the new enclosing embankment, and the embankment should be constructed to the required standard and size with quality controlled material and compaction on a prepared foundation. The spillway and irrigation outlet structures should be constructed on and into the embankment with relevant cut-off walls and safety provisions to mitigate the risk of any future failure, as per current Vietnamese and/or international standards for a dam embankment of this size and height. Enlarged storage will be able to supply irrigation water to both the existing paddy (10 ha – reliable supplementary and dry season

crops) and perennial supply (drip irrigation should be adopted for maximum water efficiency) to up to 70 ha of orange trees.

- (c) A summary of the water balance analysis is presented in the appendix.

99. Social Benefits – beneficiaries will be existing households currently relying on available water from the dam, and also existing landholders growing acacia who now want to convert to orange production. Paddy farmers will get more reliable supply for full two crop production; and orange growers will have water supply to facilitate new orange orchards in upland acacia areas. No details on how the benefits will accrue to the poor or marginalized people, ethnic minorities, female headed households, the young, elderly and females.

D. Findings

- (i) For construction of the embankment, the existing soil material should be tested, and an assessment made on the quality and suitability of the existing material to be retained, and for the borrow source material to be used (with sufficient quantity after screening, placement and compaction) that will required
- (ii) For dam safety, the design for construction should pay increased attention to the likely foundation conditions, embankment wall base preparation, and provision of seepage containment cutoff trench. The relevant Technical Guideline and Standards for earth dam construction should be followed.
- (iii) The design does not maintain a minimum environmental flow as required according to the relevant environmental Law for water resources development and use.
- (iv) Climate change is expected to bring about higher intensity and greater volume rainfall in the Huong-Khe region for the wet season, but lower intensity and volume in the dry season (a 5% increase in intensity based on simulation of climate change scenarios RCP4.5). Consequently, the impact of rainfall–runoff change under climate change should be considered for the design of runoff routing and spillway capacity through the reservoir.
- (v) Spillway – a more complete hydrological assessment is needed to verify flows (1 in 50 year design return period) to potentially rationalize the potential scale of the required structure. Detailed design should also ensure safe inclusion into the embankment wall with appropriate protection against undermining (wash out).

E. Eligibility

Criteria	Status		Explanatory Comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	Yes		+ Decision No. 1786/QĐ-TTg dated November, 27, 2012 issued by Prime Minister on Social- economic Master Development Plan in Ha Tinh province until 2020, vision 2050 + Decision No. 1107/QĐ-UBND dated 11 April 2014 issued by Huong Khe DPC. + New rural planning of Loc Yen commune
2: Included in Sector Plan – if yes state page and section		No	No details given.
3: Proposed design concept document available for screening team – if yes state date of proposal	Yes		December 2016
4: Proposed design standard identified – if yes what standard,	Yes		QCVN 04-05: 2012/BNNPTNT; QPTL.C-6-77 Economic life of the subproject: 50 years

what is the projected economic life of the subproject			
5: Proposed design standard proposed – how does it incorporate the effect of climate change.		No	
6: Is a concept or preliminary engineering design available	Yes		DPI Feasibility Study (incomplete)
7: Is the preliminary design already approved by commune, district or PPC		No	
8: Is there a bill of quantities with the preliminary design?	Yes		Limited detail.
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	Yes		December 2016
10: Are there significant structures required – if yes please identify	Yes		+ Reservoir: Effective volume: 50,000 m ³ , maximum volume: 60,000,m ³ + Main earth dam: soil properties $K \geq 0,95; \gamma_{sk} = 1,76T / m^3$. Length: 274.22 m, Top elevation: + 33.85m, Height: 5 m, upstream slope m = 2.5:1, downstream slope m =2:1 + Spillway: WES type, made of reinforced concrete, flood discharge capacity: 51.1m ³ /s, crest elevation: + 31.8m. Width of spill: 30m, height of water layer above crest: 0.9m + Conduit: Discharge capacity: 0.08 m ³ /s. made of reinforced concrete, size: 0.8 m x 0.1 m, length: 30 m + Feed canal: length: 908.08m, made of concrete M200, thickness of wall and base:0.12m, size: 0.4 m x 0.5 m + Electricity: Transformer capacity: 2 units 180 KVA 35/0.4 KV, power line (35 KV): 4,940 m and 3,600 m (400 / 220V)
11: What land is required (ha) and who owns land	Yes		For an enlarged and heightened dam, there must be some additional land acquisition, but details of ownership and agreement not confirmed.
12: is there approval to build the structure on proposed alignments		No	DPI is working with DARD and DONRE towards securing the required approvals.

F. Safeguard Compliance

Safeguard	Screening Issue	Yes	No	Explanation and Assessed Risks
A: Resettlement	Land Acquisition required	Yes		Minor – the reservoir inundation area will increase, and the dam wall footprint will increase with height and less steep slopes (1:3 inside; 1:2 outside; versus approx. 1:1.5 current) Major issue is the potential transference of land use rights from the forest lands to households for orange production.
A.1 Land Acquisition	Agriculture Land	Yes		0.65 Ha with a small area of newly established orange trees to be inundated; loss of acacia plantation where the reservoir will inundate additional land; and some loss of grazing land used for new dam wall
	Urban Public Land		No	
	Urban Private Land	Yes		0.14 ha
A.2 Structures	Private houses		No	
	Private other		No	

	Public Structures		No	
A.3	Other Assets		No	
A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much		No	
A.6	Is other land effected from the discharge of water		No	
A.6	Is this category B, C or uncertain	C		There will be no resettlement, but some cultivated and some open grazing land will be acquired for the physical works and eventual full storage in the reservoir.
B: Environmental Screening				
B.1 water source and network effect on forests - are there any of the following along the alignment or within close proximity – if yes is the risk significant	Production forest land	Yes		The current upland land use is acacia, above the gravity command area below the dam, which is growing paddy rice and will remain unchanged.
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain	Is water evacuated into receiving bodies	Yes	No	Increased storage for increased irrigation across a larger (from 25 to 80 ha) command area.
	Are their risks of water contamination from discharges		No	
	Is water use increased?		No	
	Downstream impact of water discharge including increased amplitude of flood events due to faster flood evacuations		No	
B.3 Does the proposal include any IEE screening			No	
B.4 Did the field visit identify issues from EARF that need to be addressed			No	
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change	Yes		Will be susceptible to change in rainfall patterns, increasing heat and prolonged dry periods (drought), and erosion if more intensive storms. This will also potentially impact productivity from the command area.
	Risk from contamination from		No	All water sourced from small upland catchment with no residential or livestock farming.

	human settlement or livestock			
	Risk of deforestation or devegetation		No	Where roads are cut and where land use change occurs – from acacia forest to orange orchards
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain		B	Risks: dam failure; downstream channel scour, inundation of productive land

G. Social Considerations

Criteria	Yes /No	Explanation and Assessed Risk
Are communes identified and named	Yes	Loc Yen and Huong Do
Is the population data available for each commune, township	Yes	4,848 people in Loc Yen commune.
Is the number of Poor households available	No	
Is the number of near poor households available	No	
Are Ethnic minorities identified and specified	No	
Is land use specified	Yes	Currently mixed rice paddy, acacia and orange trees; some acacia to be converted to orange trees (70 ha)
Are the number of female headed households specified	No	
Is the GAP adequately reflected	No	
Who in the communes benefits most - home owners or poor?	Yes	The major benefits go to existing households with land in the command area, or who otherwise can afford to put in pump systems to access water from the dam and/or canal system. Many are poor to near poor HH

H. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
What is the cost per meter	Yes		US\$ 7,875 /ha for irrigation
Is the asset owner identified	Yes		District DARD
Is the Cost of Maintenance identified	Yes		District DARD,
Are scheme benefits clearly identified by category of benefit		No	
Is each benefit quantified	Yes		As above
Is there an economic assessment – if yes what is EIRR	Yes		17.18%
Is there a detailed worksheet for the EIRR	Yes		To be confirmed

I. Summary

Recommendation	Yes	No	Explanation or Outstanding Gaps
----------------	-----	----	---------------------------------

Is the subproject eligible by being part of Provincial plans	Yes		Decision No. 1107/QĐ-UBND dated 11 April 2014 issued by Huong Khe DPC.
Is there a clear design standard that is justified	Yes		QCVN 04-05:2012/BNNPTNT; TCVN 8216-2009
Are there outstanding approvals required	Yes		DARD on dam safety, and on land use change; DONRE on environmental flows.
Is there a preliminary design is it sufficient to understand the proposal	Yes		The engineering is well considered but safeguards and risk need more attention.
Is there a Feasibility study	Yes		DPI have presented an FS but it is far from complete, especially in relation to safeguards and pertinent approval processes. The lack of DONRE involvement and the lack of a land use change approval
Is sufficient data on the need and purpose of the investment		No	The case for the increased storage requires a more complete assessment with regard to the realizable benefits.
Is there sufficient data on risks and water levels - past and future water levels and flooding		No	This has still to be assessed in sufficient detail, if data and reporting is available. A major concern is the scale of the spillway and the passage of peak spillway discharge, which if very large, may lead to environmental impacts along the waterway (fast flowing, deep erosive flow) and could jeopardise existing properties if flows are concentrated and prone to flowing over natural bank level. Paddy fields could be inundated.
Is there a risk that the Subproject will be category A for resettlement and affected persons	Yes		There is no direct need for resettlement, though X No. may be partly affected by land resumption and construction activities during and post construction. The loss of usufruct rights for forest lands is substantial impact over a large area
Is there a risk that the Subproject will be category A for environment	Yes		Depending on DONRE findings and recommendations for stream base flow maintenance, it is possible DONRE may determine this as Category A. However, the catchment is small, and the need for environmental releases through the reservoir for a short section of downstream waterway could be waived. Land use change from forest to cropping – oranges requires land use classification change plus needs an DONRE assesment
Does the Subproject have clear economic inclusiveness outcomes	Yes		The project will directly benefit poor farmers and their families, and give them opportunity to improve overall production with more reliable water supply. Mentoring will be required by DARD to assist farmers in utilizing available water more effectively.
Does the subproject contribute to a system or extended benefit area	Yes		Strengthens water supply reliability to existing command area and provides additional water to extend into other areas for orange production.
Is the project expected to achieve a 9% EIRR	Yes		17.18% determined as FS, but data and calcs needed to verify the accuracy of this.
Who will manage the assets identified			Huong Khe DPC
Is the scheme an expansion of an existing municipal and or rural town supply – if yes, are they required to on lend from the PPC?		No	

J. Findings

100. The original (existing) reservoir was constructed by local commune, and as such has no detail design or construction quality control. It has managed to hold a small volume to supplement rice irrigation in the summer dry season, though there are signs of embankment deterioration with slippage and erosion.

101. It is recommended that this old bank should be fully removed and a new embankment completed in accordance with relevant design standards, to be compliant with the latest approved and applicable dam safety design standards. It is likely this will require full removal of the existing reservoir embankment, preparation of a foundation base with cut off trench, and the use of fully screened and graded earthfill from an approved source (potentially local from within the reservoir area). The reservoir embankment design and construction should comply with all relevant standards and procedures, inclusive of material testing and monitoring for quality control during construction.

102. It is proposed that the embankment height will be raised by up to 3 m, to increase storage volume from 18,000 m³ to 60,000 m³. With such an increase, and with increased depth of water and thus hydraulic pressure, due design considerations should be made to ensure safety of the embankment against piping failure.

103. The expected benefits from the project will be just marginal improvement in yields (mostly dry season) from 5.9 ha of rice and 4.1 ha of vegetables, as a result of there being assured water supply. There will be an incremental gain in citrus (orange and pomelo) plantation area, from the existing 15 ha up to 70 ha, and potentially some overall production efficiency gains (up to 40%) if farmers choose to adopt drip irrigation for their orange trees instead of retaining a flood irrigation approach. As water will have to be pumped up to some of the tree areas, adopting efficient water practices (i.e. use of drip systems) will help reduce annual pumping costs, against investment costs (\$2,500 to 3,000/ha estimated⁴) for drip irrigation (over and above flood irrigation).

104. DONRE has still to rule on requirements for environmental flow releases, which may partly compromise the available water supply. An updated water balance should be prepared that incorporates the specific requirements of DONRE, and approval should be obtained from DONRE of the planned design and water management plan.

105. DARD still has to formerly check and approve the proposed dam design, including the foundation engineering, materials to be used for embankment construction, hydrology and hydraulics for safe peak catchment runoff flow routing through the reservoir, overall geotechnical and hydraulic safety for embankment and spillway, and inclusion of relevant safety monitoring equipment/procedures during operations. The approval should confirm the suitability and acceptable scale of the reservoir in the small upland catchment, to meet the specific development objectives. In particular, it should be verified through hydrological analysis how frequently the reservoir can fill, and the effective reliable yield that can be realized at all times (based on hydrological inflows, usage and losses (evaporation, seepage, other uses) to support the intended crop production (i.e. an overall water balance assessment). A simple analysis, for mixed crop – rice (5.9 ha) – vegetables (4.1 ha) – oranges (70 ha) through dry season, indicates that with little inflow from the catchment, and an assume overall water use efficiency of 85%, then the stored water (60,000 m³) would last from 50 to 60 days max. The hydrology needs to demonstrate that significant dry periods of more than 2 months are rare to unlikely if the scheme is to be effective in all seasons – at least 4 in 5 years.

⁴The costs for drip systems can vary considerably due to row and tree spacing, needs for pumping, operating heads and flow rates, and the types and quality of systems and materials adopted. The indicated costs range is typical for many proprietary manufacturers providing pumps, filters, pipelines, drippers and control systems. Lower complexity for the system will likely have lower overall costs but require more attentive management to ensure reliability.

106. If all appropriate approvals are secured, and the overall design is supported by adequate hydrological yield, safe and acceptable for purpose, then there is no technical limitations to implementing the project. The feasibility study should include reference to all relevant design check procedures to be completed at detail design stage, if not already done and approved.

K. Conclusion

107. Subject to the concerns raised and described through this checklist and above notes, this project is technically viable. However, relative to the area to be irrigated and crops to be produced, with about 55 ha of new citrus cropping, the overall investment per hectare is assessed as high and is unlikely to be feasible. Further there are outstanding environmental, social, and environmental approvals and assessments that make the subproject ineligible for ADB financing.

II. NGHE AN PROVINCE

EXECUTIVE SUMMARY

L. Output 1 Transport Connectivity - Additional Subproject Screening

108. The subproject screening was undertaken by the PPTA during June 2017 based on the longlist of subprojects proposed by the DPI/PMU. The longlist was modified and confirmed during loan fact finding. The proposed subprojects once screened will form the basis of the Government Investment proposal (IP) report.

1. Summary of Findings

109. Five Additional subprojects are included in the long list of subprojects for Nghe An province for support under BIIG 2. Detailed findings of individual subproject screenings are presented in sections III to VIII below. As proposed and presented to the PPTA the **additional road subprojects are most probably eligible for ADB financing.** The major caveat to this is the lack of detailed data on the scale of social resettlement that needs to be confirmed once center line and design details are available. There is less certainty over their feasibility and the technical design standards need to be confirmed based on traffic projections.

110. A number of formulation options and clarifications are identified and have been discussed with the PMU and their consultants. These formulation changes are being developed currently, however the resultant subproject design will not have been screened by the PPTA. The PPTA consultants worked closely with the District and Provincial staff to discuss issues regarding the use of existing alignments rather than the proposed new alignments, the need for certainty over start and end points, and the need for better information on the safeguards concerns and all parties are in agreement however these agreements need ratification. The **PPTA concludes that the proposed subprojects are eligible. However, their feasibility needs to be confirmed.**

111. A summary of the assessed criteria is presented in the following table. For some criteria there is inadequate data available at the time of screening. The detailed actions required, and where agreements have been reached, details of these are recorded in the appended subproject reports.

112. Further, whilst the PPTA and Government representatives have agreement on the eligibility and the proposed design categories of the road subprojects, no traffic count data was sighted and no traffic forecasts were available to assess the accuracy of the proposed technical design standards that have mostly been taken from planning documents. Traffic projections should be prepared prior to any FS work to ensure that the correct design standards are being applied.

Table 9: Output One Screening Results

Subproject Name	Eligibility						Safeguard Compliance	GAP	Feasibility and Viability indicators					Sustainability	Eligibility
	C1	C2	C3	C4	C5	C6			C7	C8	C9	C 10	C 11		
1. Van Dien – Nam Nghia – NH46 Hung My Axis Road	✓	✓	✓	✓	?	?	?	✓	?	?	?	?	?	??	Not Yet

2. Material Road Nghia Dan District	✓	✓	✓	✓	✓	✓	?	✓	?	?	?	?	?	?	?	Yes
3. Thanh Chuong District Road	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	?		Yes
4. Road Number 5 Cua Lo Town	✓	✓	✓	✓	?	?	?	✓		✓	✓	?	?	?		Not Yet
5. N7 Urban Road	✓	✓	✓	✓	?	?	?	✓		✓	✓	?	?	?		Not Yet

- M. Output 2 Productive Infrastructure**
- 1. Summary of Subproject Screening**

Table 10: Summary of Findings

Sub Project	Scale	Planned Work	Total Cost (US\$)	Unit Cost (US\$)	Eligibility	Feasibility	Recommendation
Quy Chau Embankment	2 km long river dike 14 m high armoured face protects 162 ha 6 No. 45 m long 1.5 m x 1.5m gated box culverts (total 12 barrels/gates)	River side earth and armoured embankment (with concrete road), up to 13 m high along full distance between two existing road bridges, primarily for future urbanization and flood protection (162 ha) - with a focus for ethnic minority cultural and local tourism attractions.	3,380,000	US\$ 1,690 / m Protected area US\$ 20,864 / ha	Yes	Not justified for agriculture, protects 120 existing properties, Provides protection for future development at a cost of \$20,000 per hectare. Lower cost (smaller bank, limited length) options should be considered.	Flood protection embankment for agricultural is technically viable but difficult to justify. Tourism benefits with future growth prospects for town need further examination and quantification.
Quyinh Luu Drain/Embankment	5.5 km long earth embankment (when measured, actual requirement is 7 km long)	Earth embankment (with concrete road) to prevent tidal salt water ingress to up to 380 ha of prawn farms, old salt workings and vegetable growing areas.	4,200,000	US\$ 763 / m (5.5 km) US\$ 11,000 / ha	Not yet Discrepancy on length of dyke and costing Social safeguard issue Probable No	Existing prawn farms, salt farms and vegetables production to be protected from tidal backwater flows - high tides with climate change risk. Only prawns farms and salt areas vulnerable to flood. High value prawn farming may justify investment. Reduction of costs if concrete road removed and smaller bank (height and width) adopted.	Limited benefits from flood protection embankment for vegetable farms and urban areas. Benefits from prawn and salt farm areas need further quantification. Severity of risk to investment is in doubt. Maintenance to existing embankment, with low level wall, could provide required protection.
Phuc Tho Song Lam Dyke	1.8 km long	Earth embankment (without road) to protect developing urban area (500 houses), two temples, a boat yard, fish ponds and agricultural land (.. Ha) on river side of main highway/dike	4,160,000	US\$ 2,310 / m	Yes	High cost per m may be justified as high proportion of area is urban (residential) with some commerce (boat yard) and religious places. Occurrence of floods is annual with high tides and river flow combination.	Eligible if costs are reduced by removing non-necessary concrete road on top of embankment. Reformulation of subproject is being undertaken to reduce cost /m and to shift access to existing

							roads that will be improved
Yen Thanh Irrigation and Road	19 km road 26.1 km canal 660 ha irrigated with improved water supply.	Asphalt (BSTS) road upgrade and Lining of irrigation canals to deliver to water short command areas often at the end of the command areas. A total of 660 ha of mostly non-flood prone rice production (to secure water use efficiency - drought proofing). Area is drought impacted and will benefit from more efficient water conveyance, but overall water management from multiple sources for multiple schemes needs clarification.	4,115,000	54% Irrigation, 46% Road - US\$ 276 / m Irrigation - US\$ 2,847 / ha	No reformulation required	High price for irrigation drought proofing based on marginal gains in production from existing cropped land. Water saving will provide added security for summer cropping.	Reformulation needed reduced road to one road section, also irrigation canals need to be assessed currently too expensive for size of command areas.

113. Four additional subprojects are proposed with a detailed screening in section VIII to XI below. The screening highlights an eligibility concern about the Quynh Luu embankment due to social safeguards, and for Yen Thanh irrigation subprojects that proposed a significant number of road sections. The DPI has agreed to reformulate the Yen Thanh subproject and to reduce the road section to 1 and to focus the investment onto canal lining of irrigation systems.

114. The feasibility of the Quy Chau Embankment and the Yen Thanh irrigation subprojects are both doubtful due to high costs and limited benefits. For the Quy Chau it would seem to be envisaged more for future urban development for which there has been no systematic assessment of land demand or potential timing for uptake. For Yen Thanh there are a number of small command areas within which some canal lining is proposed, mostly to deliver water to the periphery of the command areas where water shortages are experienced. Initial costs indicate substantial difference in the cost per hectare that is supported. Each scheme will need to be assessed separately and it is expected that some of the current proposals will not be feasible with costs in excess of USD 8,000 per ha. The feasibility is further limited by the expectation that flood paddy rice will be the receiving crop, which is unable to justify such high investment costs. Further, some of the sub-schemes need to be reconsidered in terms of layouts and the need for road crossings etc.

115. Currently the PPTA **cannot confirm the eligibility** in terms of water resource availability, although most schemes have indicative water supply data but incomplete water balance data sets.

116. Within these caveats the subprojects meet the eligibility with respect to the outcome expectation of Basic Infrastructure for Inclusive Growth 2 investment, the rationale and planning alignment are clear. Social safeguards and environmental safeguards category B or C are highly probable within the caveat of the need to.

117. The screening criteria summary is presented below with the detailed subproject screening reports provided in Sections VII to IX and includes the required actions and where agreements have been reached these are recorded in the appended subproject reports.

Table 11: Output 2 Subproject Screening Findings

Subproject Name	Eligibility						Safeguard Compliance	GAP	Feasibility and Viability indicators				Sustainability	Eligibility	
	C 1	C 2	C 3	C 4	C 5	C 6			C 7	C 8	C 9	C 10			C 11
Quy Chau Embankment	✓	✓	✓	✓	?	?	✓	??	?	?	?	?	?	?	Yes
Quynh Luu Drain/Embankment	✓	✓	✓	✓	?	?	?	??	?	?	?	?	?	?	Not yet
Phuc Tho Dyke	✓	✓	✓	✓	?	?	✓	✓	?	✓	✓	X	X	?	Yes
Yen Thanh Irrigation and Road	✓	✓	✓	✓	?	?	✓	?	?	✓	?	X	?	?	Not Yet

XIV. APPROACH AND METHODOLOGY

A. Introduction

118. The subproject screening was undertaken by the PPTA during June 2017 based on the longlist of subprojects proposed by the DPI/PMU. The longlist was modified and confirmed during loan fact finding. The proposed subprojects once screened will form the basis of the Government Investment proposal (IP) report.

119. The screening process is presented below however, it was far more than a simple eligibility screening with a need to review both eligibility and likely feasibility. In doing so significant issues arose in terms of eligibility and also the likelihood of the proposed subprojects being feasible. As part of the PPTA review process additional input was provided to each PMU to review current and alternative formulation of each subproject that would reduce the risk of ineligibility and or a lack of feasibility.

120. Significant weaknesses in road subproject relate to (i) proposed new alignments that are yet to be approved or marked on the ground with often unclear justification for the proposed road design category, (ii) the inconsistent data sets relating to length of roads, costs and date of costings with the possibility of cost estimates being out of date and or inaccurate. For the **road subprojects** no significant safeguard classification issues were identified however some subprojects need to be carefully designed to ensure that resettlement is minimized. Most roads have traffic counts although these were mostly not provided to the PPTA and it is unclear if the projected traffic is realistic or not. As such the economic feasibility of the proposed roads is not easily assessable. **Productive infrastructure for business development improved** subprojects involves 4 proposals with three of these being river and flood protection and one irrigation scheme. The quality of these subprojects is lower than the road subprojects with weaknesses in rationale, design and commensurate risks in terms of safeguards and economic viability. During debriefing and consultation phases these issues have been discussed in depth with the PMU who have started to make suggested changes or look at alternative options for the formulation of these subprojects.

1. Documents Reviewed

121. The screening involved a review of documentation including sector plans, provincial plan and subproject documentation. Wherever possible local engineering consultants' concept and design documents were reviewed if available. Consultation meetings were held with sector and DPI representatives and the PMU staff as well as field visits made to each subproject site with consultation of District and Commune staff.

2. Field Surveys

122. During the screening each field site was visited. For output 1 road alignments were inspected from end to end, maps reviewed and visual assessments, with field visits for social and environmental safeguard purposes however this is caveated as the center line is often yet to be surveyed and marked. Based on the visual assessment the likelihood of severely affected households was assessed by number of households to identify the likelihood of triggering a category A classification.

123. Each visit involved DPI and local consultant staff and where possible DOT representatives, meetings were held with district and commune officials. For many sites local PMU staff had not previously visited the site and the inspections provided an improved awareness of proposed subproject scope and issues.

124. For output 2 subproject proposed sites visited, often more than once, including the observation of all structures, potential beneficiary impact zones and related infrastructure. The field work involved local consultants and in most cases local staff of Districts and communes and the PMU representatives. Overall

the level of preparedness of the output 2 subproject is less advanced than for output 1 with as a result there being far higher degrees of uncertainty about these proposals.

B. Screening criteria

1. Output One: Road Infrastructure

125. The eligibility criteria for subproject screening are presented in the following table

Table 12: Assessment Criteria for Output One Road Subprojects

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the FNCP Master Plan outcome theme of improved connectivity
	C3: aligned with the FNCP Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of Subproject scope and works program
	C6: Preliminary design drawings and supporting technical assessments available
Safeguard Compliance	
REMDF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with traffic count and network derived demand forecasts and the Provincial planning documents
	C11: New alignments have PPC approval and are marked on the ground
Financial Cost Estimates between \$8 and \$15 million	C12: Current cost estimate consistent with benchmarks for road categorization
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with traffic forecast
Sustainability	C14: Road category standard consistent with forecast Passenger Car Unit (PCU) at Project completion

2. Output 2: Productive infrastructure for business development improved

126. The eligibility criteria for subproject screening are presented in the following table

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the provincial SEDP and or sector Master Plan outcome theme of improved connectivity
	C3: aligned with the Provincial Master Plan outcome of economic inclusiveness

Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of subproject scope and works program C6: Preliminary design drawings and social survey to ascertain demand available
Safeguard Compliance	
REMDF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with needs C11: Supports a clear rationale and beneficiary impact
Financial Cost Estimates between \$1 and \$5 million	C12: Current cost estimate consistent with benchmarks for cost
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with demand estimate
Sustainability	C14: Cost per ha protected or irrigated is within affordability benchmarks

3.

XV. SUBPROJECT 1 VAN DIEN NAM NGHIA NH 46 AXIS ROAD

A. Subproject Description

127. The road from Van Dien commune to Nam Nghia commune, Nam Dan district and the main axis road from National Highway 46 to Hung My commune centre, Hung Nguyen district, Provincial Road 8B. Total length of the road is 10.78km.

128. **Section 1:** The main axis road linking National Highway 46 with the bypass of Vinh to the center of Hung My Commune, Provincial Road 8B includes: - Total length L = 3.9km.

- (i) The starting point at Km0 + 00 intersects NH46 at Km 7 + 200 in Hung Chinh commune, Vinh city, the road intersects with the bypass of Vinh at Km 1 + 900, passing through the center of Hung My commune, and
- (ii) The end point interchanges with Provincial Road 8B at Km 2 + 600.

129. Road alignment: The main road connects to NH46 with the bypass of Vinh City to the center of Hung My commune crossing the railway and joining NH8B. Starting point Km0 + 00 intersects NH46 at Km7 + 200 in Hung Chinh commune, Vinh city, the road intersects with Vinh City at Km 1 + 900, passing through the center of Hung My commune. Ending point intersects with NH 8B at Km 2 + 600. The total length of the road is 3.9 km.

130. Road alignment was approved according to the master plan for transport development of Nghe An province up to 2020 in Decision No. 60/2009 / QD-UBND dated 30/06/2009 of Nghe An provincial People's Committee.

131. **Section 2:** Road from Van Dien, Nam Thai commune to Nam Nghia commune, Nam Dan district.

- (i) Starting point: Km0+00 connects to NH15A at Km332+250 in Van Dien commune, Nam Dan district, Nghe An province;
- (ii) End point: Km8+199,98 in Nam Nghia commune, Nam Dan district, Nghe An province;

132. Road alignment follows the planned DR02: starting point (km0+00) connecting to NH15A (Km332+250): the road alignment follows the existing road, which is the earth road with width of 2,5 - 3,5m. This road is seriously damaged; end point (km8+199.98) connecting to the inter-commune asphalt road Nam Thanh – Nam Nghĩa. The road goes through 3 communes: Vân Diên, Nam Thanh, Nam Nghĩa, Nam Đàn district, Nghệ An province. The total length is 7.7km.

133. The road alignment was approved under the Decision No. QĐ205/QĐ.UBND-CN dated 17/1/2012.

B. Existing Status

134. Section 1: the main axis road connecting NH46 with the bypass of Vinh to the centre of Hung My commune, PR8B:

- (i) The existing asphalt road has Bn= 6-7m wide, and Bm= 3.5m, which is completely damaged, making travel extremely difficult in the wet season. Works on the road are all damaged; traffic safety system is not available. The two sides of the road are mainly residential areas and rice fields; the road alignment is relatively straight.
- (ii) The current traffic volume on the road is small, mainly light trucks, medium trucks for the transportation of goods, agricultural products and construction materials. Actual car traffic at Km0 + 50 is 317 cars / 24 hours. The converted car volume is 1252 converted cars (xcqd) / 24 hours.

135. Section 2: the road from Van Dien commune to Van Nghia commune, Nam Dan district

- (i) The road goes through communes Van Dien, Nam Thanh, Nam Nghia, Nam Dan district, Nghe An province. The current road is category VI mountainous road standard; Bn=4.00 – 6.00m; Bm=2.50 – 3.50m. The road alignment is relatively straight; the central line follows the existing road.
- (ii) The current road is mainly earth road surface road of 2.5-3.0m wide; many sections have been severely damaged, making travel very difficult in the rainy season. The first section is 1809 m long asphalt road surface B = 3.0-3.5m, the existing road surface structures including: asphalt surface; stone layer base is 27 cm thick; the road surface is still good. The two sides of the road is a large area of farmland, a large cultivation area, relatively flat terrain with residential areas along the road.
- (iii) Intersections and residential roads: There are 3 intersections and 41 road sections.
- (iv) Horizontal drainage works: the road has 18 culverts of all kinds, 03 small bridges (Khe Gu Bridge, Km3 + 228.52, Da Han Bridge, Km6 + 235.48, Chau Hoa Bridge, Km7 + 663.74)
- (v) Drainage along the road surface on the existing sections is not a complete drainage system.
- (vi) Traffic volume on the road currently is small, mainly light trucks, medium trucks for the transportation of goods, agricultural products and construction materials. Current vehicle traffic is 289 vehicles / 24 hours. Vehicle traffic volume in future futures is 930 converted cars (xeqd) / 24 hours

136. Proposed Road Categorization of Section 1: the proposed road section is proposed to be developed to plain road category V (TCVN 4054-2005) with technical specifications as below: Design speed: $V_{TK} = 40\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 65\text{m}$; Maximum vertical slope: $I_{max} = 7\%$; Roadbed width: $B_{nèn} = 7,5\text{m}$; Road surface width: $B_{mật} = 5,5\text{m}$; Roadside width: $B_{gcl}=2 \times 0,5=1,0\text{m}$; $B_{lê} = 2 \times 1,0 = 2\text{m}$; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, Eyc = 110MPa.

137. The road subproject section 1 will construct 1 new medium bridge (Gach Ngoi bridge km1+350) and 14 culverts of all types, and drainage works, protection works, and traffic systems.

138. Proposed Road Categorization of Section 2: the proposed road section is proposed to be developed to plain road category VI (TCVN 4054-2005) with technical specifications as below: Design speed: $V_{TK} = 30\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 30\text{m}$; Maximum vertical slope: $I_{max} = 10\%$; Roadbed width: $B_{nèn} = 6,5\text{m}$; Road surface width: $B_{mật} = 3,5\text{m}$; Roadside width: $B_{lê} = 2 \times 1,5 = 3\text{m}$; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, Eyc = 100MPa.

139. The road subproject – section 2 will construct 3 new bridges and 21 culverts of all types, and drainage works, protection works, and traffic systems.

140. Proposed investment \$ total: 4,310,000 (source from IP)

- (i) Proposed investment \$ /km total: US\$ 339,814 /km.
- (ii) Proposed investment \$ of Section 1: US\$ 1,444,229 in the FS.
- (iii) Proposed investment \$ /km of Section 2: (US\$ 1,444,229 @ 3.9km = US\$ 370,315/km).
- (iv) Proposed investment \$ of Section 2: US\$ 2,865,771 in the FS.
- (v) Proposed investment \$ /km of Section 2: (US\$ 2,865,771 @ 7.7km = US\$ 349,485 /km).

C. Rationale

141. Stated need for the road

- (i) The project will form a main axis linking National Highway 46 to Vinh bypass through the center of Hung My commune and connected to Provincial Road 8B. This is the main route for transportation of construction materials, goods and raw materials for VSIP 7, Bac Vinh Industrial Park to ensure construction need of Vinh City and surrounding region.
- (ii) The proposed road links 2 communes Nam Linh and Nam Thanh with Kim Lien relic area, Nam Dan district, Nghe An province to connect the local transportation system with NH15A, NH46 and Cultural relics sites such as Kim Lien relic, Dai Tue Pagoda, King Mai Temple ...
- (iii) The road subproject will make an important contribution to linking the famous tourist sites of the locality, creating favorable conditions for visitors to visit some typical relics of great value. Culture and tourism such as Kim Lien relic, King Mai relic, Phan Boi Chau memorial house, Trung Can temple, Hoanh Son temple, Dai Tu pagoda are being built and expanded campus. It is considered to be the largest in the North Central region and has a great influence on Buddhism throughout the country. Kim Lien Historical Park is one of the

national tourist resorts and one of the four most important relics in the life and career of President Ho Chi Minh. Beside the material cultural heritages, Nam Dan is also one of the cradles of the cloth museum.

- (iv) Construction of this road will provide connectivity between two communes: Nam Linh and Nam Thanh, Nam Dan district, rather than being intended for through traffic.

D. Summary of subproject site visits findings and FS review and recommendations

1. Section 1:

- (i) Check the intersection site of railways with the road was approved under the intersection masterplan
- (ii) Check the resettlement/reallocation of the Households is at the end point and the railway crossing point
- (iii) Check the vehicle volume to recalculate the road scale / category, as the proposed road is developed to plain road category V (TCVN 4054-2005) is insufficient / inadequate.

2. Section 2:

- (i) Section from Km6 + 250 to Km7 + 00 goes to the left side of the existing road to avoid the planning of Section 4 of Prison No.6.
- (ii) The first section of the road through which the road passes is the densely populated area. This section will involve extensive residential land acquisition and loss.
- (iii) Flooded sections:
- (a) Km0 + 364.86 - Km0 + 850.14 is flooded by heavy rain and affected by inundation, inland floods;
- (b) Km1 + 459.43 - Km2 + 284.59 flooded due to heavy rain and influenced upstream of Rao Bang lake;
- (c) Km8 + 94.62 - Km8 + 199.98 are flooded due to heavy rain and the water flow through the Chau Hoa bridge, which does not have enough aperture.

Subproject road feature	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	Km0+00 connects to NH15A at Km332+250 in Van Dien commune, Nam Dan district, Nghe An province;	Confirmed	Confirmed
End point	Km8+199.98 in Nam Nghia commune, Nam Dan district, Nghe An province;	Confirmed	Confirmed
Length	7.7km (IP) 8.2km (FS)	7.7km Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP and FS review,	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed

		<p>(a) the consistency of the total length of the proposed road subproject including two sections combined.</p> <p>(b) Requires traffic count data to justify the road category.</p> <p>(c) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... when the road is put into operation.</p> <p>(d) the subproject involves some impacts on land acquisition of 16,07m² of agricultural land. Number of houses (about 5 HHs) will be resettled.</p> <p>(e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>	<p>road subproject including the new alignment.</p> <p>Proposed options for further discussions and final agreement.</p>
Road category	<p>Section 1: the proposed road section is proposed to be developed to plain road category V (TCVN 4054-2005) with technical specifications as below: Design speed: VTK = 40Km/h; Minimum horizontal curve radius: R_{min} = 65m; Maximum vertical slope: I_{max} = 7%; Roadbed width: B_{nên} = 7,5m; Road surface width: B_{mặt} = 5,5m; Roadside width: B_{gcl}=2x0,5=1,0m; B_{lè} = 2x1,0 = 2m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, E_{yc} = 110MPa.</p> <p>Section 2: the proposed road section 1 is proposed to be developed to plain road category VI (TCVN 4054-2005) with technical specifications as below: Design speed: VTK = 30Km/h; Minimum horizontal curve radius: R_{min} = 30m; Maximum vertical slope: I_{max} = 10%; Roadbed width: B_{nên} = 6,5m; Road surface width: B_{mặt} = 3,5m; Roadside width: B_{lè} = 2x1,5 = 3m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain,</p>	Confirmed	Confirmed

	road pavement of 10T. Asphalt concrete road A2, Eyc = 100MPa.		
Proposed works	3 small bridge and 18 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

E. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No 620/QĐ-TTĐ dated on 12th May, 2015 on approval of socio-economic development planning in Nghe An province by 2020. Decision No. 728 / QĐ-TTĐ dated 28/4/2016 of the Prime Minister approving the list of PPTA "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 95 / QĐ-UBND dated 23/11/2010 of People's Committee of Nghe An province approving the planning of road connecting and connecting bypasses into 6 National highways (NH1A and 1A National Highway section bypass Vinh, National Highway 7, National Road 15, NH46. , Highway 48, Ho Chi Minh Road) in Nghe An. Decision No. 5831 / QĐ.UBND-DTXD dated 06/12/2013 of People's Committee of Nghe An province on the approval of construction works investment project: Road from the center of Thanh Chuong district to Ban Ve hydropower plant resettlement site, Thanh Chuong district, Nghe An province; Decision No. 2882 / QĐ-UBND dated 22/6/2016 of the People's Committee of Nghe An province approving the list of subprojects under the project, "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017:
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		Section 1: the proposed road section is proposed to be developed to plain road category V (TCVN 4054-2005). Section 2: the proposed road section 1 is proposed to be developed to plain road category VI (TCVN 4054-2005). 15 years projected economic life of the subproject
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial and district transport masterplan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is plain road Cat IV towards 2030.

6: is the date of traffic forecast or base traffic forecast after 2015	✓		Traffic count carried out in 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject		✓	Not sighted
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat V (mountainous and plain road standards).
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design		✓	Not sighted
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing		✓	Not sighted
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent		x	No
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

F. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts on land acquisition of 16,07m ² of agricultural land. A number of houses will be resettled but less than the threshold for category A.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget: 3,421,000,000 VND equivalent to USD 155,000

B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		land acquisition of 16,07m ² of agricultural land. One house will be resettled.
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed			✓	the field visit identified no issue from EARF that need to be addressed.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

G. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 3 communes in Nam Dan district: Vân Diên, Nam Thanh, Nam Nghĩa
Is the population data available	Yes	Nam Dan district's total population as of 2016 is 116,903 people (equivalent to 32,528 HHs). (i) Van Dien commune population is 9,792 people (2,345 HHs); (ii) Nam Thanh commune population is 89,908 people (24,862 HHs) (iii) Nam Nghia commune population is 8,147 people (2,381 HHs). The subproject will directly benefit totally 22,947 people including 3 communes, Thanh Lien, Thanh My, and Hanh Lam.
Is the number of Poor households available	Yes	Thanh Chuong district has 308 poor HHs accounting for 0.95% (i) Van Dien commune has 16 poor HHs accounting for 0.68%;

		(ii) Nam Thanh commune has 2,272 poor HHs accounting for 9.1%; (iii) Nam Nghia commune has 105 poor HHs accounting for 4.5%.
Is the number of near poor households available	Yes	Thanh Chuong district has 320 near poor HHs accounting for 0.98% (i) Van Dien commune has 30 near poor HHs accounting for 1.27%; (ii) Nam Thanh commune has 3,677 near poor HHs accounting for 14.85%; (iii) Nam Nghia commune has 192 near poor HHs accounting for 8.3%.
Are Ethnic minorities identified and specified	Yes	Thanh Chuong district has 843 EM HHs (3.4%); 599 poor EM HHs (71.1%); 201 near poor EM HHs (23.8%); (i) Van Dien commune has 30 near poor HHs accounting for 1.27%; (ii) Nam Thanh commune has 843 EM HHs accounting for 3.4%; 599 poor EM HHs (71.1%); 201 near poor EM HHs (23.8%); (iii) Hanh Lam commune has 213 near poor HHs accounting for 15.27%.
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

H. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR	✓		12% The cost per km is low
Is there a detailed worksheet for the EIRR	✓		not sighted
Is it linked to the traffic forecast	✓		not provided

I. Summary

Table 13:

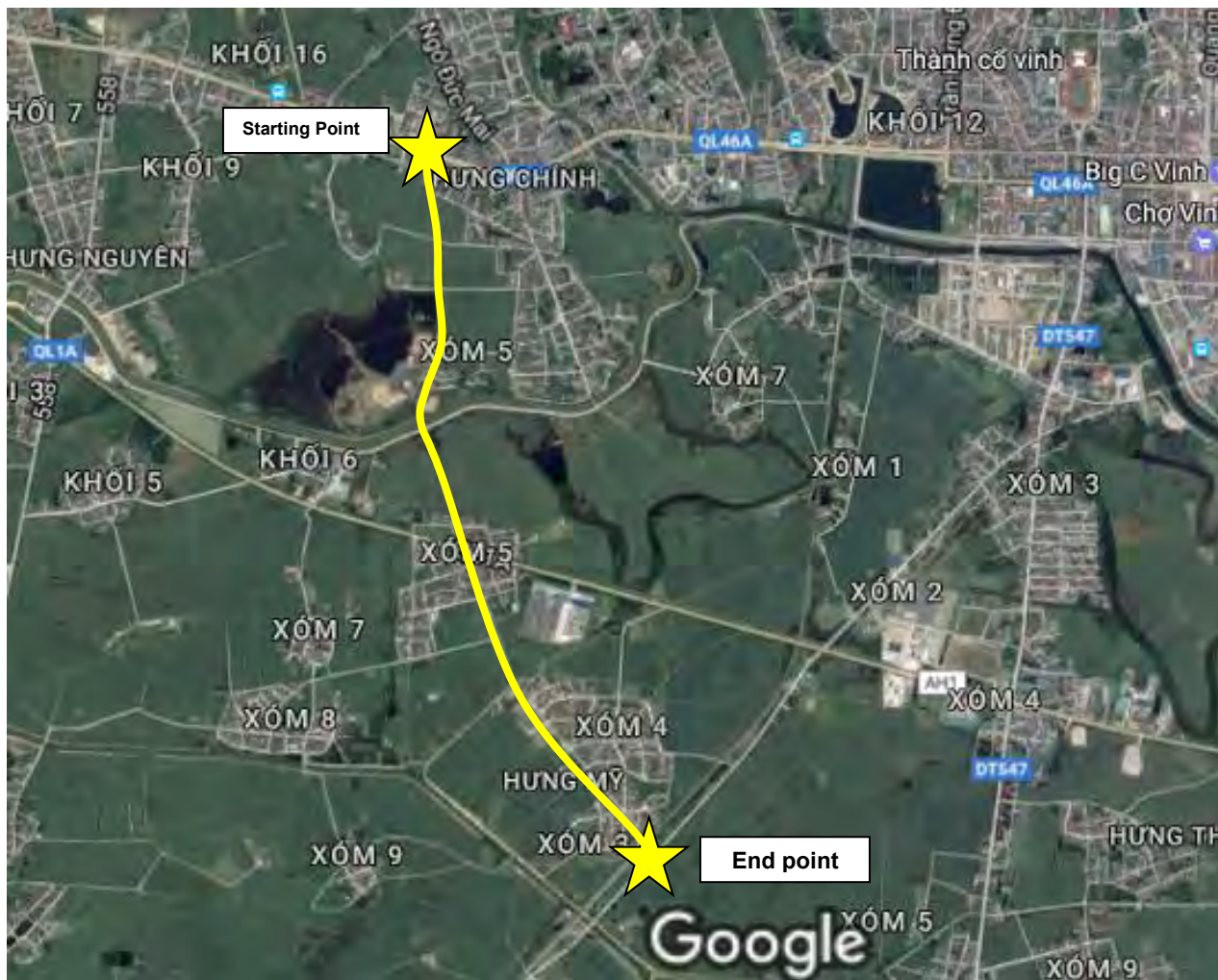
Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Section 1: the proposed road section is proposed to be developed to plain road category V (TCVN 4054-2005). Section 2: the proposed road section is proposed to be developed to plain road category VI (TCVN 4054-2005).

Are there outstanding approvals required	✓		<p>Requires clarification and confirmation:</p> <p>(a) The consistency of the total length of the proposed road subproject including two sections combined.</p> <p>(b) Requires traffic count data to justify the road category.</p> <p>(c) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... when the road is put into operation.</p> <p>(d) The subproject involves some impacts on land acquisition of 16,07m² of agricultural land. Number of houses (about 5 HHs) will be resettled.</p> <p>(e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		x	<u>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.</u>
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <ul style="list-style-type: none"> The project will form a main axis linking National Highway 46 to Vinh bypass through the center of Hung My commune and connected to Provincial Road 8B. This is the main route for transportation of construction materials, goods and raw materials for VSIP 7, Bac Vinh Industrial Park to ensure construction need of Vinh City and surrounding region. The proposed road links 2 communes Nam Linh and Nam Thanh with Kim Lien relic area, Nam Dan district, Nghe An province to connect the local transportation system with NH15A, NH46 and Cultural relics sites such as Kim Lien relic, Dai Tue Pagoda, King Mai Temple ... The road subproject will make an important contribution to linking the famous tourist sites of the locality, creating favorable conditions for visitors to visit some typical relics of great value. Culture and tourism such as Kim Lien relic, King Mai relic, Phan Boi Chau memorial house, Trung Can temple, Hoanh Son temple, Dai Tu pagoda are being built and expanded campus. It is considered to be the largest in the North Central region and has a great influence on Buddhism throughout the country. Kim Lien Historical Park is one of the national tourist resorts and one of the four most important relics in the life and career of President Ho Chi Minh. Beside the material cultural heritages, Nam Dan is also one of the cradles of the cloth museum.

		<ul style="list-style-type: none"> • Construction of this road will provide connectivity between two communes: Nam Linh and Nam Thanh, Nam Dan district, rather than being intended for through traffic. • In addition to the socio-economic development rationales, this subproject also contributes to the overall development of the road network in Nghe An and the FNCP region alike.
Is the project expected to achieve a 9% EIRR	✓	12% based on the FS but serious questions about the capital costing, the use of the correct road classification suggests the EIRR should not be accepted.

J. Road Map

Section 1: Road Alignment



Section 2: Road Alignment



K. Road Chainage Photos (Section 1)



Starting point - Km0+00



Km0+200



Km0+600



Km0+800



Km1+350 Gach Ngoi bridge



Km1+350 Gach Ngoi bridge



Km1+350 Gach Ngoi bridge



Km1+350 Gach Ngoi bridge



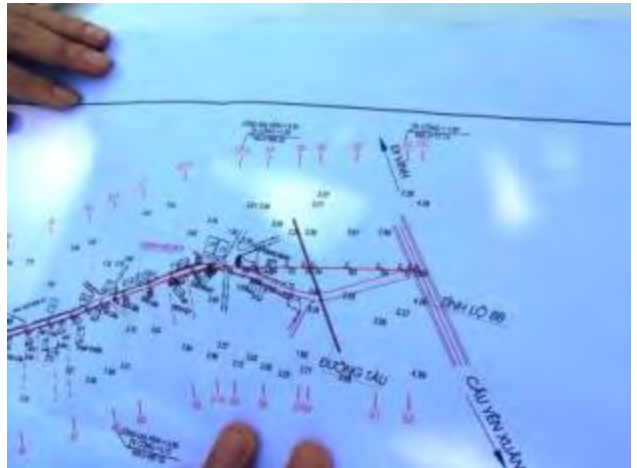
Km2+700



Km2+850



Railway crossing point at Km3+00



End point at Km3+70.00



Railway crossing point at Km3+00



End point connecting to NH8B - Km3+80 .00

L. Road Chainage Photos (Section 2)



Starting point: Km0+00 connecting from NH15A



Km0+200



Km0+850



Km2+00



Km2+100



Km2+300



Km5+00



Km6+235,48: Da Han bridge



Km6+235,48: Da Han bridge



Km7+00



Km7+300



Km7+663,74: Chau Hoa bridge under construction



Km7+663,74: Chau Hoa bridge under construction

Km7+663,74: downstream of Chau Hoa bridge



End point: Km8+200



End point: Km8+200

XVI. SUBPROJECT 2: MATERIAL ROAD NGHIA DAN DISTRICT

A. Subproject description

142. The Transportation and Development Road of Material Area, Nghia Dan district Subproject. Total length of 11.85km.

143. Section 1: the road from NH15A to Khe Den Bridge:

- (i) Starting point Km0 + 00 intersects NH15A at km215 + 830 in Hong Lam village, Nghia Minh commune, Nghia Dan district, Nghe An province.
- (ii) End point: Km2 + 150m in Quynh Yen village, Nghia Mai commune, Nghia Dan district, Nghe An province.
- (iii) The road alignment follows the planned road DR391: the starting point: (km0 + 00) connects to NH15A (Km215 + 830). The road follows the existing earth road of 3.5-4.5m wide. End point (km2 + 150) connects to the bridgehead of the new bridge construction Khe Dien connection with DR531. The road passes through 2 communes: Nghia Minh, Nghia Mai, Nghia Dan district. Total length of the road is 2.15km.

144. Section 2: the inter-commune road of Nghia Phu, Nghia Tho, Nghia Loi in Nghia Dan district adjacent to Nhu Thanh commune, Nhu Xuan district, Thanh Hoa province:

- (i) Starting point: Km0 + 00 in Phu Hung village, Nghia Phu commune, Nghia Dan district, Nghe An province.
- (ii) End point: Km9+733 in Cay village, Nghia Loi commune, Nghia Dan district, Nghe An province.
- (iii) The road alignment follows the inter-commune road from Nghia Phu through Nghia Tho to Nghia Loi commune: Starting point (km0+00) in Phu Hung village, Nghia Phu commune, Nghia Dan district: End point (km9+700) in Cay village, Nghia Loi commune, Nghia Dan district, Nghe An province adjacent to Nhu Thanh District, Thanh Hoa Province. Length of the route is 9,733km.

B.

145. The proposed road passes through 3 communes: Nghia Minh, Nghia Hong, Nghia Mai, Nghia Dan district, Nghe An province. The road alignment was approved in accordance with Decision 60/2009 / QD-UBND dated 30/6/2009.

C. Existing Status

- (i) The two road sections are dirt and gravel roads. These roads are muddy, and flooded; many sections can't travel in the rainy season and the dry season. The current road width is relatively small from 3-5m wide.
- (ii) Road section 1: The road from NH15A to Khe Dien Bridge follows the existing road. The current road is the gravel road with mountainous road category VI standards including Bn= 5-6m wide, Bm = 3,5m wide. The structure of the road surface has been deteriorated, many sections have been severely damaged, it is extremely difficult for travel in the rainy season. The two sides of the road are large cultivated hills, relatively flat terrain, and residential areas along the road.

- (iii) Road section 2: The inter-commune road passes through three communes: Nghia Phu, Nghia Tho, Nghia Loi in Nghia Dan district, Nghe An province, adjacent to Nhu Xuan district, Thanh Hoa province.
- Section Km0 - Km0 +500 follows the existing road. Both sides of the road are mainly the cultivation lands of the people in Nghia Phu commune, relatively flat terrain with low mountains and hills.
 - Km0 + 500 - Km1 + 500: the road passes through the crowded residential area of Nghia Phu commune, the terrain is relatively flat.
 - Section Km1 + 500 - Km2 + 200 the road coincides with National Highway 48E.
 - Section km2 + 200 - Km4 + 00 the road goes through the center of Nghia Tho commune, crowded population, relatively flat terrain.
 - Section km4 + 00 - Km9 + 733: the road passes through sparsely populated areas, mainly with upland fields. Topography includes hilly and midland.

D. Proposed Road Categorization:

146. The proposed road is proposed to be developed to mountainous road category V (TCVN 4054-2005) with technical specifications as below: Design speed: $V_{TK} = 30\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 30\text{m}$; Maximum vertical slope: $I_{max} = 10\%$; Roadbed width: $B_{n\grave{e}n} = 6,5\text{m}$; Road surface width: $B_{m\grave{a}t} = 3,5\text{m}$; Roadside width: $B_{l\grave{e}} = 2 \times 1,5 = 3\text{m}$; $B_{l\grave{e}gc} = 2 \times 1,0 = 2\text{m}$; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, $E_{yc} = 100\text{MPa}$.

147. Overview of proposed works: the road subproject will construct 01 medium bridge and 2 small bridges and 21 culverts of all types, and drainage works, protection works, and traffic systems.

E. Investment

- (i) Proposed investment \$ total: US\$ 4,030,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 340,084 /km.

F. Rationale

- (i) The road for transportation and development of raw material areas in Nghia Dan district, Nghe An province is the main axis road, a transport artery to connect communes to the central areas in the district. This road is also used to transport agricultural commodity agricultural goods of a region rich in agricultural resources to the neighborhood and vice versa. However, in recent years due to increasing traffic density, more and more goods and commodities are transported on the road, the load is increasing. The road is not invested properly, so now has been deteriorated, damaged very seriously. That affects the region's socio-economic development potential, and causing severe difficulties in the movement of people and vehicles in the area of the passage as well as the surrounding areas.
- (ii) The road will connect conveniently between the existing provincial roads and existing national roads, thus creating links among the regions. Construction of this road will provide connectivity between 3 communes: Nghia Minh, Nghia Hong, Nghia Mai, Nghia Dan district, rather than being intended for through traffic.

- (iii) The road will contribute to improve infrastructure of Nghia Minh, Nghia Hong, Nghia Phu, Nghia Tho and Nghia Loi communes for the movement of goods and people providing a driving force for promoting socio-economic development in the project area.
- (iv) The direct beneficiaries of the project are expected about 20,000 people, including Nghia Minh (7,466 people), Nghia Hong (5,168 people), Nghia Phu (2,995 people), Nghia Tho (3,374 people), Nghia Loi (4,384 people). In addition, beneficiaries indirectly from the project also have people in Nghia Thinh, Nghia Yen, Nghia Binh, Nghia Lac, Thai Hoa town.
- (v) The proposed road subproject will step by step complete the transport network according to the transport planning of the province and the district, thus creating conditions for the development of the road network in the route area.
- (vi) On the economic side, the project plays a very important role in creating favorable conditions for intra-regional exchanges and inter-provincial links.

G. Summary of subproject site visits findings and FS review and recommendations

1. Section 1:

148. District Road 391 from Nghia Minh Km0 + 00 to Nghia Hong Km2 + 150, Nghia Dan district, Nghe An province: starting point Km0 + 00 intersection with Highway 15A at Km215 + 830 in Hong Lam village, Nghia commune Minh, Nghia Dan district; end point at Km2 + 150 in Hong Duc hamlet, Nghia Hong commune, Nghia Dan district,

149. Follows the transport development plan of Nghia Dan district in the period of 2012-2020. This road serves the residents of Nghia Minh, Nghia Hong, Nghia Mai, Nghia Thinh communes. Mostly agricultural production area with traded surplus linked to Thai Hoa town and other communes.

150. The road also connects to National Highway 15 and Provincial Road 531 (a very important road that passes through almost all communes in the district, linking National Highway 48, National Road 15, Ho Chi Minh Road. Dong Hoi-Thai Hoa street and connecting to other districts such as Quy Hop, Quynh Luu). Along this road, the population is dense, especially in the central area of Nghia Minh commune (intersection of Highway 15) and the central area of Nghia Hong commune (with provincial road 531).

151. The region is rich in agricultural resources, with agricultural crops such as rubber, sugarcane, oranges, and coffee.

152. At present, the main road is a dirt and gravel road, some sections are made of cement concrete. As a main road, the traffic is heavy and the load is increasing. In the dry season, the road is dusty, and bumpy; the road surface of cement concrete road has also seriously degraded; the surface of the road bursting, cracking cause difficulties for travel. On the other hand, the current pavement width is relatively small from 3-5m, so it greatly influences on traffic and people's travel on the road.

2. Section 2

153. Road from Nghia Phu commune, Nghia Tho to Nghia Loi commune: starting point Km0 + 00 in Phu Hung village, Nghia Phu commune, Nghia Dan district; end point Km9 + 700 in Cay Village, Nghia Loi commune Nghia Dan, Nghe An province, adjacent to the territory of Thanh Hoa province.

154. The road passes through 3 communes namely Nghia Phu, Nghia Tho, Nghia Loi in Nghia Dan district. This road has a relatively concentrated population. However, the road has not been upgraded or maintained properly. At present, the road is mainly a gravel and earth road with the width of 3.5-5.0m, some small sections have upgraded the surface to concrete road under the new rural program. In the dry season the road is dusty and bumpy and difficult for travel while in the rainy season, it is nearly impossible for vehicles and people to travel on and to access to the road. With a relatively crowded population, large agricultural resources along both sides of the road, but due to the poor quality of the road, it has a great impact on the economic and social life of the people in these communes.

Subproject road feature	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	<p>Section 1: the road from NH15A to Khe Den Bridge:</p> <ul style="list-style-type: none"> - Km0 + 00 intersects NH15A at km215 + 830 in Hong Lam village, Nghia Minh commune, Nghia Dan district, Nghe An province. <p>The road alignment follows the planned road DR391: the starting point: (km0 + 00) connects to NH15A (Km215 + 830).</p> <p>Section 2: the inter-commune road of Nghia Phu, Nghia Tho, Nghia Loi in Nghia Dan district adjacent to Nhu Thanh commune, Nhu Xuan district, Thanh Hoa province:</p> <ul style="list-style-type: none"> - Km0 + 00 in Phu Hung village, Nghia Phu commune, Nghia Dan district, Nghe An province. <p>The road alignment follows the inter-commune road from Nghia Phu through Nghia Tho to Nghia Loi commune: Starting point (km0+00) in Phu Hung village, Nghia Phu commune, Nghia Dan district:</p>	Confirmed	Confirmed
End point	<p>Section 1: the road from NH15A to Khe Den Bridge:</p> <ul style="list-style-type: none"> - Km2 + 150m in Quynh Yen village, Nghia Mai commune, Nghia Dan district, Nghe An province. <p>The road alignment follows the planned road DR391:</p> <p>End point (km2 + 150) connects to the bridgehead of the new bridge construction Khe Dien connection with DR531.</p> <p>Section 2: the inter-commune road of Nghia Phu, Nghia Tho, Nghia Loi in Nghia Dan district adjacent to Nhu Thanh commune, Nhu Xuan district, Thanh Hoa province:</p>	Confirmed	Confirmed

	<p>- Km9+733 in Cay village, Nghia Loi commune, Nghia Dan district, Nghe An province.</p> <p>The road alignment follows the inter-commune road from Nghia Phu through Nghia Tho to Nghia Loi commune:</p> <p>End point (km9+700) in Cay village, Nghia Loi commune, Nghia Dan district, Nghe An province adjacent to Nhu Thanh District, Thanh Hoa Province.</p>		
Length	<p>Section 1: Total length of the road is 2.15km.</p> <p>Section 2: Length of the route is 9.733km.</p> <p>Total road length of 11.883km</p>	<p>11.883km</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) the consistency of the total length of the proposed road subproject in the FS (11.883 km) while IP (11km and 11.85km).</p> <p>(b) Requires traffic count data to justify the proposed mountainous road category V.</p> <p>(c) the consistency of the total budget in the IP of US\$ 4,030,000 while the FS of US\$ 3,509,000.</p> <p>(f) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(g) Initial Environmental Examination and IOL and REMDP reports</p> <p>(h) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross-section drawings, total project investment budget.</p>	<p>DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.</p> <p>Proposed options for further discussions and final agreement.</p>
Road category	<p>the proposed road is proposed to be developed to mountainous road category V (TCVN 4054-2005) with technical specifications as below: Design speed: VTK = 30Km/h; Minimum horizontal curve radius: Rmin = 30m; Maximum vertical slope: Imax = 10%; Roadbed width: Bnền = 6,5m; Road surface width: Bmặt = 3,5m; Roadside width: Blề = 2x1,5 = 3m; Blềgc = 2x1,0 = 2m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, Eyc = 100MPa.</p>	Confirmed	Confirmed

Proposed works	01 medium bridge and 2 small bridges and 21 culverts of all types, and drainage works, protection works, and traffic systems	Confirmed	Confirmed

H. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No 620/QĐ-TTĐ dated on 12th May, 2015 on approval of socio-economic development planning in Nghe An province by 2020. Decision No. 728 / QĐ-TTĐ dated 28/4/2016 of the Prime Minister approving the list of PPTA "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 95 / QĐ-UBND dated 23/11/2010 of People's Committee of Nghe An province approving the planning of road connecting and connecting bypasses into 6 National highways (NH1A and 1A National Highway section bypass Vinh, National Highway 7, National Road 15, NH46. , Highway 48, Ho Chi Minh Road) in Nghe An Decision No. 5831 / QĐ-UBND-DTXD dated 06/12/2013 of People's Committee of Nghe An province on the approval of construction works investment project: Road from the center of Thanh Chuong district to Ban Ve hydropower plant resettlement site, Thanh Chuong district, Nghe An province; Decision No. 2882 / QĐ-UBND dated 22/6/2016 of the People's Committee of Nghe An province approving the list of subprojects under the project, "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017:
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		mountainous road category V (TCVN 4054-2005) with technical specifications as below: Design speed: VTK = 30Km/h; Minimum horizontal curve radius: R _{min} = 30m; Maximum vertical slope: I _{max} = 10%; Roadbed width: B _{nền} = 6,5m; Road surface width: B _{mặt} = 3,5m; Roadside width: B _{lề} = 2x1,5 = 3m; B _{lềgc} = 2x1,0 = 2m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, E _{yc} = 100MPa. 15 years projected economic life of the subproject
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial and district transport masterplan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is mountainous road Cat V towards 2030.

6: is the date of traffic forecast or base traffic forecast after 2015	✓		Traffic count carried out in 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject		✓	To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat V.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design		✓	not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing		✓	not provided
13: Are there significant structures required – if yes please identify	✓		not provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent		x	No
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design, except some sections through the densely populated areas which acquires residential land.

I. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		Extent
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves extent impacts on land acquisition and agricultural land loss. No HHs will be resettled.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget:

				1.600.000.000 VND equivalents to USD 71.588
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		The subproject involves extent impacts on forest land acquisition and agricultural land loss.
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		The field visit identified no issue from EARF that need to be addressed.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 3 communes in Nghia Dan district: <ul style="list-style-type: none"> ▪ Nghia Minh, ▪ Nghia Hong, ▪ Nghia Mai
Is the population data available	Yes	Nghia Dan district's total population as of 2016 is 130,348 people (equivalent to 32,831 HHs). (i) Nghia Minh commune population as of 2016 is 3,705 people (840 HHs); (ii) Nghia Hong commune population is 5,163 people (1,357 HHs) (iii) Nghia Mai commune population is 6,265 people is not available yet.

		The subproject will directly benefit totally 22,947 people including 3 communes, Thanh Lien, Thanh My, and Hanh Lam.
Is the number of Poor households available	Yes	Nghia Dan district has 2,585 poor HHs accounting for 7.87% (i) Nghia Minh Lien commune has 78 poor HHs accounting for 9.29%; (ii) Nghia Hong commune has 21 poor HHs accounting for 1.55%; (iii) Nghia Mai commune population is 6,265 people is not available yet.
Is the number of near poor households available	Yes	Nghia Dan district has 4,327 near poor HHs accounting for 13.18% (i) Nghia Minh commune has 69 near poor HHs accounting for 8.21%; (ii) Nghia Hong commune has 15 near poor HHs accounting for 1.11%; (iii) Nghia Mai commune population is 6,265 people is not available yet.
Are Ethnic minorities identified and specified	Yes	Nghia Dan district's total EM population as of 2016 is 21,660 EM people (equivalent to 5,125 EM HHs); accounting for 16.62%; 460 poor EM HHs; 17.79 % poor EM HHs; 787 near poor EM HHs accounting for 18.19%. (i) 3 communes have no EM identified and specified;
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	To be provided
Is there a detailed worksheet for the EIRR		x	As above
Is it linked to the traffic forecast		x	As above

L. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.

Is there a clear design standard that is justified	✓		The proposed road is developed to category V mountainous road standard.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (a) the consistency of the total length of the proposed road subproject in the FS (11.883 km) while IP (11km and 11.85km). (b) Requires traffic count data to justify the proposed mountainous road category V. (c) the consistency of the total budget in the IP of US\$ 4,030,000 while the FS of US\$ 3,509,000. (f) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation. (g) Initial Environmental Examination and IOL and REMDP reports (h) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		x	<u>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for Resettlement.</u> <u>However, there is no IOL at this stage which is required to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.</u>
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits. 1. The road for transportation and development of raw material areas in Nghia Dan district, Nghe An province is the main axis road, a transport arterial to connect communes to the central areas in the district. This road is used to transport agricultural commodity agricultural goods of a region rich in agricultural resources to the neighborhood and vice versa. However, with increasing traffic density, more and more goods and commodities are transported on the road, the load is increasing and the road itself has deteriorated, and is seriously damaged. 2. The road will connect the existing provincial roads and existing national roads, thus creating links among the regions. 3. The road will contribute to improve the technical infrastructure of Nghia Minh, Nghia Hong, Nghia Phu, Nghia Tho and Nghia Loi communes to help exchange food, agricultural products, cultural exchanges, commodity exchanges with localities in the province, at home and abroad, and creating the driving force for promoting socio-economic development. 4. The direct beneficiaries of the project are expected about 20,000 people, including Nghia Minh (7,466 people), Nghia Hong (5,168 people), Nghia Phu (2,995 people), Nghia Tho (3,374 people), Nghia

			<p>Loi (4,384 people). In addition, beneficiaries indirectly from the project also have people in Nghia Tinh, Nghia Yen, Nghia Binh, Nghia Lac, Thai Hoa town.</p> <p>5. The proposed road subproject will complete the transport network</p> <p>6. Construction of this road will provide connectivity between 3 communes: Nghia Minh, Nghia Hong, Nghia Mai, Ngha Dan district, rather than being intended for through traffic.</p>
Is the project expected to achieve a 9% EIRR	✓		Details to be provided

M. Road Map

Road Section 1



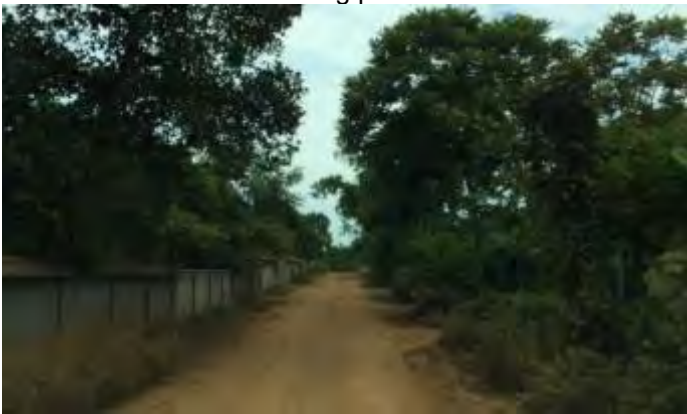
N. Road Sections Chainage Photos



Section 1: Starting point at Km0+00



Section 1: Starting point at Km0+100



Section 1: at Km0+300



Section 1: at Km0+600



Section 1: at Km0+750



Section 1: at Km0+750



Section 1: End point at Km2+150



Section 1: End point at Km2+150



Section 2: Starting point at Km0+0.00



Section 2 starting point at Km0+0.00



Section 2 at Km0+500



Section 2 at Km0+700



Section 2 at Km1+150



Section 2 at Km1+150



Section 2 at Km2+200



Section at Km2+250



Section 2 at Km2+700



Section 2 at Km2+900



Section 2 at Km3+500



Section 2 at Km4+0.00



Section 2 at Km6+50



Section 2 at Km6+50



Section 2 at Km8+00



Section 2 at End point at Km9+750

XVII. SUBPROJECT 3 THANH CHUONG DISTRICT ROAD

A. Subproject description

155. The road connects the provincial road 533, Thanh Chuong district with Ho Chi Minh road and Western districts of Nghe An province. Total length of 10km.

- (i) Starting point Km0+0,00 connects to NR46C at km 106+600 in Thanh Lien commune, Thanh Chuong district.
- (ii) End point: Km10+300 connects to HCM Trail at km725+200 in Hanh Lam commune, Thanh Chuong district.
- (iii) The proposed road passes through 3 communes: Thanh Lien, Thanh My, and Hanh Lam, Thanh Chuong district, Nghe An province.

156. Road alignment was approved in the masterplan for PR533 under Decision No. QĐ60/2009/QĐ-UBND dated 30/6/2009; starting point connects to NR46C follows the existing asphalt road with width of 3-3,5m. The road is seriously degraded; end point connects to HCM Trail, the road goes through 3 communes Thanh Lien, Thanh My, and Hanh Lam, Thanh Chuong district. The total length of the road is 10km.

B. The Existing Status

- (i) Section from NR46C to HCM Trail follows the existing road, the current road category is mountainous road IV category with $B_{nen}=5-6m$, $B_{mat}=3,5m$. The BTS road is deteriorated, many sections are seriously degraded with large potholes and peeled sections, is extremely difficult for travel in the wet/rainy season. Both sides of the road are paddy fields and residential local people who live along the road.
- (ii) Section from Km0+00 - Km2+00: the road follows the existing road. Both sides of the road are paddy fields. The asphalt gravel road is severely damaged, making travel very difficult in the rainy season. On the section with Am Ly bridge Km1 + 765.51 with a 5 meter aperture is not enough for drainage.



- (iii) From Km2 + 0.00 to Km5 + 0.00: the road is seriously damaged, is extremely difficult for vehicles to travel in the wet season and the poor road condition makes connectivity often severed. Both sides of the road are paddy fields, sparsely populated. Hoi Moi bridge at Km4 + 181.39 has been degraded. The section is flooded annually by the Giang River.
- (iv) From Km5 + 00 - Km6 + 00: the road follows the existing road. The macadam road is damaged; drainage systems are not fully invested, causing water on the road. Both sides of the road are the crowdedly residential areas.

- (v) From Km6 + 00 - Km10 + 300 routes follow the existing road. The macadam road with 3.5m wide is almost cracked, some positions have been shattered. The both sides of the road are mainly houses and forest trees. At the end of the intersection with the Ho Chi Minh trail is the crowdedly residential area.

C. Proposed Road Categorization:

157. The proposed road is proposed to be developed to mountainous road category IV (TCVN 4054-2005) with technical specifications as below: Design speed: $V_{TK} = 40\text{Km/h}$; Minimum horizontal curve radius: $R_{\min} = 60\text{m}$; Maximum vertical slope: $I_{\max} = 8\%$; Roadbed width: $B_{\text{nền}} = 7,5\text{m}$; Road surface width: $B_{\text{mặt}} = 5,5\text{m}$; Roadside width: $B_{\text{lề}} = 2 \times 1,0 = 2\text{m}$; $B_{\text{lềgc}} = 2 \times 0,5 = 1\text{m}$; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, $E_{yc} = 100\text{MPa}$. Overview of proposed works: the road subproject will construct 01 new bridge and 15 culverts of all types, and drainage works, protection works, and traffic systems.

D. Investment

- (i) Proposed investment \$ total: US\$ 4,430,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 443,000 /km.

E. Rationale

158. Stated need for road

- (i) The road is the axis road connecting the district center to the right bank (24 communes) connecting Ho Chi Minh road to the western districts of Nghe An such as Anh Son, Do Luong, Con Cuong and Tan Ky. The main axis road is very important in the district's strategy for border economic development and in the west of Nghe An province in general. At present, the road is still narrow and the road is frequently flooded in the rainy and flood season. The road surface is badly damaged, causing traffic congestion and transport of people's goods. The first 9km of the road to which the proposed road subproject is connected was built and expanded with a solid scale and asphaltic concrete (IV category mountainous roads). It is very necessary to synchronize and facilitate the full connectivity of the road.
- (ii) The proposed road subproject will advance the transport network according to the transport planning of the province and the district, thus creating conditions for the development of the road network in the route area. The subproject will complete the entire road linking the district center with the western part of Thanh Chuong district and the western districts of Nghe An.
- (iii) On the economic side, the project plays a very important role in creating favorable conditions for intra-regional exchanges and inter-provincial links.
- (iv) Construction of this road will provide connectivity between three communes: Thanh Lien, Thanh My, and Hanh Lam, Thanh Chuong district, rather than being intended for through traffic.

F. Summary of subproject site visits findings and FS review and recommendations

- (i) The proposed road follows the existing road connecting from NH46 to Ho Chi Minh road. The current road is mountainous road category VI with $B_{nen} = 5-6$ m; $B_{mat} = 3.5$ m with bitumen road.
- (ii) Along the road, 2 existing bridges identified are seriously degraded, with inadequate width and drainage apertures.
- (iii) There are 28 culverts of all types, most of which have apertures <0.75 m (21 culverts), many small culverts with a diameter of 20-30cm. On the route, the quantity and position of the culverts are suitable with the terrain, but the small aperture is not capable of draining, some sluices have been degraded, unable to withstand the force. More additional culverts are needed and increased drainage aperture.
- (iv) Section from Km4 + 00 to Km5 + 00 is flooded in the rainy season due to low embankment on the natural background, affected by the water level of Giang River, and often flooded about 0.5m above the road. It is recommended that design increases the level of fill as per adequate frequency.
- (v) From the starting point to km1 + 100: the proposed road alignment goes to the right of the existing road to ensure the extension of the one side, then to Km4 + 700: the road goes mainly coincide with the current road central line; adjusting/straightening some curved sections with small radius and deep abyss of the road.
- (vi) From Km4 + 700 - Km5 + 300, the road goes to the left of the existing road through the crowded residential area coinciding with the existing central line to reduce the resettlement impact on the houses of both sides of the road. Through the residential areas along the existing road widens the road to both sides to the end of the intersection with Ho Chi Minh Road.

Subproject road feature	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	at Km0+0,00 connects to PR 533 at Km14+00 in Thanh Liên commune, Thanh Chương district	Km0+0,00 connects to NR46C at km 106+600 in Thanh Lien commune, Thanh Chuong district.	Confirmed
End point	at Km10+300 connects to HCM Trail at km725+200 in Hanh Lam commune, Thanh Chuong district.	Confirmed	Confirmed
Length	10km (IP) 9,83KM (FS)	10km Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP and FS review, (a) the consistency of the total length of the proposed road subproject in the FS (9,83km) while IP (10km). (b) the consistency of the name of the starting point as the PR533 has become NH46C as confirmed by the district	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment. Proposed options for further discussions and final agreement.

		<p>authorities when the PPTA visited the site.</p> <p>(c) the consistency of the total budget in IP of 4,430,000USD and the FS of 5,167,383 USD.</p> <p>(f) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(g) the subproject involves some impacts on land acquisition of 0,98ha of garden lands, 2,14ha of agricultural land and 9ha of rice land.</p> <p>No HHs will be resettled.</p> <p>(h) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>	
Road category	<p>the proposed road is proposed to be developed to mountainous road category IV (TCVN 4054-2005) with technical specifications as below: Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: Imax = 8%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1,0 = 2m; Blềgc = 2x0,5 = 1m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A2, Eyc = 100MPa.</p>	Confirmed	Agreed
Proposed works	<p>1 bridge and 15 culverts of all types, and drainage works, protection works, and traffic systems to be constructed</p>	Confirmed	Confirmed

G. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>Decision No 620/QĐ-TTg dated on 12th May, 2015 on approval of socio-economic development planning in Nghe An province by 2020.</p> <p>Decision No. 728 / QĐ-TTg dated 28/4/2016 of the Prime Minister approving the list of PPTA "Basic Infrastructure for Inclusive Growth</p>

			Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 95 / QD-UBND dated 23/11/2010 of People's Committee of Nghe An province approving the planning of road connecting and connecting bypasses into 6 National highways (NH1A and 1A National Highway section bypass Vinh, National Highway 7, National Road 15, NH46. , Highway 48, Ho Chi Minh Road) in Nghe An Decision No. 5831 / QD.UBND-DTXD dated 06/12/2013 of People's Committee of Nghe An province on the approval of construction works investment project: Road from the center of Thanh Chuong district to Ban Ve hydropower plant resettlement site, Thanh Chuong district, Nghe An province; Decision No. 2882 / QD-UBND dated 22/6/2016 of the People's Committee of Nghe An province approving the list of subprojects under the project, "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017:
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		mountainous road category IV (TCVN 4054-2005) with technical specifications as below: Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: lmax = 8%; Roadbed width: Bnền = 7,5m; Road surface width: Bmặt = 5,5m; Roadside width: Blề = 2x1,0 = 2m; Blềgc = 2x0,5 = 1m; 15 years projected economic life of the subproject
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial and district transport masterplan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is mountainous road Cat IV towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Traffic count carried out in 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		At project start: section from Km0+00: 1,199 PCU/day/night and km8+00: 826PCU/days/nights at the economic life of the subproject (2033): from km0+00: 3022 PCU/day/night; and km8+00: 2019 PCU/day/night Consistent with Category IV
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat IV.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design		✓	Not sighted

12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing		✓	Not sighted
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent		x	No
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way (6,5m; some sections 8-9m) is sufficient for the proposed or required road design

H. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts on land acquisition of 0,98ha of garden lands, 2,14ha of agricultural land and 9ha of rice land. No HHs will be resettled.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget: 17.269.000.000 VND equivalent to USD 772,662
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		Land acquisition of 0,98ha of garden lands, 2,14ha of agricultural land and 9ha of rice land.
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No

B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified no issue from EARF that need to be addressed.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 3 communes in Thanh Chuong district: <ul style="list-style-type: none"> ▪ Thanh Lien, ▪ Thanh My, and ▪ Hanh Lam
Is the population data available	Yes	Thanh Chuong district's total population as of 2016 is 224,272 people (equivalent to 59,657 HHs). (i) Thanh Lien commune population as of 2016 is 8,992 people (2,005 HHs); (ii) Thanh My commune population is 7,938 people (1,893 HHs) (iii) Hanh Lam commune population is 6,265 people (1,395 HHs). The subproject will directly benefit totally 22,947 people including 3 communes, Thanh Lien, Thanh My, and Hanh Lam.
Is the number of Poor households available	Yes	Thanh Chuong district has 8,680 poor HHs accounting for 14.55% (i) (i) Thanh Lien commune has 170 poor HHs accounting for 8.48%; (ii) Thanh My commune has 344 poor HHs accounting for 18.17%; (iii) Hanh Lam commune has 103 poor HHs accounting for 7.38%.
Is the number of near poor households available	Yes	Thanh Chuong district has 8,797 near poor HHs accounting for 15.38% (i) (i) Thanh Lien commune has 188 near poor HHs accounting for 9.38%;

		(ii) Thanh My commune has 253 near poor HHs accounting for 13.37%; (iii) Hanh Lam commune has 213 near poor HHs accounting for 15.27%.
Are Ethnic minorities identified and specified	Yes	Thanh Chuong district's total EM population as of 2016 is 9,981 people (equivalent to 2,563 EM HHs); accounting for 4.45%; poor EM HHs of 1,983; % poor EM HHs of 22.85%; near poor EM HHs of 301 accounting for 3.42%. (i) 3 communes, Thanh Lien, Thanh My and Hanh Lam have no EM;
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

J. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR	✓		14.9%
Is there a detailed worksheet for the EIRR	✓		To be provided
Is it linked to the traffic forecast	✓		As presented above

K. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		The proposed road is developed to category IV mountainous road standard. On the other side of this road, the first 9km of the road to which the proposed road subproject is connected was built and expanded with a solid scale and asphaltic concrete (IV category mountainous roads). It is very necessary to synchronize and facilitate the full connectivity of the road.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (a) the consistency of the total length of the proposed road subproject in the FS (9,83km) while IP (10km). (b) the consistency of the name of the starting point as the PR533 has become NH46C as confirmed by the district authorities when the PPTA visited the site. (c) the consistency of the total budget in IP of 4,430,000USD and the FS of 5,167,383 USD. (f) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.

			(g) the subproject involves some impacts on land acquisition of 0,98ha of garden lands, 2,14ha of agricultural land and 9ha of rice land. No HHs will be resettled. (h) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits. The road is the axis road connecting the district center to the right bank (24 communes) connecting Ho Chi Minh road to the western districts of Nghe An such as Anh Son, Do Luong, Con Cuong and Tan Ky. The main axis road is very important in the district's strategy for border economic development and in the west of Nghe An province in general. The subproject will complete the entire road linking the district center with the western part of Thanh Chuong district and the western districts of Nghe An. On the economic side, the project plays a very important role in creating favorable conditions for intra-regional exchanges and inter-provincial links. Construction of this road will provide connectivity between three communes: Thanh Lien, Thanh My, and Hanh Lam, Thanh Chuong district, rather than being intended for through traffic.
Is the project expected to achieve a 9% EIRR	✓		12% based on the FS expectation however capital costing needs clarification

L. Road Map



M. Road Chainage Photos



Starting point: Km0+00 from NH46C



Starting point: Km0+00 from NH46C



Km0+00: intersection with NH46C and PR533 (formally called)



Km1+00: rice irrigation canal along the road section



Km1+0.00: irrigation culvert site



Km1+650



Km1+765.50: Am bridge



Km1+765.50: Am bridge seen from beneath



Km4+179.66: Hoi Met bridge deck and surface



Km4+179.66: Hoi Met bridge



Km4+750: culverts



Km4+750: road section above culvert



Km6+500 road surface degraded



Km6+800: damaged road surface



Km9+00



Km8+800: road surface damaged



Km10+100: degraded road surface



End point: Km10+300 intersecting with HCM Trail

XVIII. SUBPROJECT 4 ROAD NUMBER 5 CUA LO TOWN

A. Subproject description

159. Longitudinal axis road No. 5 Cua Lo town subproject. Total length of 6.20km. Longitudinal axis road of Cua Lo town is currently not yet formed.

- (i) Starting point Km0 + 0.00 connects to the planned horizontal axis 4 at the planning point No. 23 in Cua Lo town, Nghe An province;
- (ii) End point Km6 + 200 connects to provincial road PR535, this is also the planned horizontal axis road No. 23, at the planning point No. 122 in Nghi Hoa Ward, Cua Lo town, Nghe An province.
- (iii) Road alignment was approved under Decision No. 4181 / QĐ-UBND-CN dated 25/09/2008 by Nghe An People's Committee.

B. The Existing Status

160. Longitudinal axis road of Cua Lo town is not formed. The topography of the two sides of the road consists of residential area and agricultural crops. The total length of the road is 6.20km.

161. The proposed road passes through urban residential sites and seafood processing village, tourism business facilities, intersecting with the horizontal axis. Currently, pavement is degraded with width of 4-5m. Drainage system is covered. Some vehicles such as small cars, bikes, non-motorized vehicles almost cannot move on the road.

C. Proposed Road Categorization

162. The proposed road section is proposed to be developed to secondary-urban main road scope, construction condition is category II (in accordance with Standard of Vietnam 104-2007) with the following specifications: Design speed: $V=50\text{Km/h}$; Design frequency $P=10\%$; Minimum horizontal curve radius: $R_{\text{Min}} \geq 125\text{m}$; Maximum longitudinal gradient: $i_{\text{max}}= 4\%$ (for non-motorized vehicles passing through bridge); Minimum convex curve radius: $R_{\text{convex}} = 3000\text{m}$; Minimum sag curve radius: $R_{\text{sag}} = 2000\text{m}$. Width of cross-section: $B=8.0+14.0+8.0=30.0\text{m}$ (roadbase is 30.0m; Road pavement is $2 \times 7,0\text{m}$ and side walk is $2 \times 8.0\text{m}$; Cross-slope of road pavement is 2%, Sidewalk is 4%; Talus of excavated roadbase: 1/1.0; Talus of backfilled roadbase: 1/1.5; Required elastic modulus: $E_{yc} \geq 155\text{Mpa}$; Structure of road pavement: Asphalt concrete road A1. Overview of proposed works: the road subproject will construct drainage works, protection works, and traffic systems.

D. Investment

- (i) Proposed investment \$ total: US\$ 12,790,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 2,062,903 /km.

E. Rationale

163. Stated need for road is linked to tourism development and coastal fisheries development:

- (i) Cua Lo town is a grade III urban area, close to the coast of southeastern Nghe An province with the area of 4,935.5 ha.

- (ii) Cua Lo town's geographical location is adjacent to the East Sea, the East-South economic zone to the northeast, Nghi Loc district to the North, Vinh city to the South and Nghi Xuan district to the Lam river, Ha Tinh. Cua Lo town connects Vinh City, the Southeast Economic Zone, a gateway to the economic and cultural center of the North Central region. With the provinces in the country and internationally by the North-South or East-West axis, especially Cua Lo port, one of the major ports of Central Vietnam, is important for the development of Cua town and Nghe An province.
- (iii) Construction of this urban road based on Cua Lo town masterplan will provide connectivity between Cua Lo town and PR535, rather than being intended for through traffic.

F. Summary of subproject site visits findings and FS review and recommendations

164. There is not yet a preliminary design document (prefeasibility study report) with supporting engineering field surveys and drawings when the PPTA consultants were conducting the screening and site visit to the additional subproject. The local consultant and Cua Lo town officers just presented the town masterplan and a concept. The local consultant and town officers confirmed that they would send the FS report as soon as possible for the PPTA's review.

165. The subproject involves substantial residential and urban land acquisition.

166. Given the total length of 6.20km (urban road category), the cost estimate is extremely high (US\$ 2,062,903 /km). This will be very hard to justify the eligibility of the subproject re. the EIRR. The PPTA strongly recommended that the DPI and local consultant have the complete FS report for further review.

Subproject road feature	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	Km0 + 0.00 connects to the planned horizontal axis 4 at the planning point No. 23 in Cua Lo town, Nghe An province;	Confirmed	Confirmed
End point	Km6 + 200 connects to provincial road PR535, this is also the planned horizontal axis road No. 23, at the planning point No. 122 in Nghi Hoa Ward, Cua Lo town, Nghe An province.	Confirmed	Confirmed
Length	6.20 km (IP)	6.20km Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP review, (a) the consistency of the total length of the proposed road subproject. (b) requires traffic count data to justify the road category (c) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation. (d) Initial Environmental Examination and IOL and REMDP reports	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment. Proposed options for further discussions and final agreement.

		(e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross-section drawings, total project investment budget.	
Road category	the proposed road is proposed to be developed to secondary-urban main road scope, construction condition is category II (in accordance with Standard of Vietnam 104-2007) with the following specifications: Design speed: V=50Km/h; Design frequency P=10%; Minimum horizontal curve radius: R _{Min} ≥ 125m; Maximum longitudinal gradient: i _{max} = 4% (for non-motorized vehicles passing through bridge); Minimum convex curve radius: R _{convex} = 3000m; Minimum sag curve radius: R _{sag} = 2000m. Width of cross-section: B=8.0+14.0+8.0=30.0m (roadbase is 30.0m; Road pavement is 2x7,0m and side walk is 2x8.0m; Cross-slope of road pavement is 2%, Sidewalk is 4%; Talus of excavated roadbase: 1/1.0; Talus of backfilled roadbase: 1/1.5; Required elastic modulus: E _{yc} ≥ 155Mpa; Structure of road pavement: Asphalt concrete road A1.	Confirmed	Agreed
Proposed works	To be determined in the FS	Confirmed	Confirmed

G. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No 620/QĐ-TTĐ dated on 12th May, 2015 on approval of socio-economic development planning in Nghe An province by 2020. Decision No. 728 / QĐ-TTĐ dated 28/4/2016 of the Prime Minister approving the list of PPTA "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 95 / QĐ-UBND dated 23/11/2010 of People's Committee of Nghe An province approving the planning of road connecting and connecting bypasses into 6 National highways (NH1A and 1A National Highway section bypass Vinh, National Highway 7, National Road 15, NH46. , Highway 48, Ho Chi Minh Road) in Nghe An

			<p>Decision No. 5831 / QD.UBND-DTXD dated 06/12/2013 of People's Committee of Nghe An province on the approval of construction works investment project: Road from the center of Thanh Chuong district to Ban Ve hydropower plant resettlement site, Thanh Chuong district, Nghe An province;</p> <p>Decision No. 2882 / QD-UBND dated 22/6/2016 of the People's Committee of Nghe An province approving the list of subprojects under the project, "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).</p>
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017:
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		<p>secondary-urban main road scope, construction condition is category II (in accordance with Standard of Vietnam 104-2007)</p> <p>20 years projected economic life of the subproject</p>
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		<p>The proposed designed standard is derived from the provincial and district transport masterplan for districts.</p> <p>The current road standard on each end point is asphalt concrete road and the network connection now and planned is urban road Cat II towards 2030.</p> <p>No traffic forecast provided</p>
6: is the date of traffic forecast or base traffic forecast after 2015		x	Not done yet
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject		x	Not done yet
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.		x	Not done yet
9: Is the Preliminary design already approved by DoT		x	Not done yet
10: Is the preliminary design already approved by PPC		x	not applicable
11: Is there a bill of quantities with the preliminary design		x	no
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing		x	no
13: Are there significant structures required – if yes please identify		x	No
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent		x	No
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit (section 1), the current Right of Way is sufficient for the proposed or required road design

H. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Substantial
	Urban Public Land	✓		Substantial
	Urban Private Land	✓		Substantial
A.2 Structures	Private houses	✓		Substantial
	Private other	✓		Extent
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves impacts on residential and urban land acquisition. More than a dozen of urban/town HHs will be affected.
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Not available yet
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		x	No
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		The field visit identified no issue from EARF that need to be addressed.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	No	▪ No communes/wards identified
Is the population data available	No	Not done yet

Is the number of Poor households available	No	As above
Is the number of near poor households available	No	As above
Are Ethnic minorities identified and specified	No	As above
Is land use specified	Not yet	As above
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

J. Economic Assessment

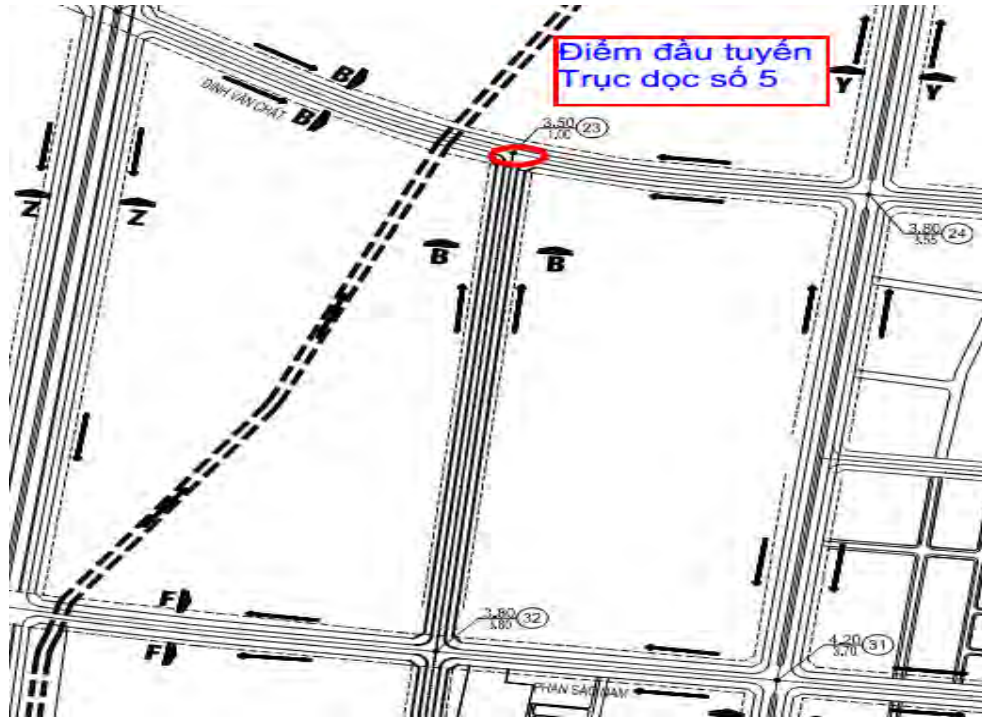
Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not done yet
Is there a detailed worksheet for the EIRR		x	As above
Is it linked to the traffic forecast		x	As above

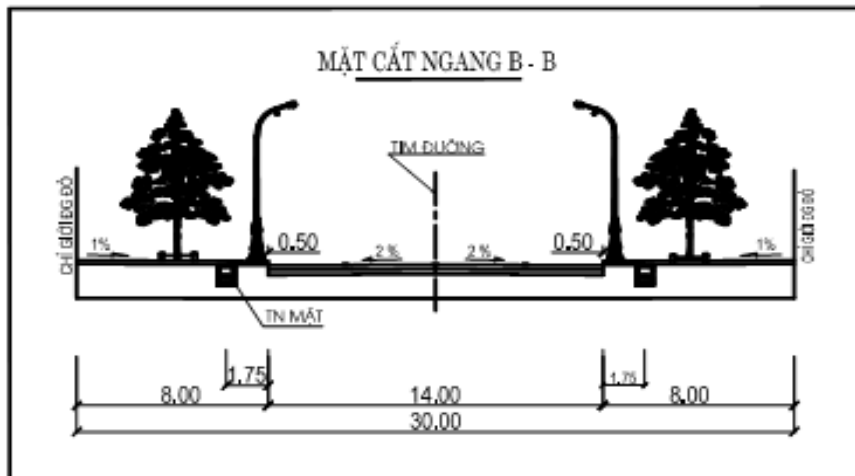
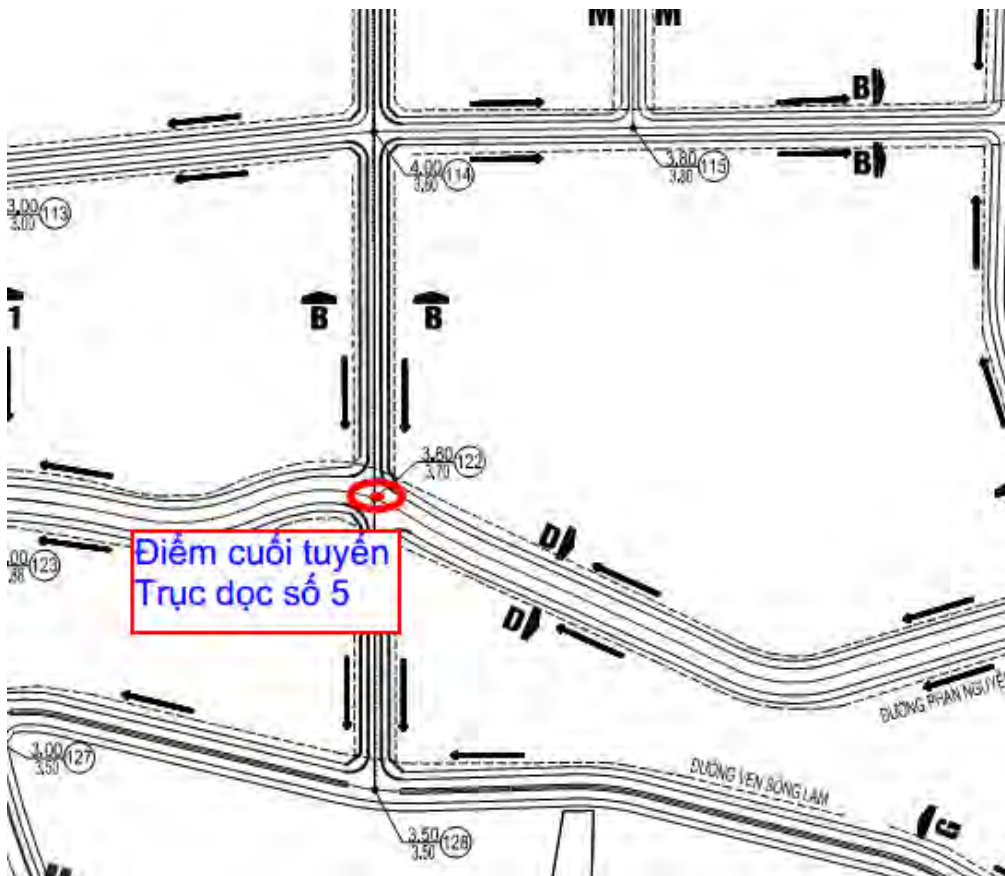
K. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified		x	The proposed road is developed to secondary-urban main road scope, construction condition is category II (in accordance with Standard of Vietnam 104-2007) following the two masterplan to 2030.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP review, (a) the consistency of the total length of the proposed road subproject. (b) requires traffic count data (c) Initial Environmental Examination and IOL and REMDP reports (d) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design		x	There is not yet a preliminary design
Is there a Feasibility study		x	There is not yet a Feasibility study
Is the Subproject category A for resettlement and affected persons	??	??	<u>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category A or B for substantial Resettlement. However, to confirm cat A or B for resettlement, it requires a full IOL and REMDP in the FS.</u>

Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes		x	As per the PPTA consultant's subproject field visit assessment, the Subproject has no clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <ol style="list-style-type: none"> 1. Cua Lo town is a grade III urban area, close to the coast of southeastern Nghe An province with the area of 4,935.5 ha. 2. Cua Lo town's geographical location: The East Sea borders the East, the East-South economic zone to the northeast, Nghi Loc district to the North, Vinh city to the South and Nghi Xuan district to the Lam river, Ha Tinh. Cua Lo town has a favorable geographic location, connecting Vinh City, the Southeast Economic Zone, which is defined as a gateway, economic and cultural center of the North Central region. With the provinces in the country and internationally by the North-South or East-West axis, especially Cua Lo port, one of the major ports of Central Vietnam, is important for the development of Cua town and Nghe An province. 3. Construction of this urban road based on Cua Lo town masterplan will provide connectivity between Cua Lo town and PR535, rather than being intended for through traffic.
Is the project expected to achieve a 9% EIRR		x	Not done yet but there are concerns about the high capital cost

L. Road Map





M. Road Sections Chainage Photos



Starting point: Km0+00 from the horizontal axis road No. 4



horizontal axis road No. 4



Km0+100



Km0+200



Km0+400



Km0+500



Km1+00



Km1+450



Km1+450



Km1+420



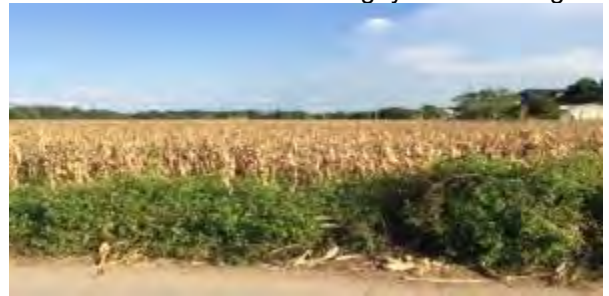
Km1+500



Km1+500 intersects with Nguyễn Sinh Cung



Km1+800



Km2+00



Km2+500



Km3+200



Km3+700



Km3+800



Km5+500



End point Km6+200

XIX. SUBPROJECT 5 : N7 URBAN ROAD

A. Description

167. **Construction of Urban Horizontal Road N7 and Two Heads of Hieu 2 Bridge, Thai Hoa Town Subproject.** Total length of 2.65km of new road under the detailed plan of building the center of Thai Hoa town, at No.3650 / QĐ.UBND-CN, 17/10/2005 approved by Nghe An People's Committee Nghe An. The planned road goes through agricultural and residential land areas in Thai Hoa town.

168. Section one: - Urban horizontal road N7 in Thai Hoa town:

- (i) Starting point: km0 + 00 intersects with NH 48.
- (ii) End point: Km1 + 200 intersect with D1, Long Son Ward, Thai Hoa Town. Total length L = 1.2km.

169. Section two - Urban road to Hieu 2 River head road in Thai Hoa town:

- (i) Starting point: from NH48 at km0+997.57.
- (ii) End point: km0+00 – km0+620: at intersection site with N8 horizontal axis road. Total length L = 0.62km.

170. Road alignment was approved in by Decision 3650 / QĐ.UBND-CN, dated 17/10/2005 of Nghe An People's Committee. The total length of the road is 1.82km.

B. Existing Status

- (i) Urban horizontal road N7 in Thai Hoa town: The road is not formed. The proposed new road construction investment under planning from NH48 to the intersection with the longitudinal road D1; Topography of the two sides of the road is the residential area and agricultural fields. The end point of the road has cleared the site and the road base was constructed. The length of the section is 1.20 km.
- (ii) Urban road to Hieu 2 River head road in Thai Hoa town: The road is not formed. The new proposed road construction investment was planned from NH 48D to the intersection with the horizontal road N8. Topography of the two sides is the residential area and horticultural land areas with industrial crops such as eucalyptus and acacia. The length of the section is 0.62 km.

C. Proposed Road Categorization:

- (i) Urban horizontal road N7 in Thai Hoa town: the proposed road section is proposed to be developed to urban road category IV (TCXDVN 104-2007) with technical specifications as below: Design speed: $V_{TK} = 50\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 80\text{m}$; Maximum vertical slope: $I_{max} = 7\%$; Roadbed width: $B_{n\grave{e}n} = 24,0\text{m}$; Road surface width: $B_{m\grave{a}t} = 2 \times 6,0 = 12,0\text{m}$; Roadside width: $B_{h\grave{e}p h\acute{o}} = 2 \times 6,0 = 12,0\text{m}$; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A1, $E_{yc} = 120\text{MPa}$.
- (ii) Urban road to Hieu 2 River head road in Thai Hoa town: the proposed road section is proposed to be developed to main secondary urban road standards (TCXDVN 104-2007) with the following main standards: Design speed: $V_{KT} = 60\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 125\text{m}$; Maximum vertical slope: $I_{max} = 6\%$; Roadbed width: $B_{n\grave{e}n} = 52,0\text{m}$; Road surface width: $B_{m\grave{a}t} = 2 \times 15 = 30,0\text{m}$; Roadside width: $B_{h\grave{e}p h\acute{o}} = 2 \times 8,0 = 16,0\text{m}$; $B_{barrier} = 6,0\text{m}$. The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A1, $E_{yc} = 120\text{MPa}$.

D. Investment

171. The level of investment proposed is:

- (i) Proposed investment \$ total: US\$ 8,810,000 (taken from the IP)
- (ii) Proposed investment \$ /km: US\$ 3,324,528 /km.

E. Rationale

172. Stated need for road

- (i) The development of Thai Hoa Town must be in line with the Socio-Economic Development Master Plan of Nghe An Province to 2020 in Decision No. 620 / QD-TTg dated 12 May 2015 of the Prime Minister approving the Revise the master plan for socio-economic development of Nghe An province to 2020; Decision No. 2355 / QD-TTg of the Prime Minister approving the socio-economic development project in Western Nghe An region up to 2020.
- (ii) To invest in the development of transport infrastructure linking points, residential areas and urban areas from N6 through Nghia Hoa through agricultural production areas in Nghia

Thuan, Nghia Hieu and Tay Hieu.....with Dong Hieu farm tourism site creates an inner city road connecting to the tourist routes in the region and the region.

- (iii) The road passes through urban residential sites and seafood processing trade village, tourism business facilities, intersecting with invested horizontal axis. Currently, pavement is degraded with width of 4-5m. Drainage system is covered. Some vehicles such as small cars, bikes, non-motorized vehicles almost cannot move on the road. Two ends of Hieu 2 bridge will connect to Hieu 2 bridge after completion, ensuring the need for local and regional traffic connection.
- (iv) Construction of these urban road sections based on Thai Hoa town masterplan will provide connectivity between two heads of Hieu River and the main axis road in Thai How town, rather than being intended for through traffic.

F. Summary of subproject site visits findings and FS review and recommendations

173. There is not yet a preliminary design document (prefeasibility study report) with supporting engineering field surveys and drawings when the PPTA consultants were conducting the screening and site visit to the additional subproject. The local consultant and Thai Hoa town officers just presented the town masterplan and a concept. The local consultant and town officers confirmed that they would send the FS report as soon as possible for the PPTA's review.

174. The proposed two urban road section alignments are not yet approved.

175. The subproject involves substantial residential land acquisition and a dozen of town and urban houses reallocated.

176. Given the total length of 2.65km (urban road category) vs the cost estimate is extremely high (US\$ 3,324,528 /km). This will be very hard to justify the eligibility of the subproject re. the EIRR.

Subproject road feature	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	(i) Urban horizontal road N7 in Thai Hoa town: - km0 + 00 intersects with Highway 48Km. (ii) Urban road to Hieu 2 River head road in Thai Hoa town: - from NH48 at km0+997.57.	Confirmed	Confirmed
End point	(i) Urban horizontal road N7 in Thai Hoa town: - Km1 + 200 intersect with D1, Long Son Ward, Thai Hoa (ii) Urban road to Hieu 2 River head road in Thai Hoa town: - km0+00 – km0+620: at intersection site with N8 horizontal axis road.	Confirmed	Confirmed

Length	2.65km (IP)	<p>1.82km</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP review,</p> <p>(a) the consistency of the total length of the proposed road subproject in the IP (2.65km) while the PPTA and site findings (1.82km).</p> <p>(b) requires traffic count data to justify the proposed road category</p> <p>(c) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(d) the subproject involves substantial impacts on total residential and urban land acquisition of section 1: 32,240m² and section 2: 28,800 m².</p> <p>More than a dozen of urban/town HHs will be resettled.</p> <p>(e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>	<p>DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.</p> <p>Proposed options for further discussions and final agreement.</p>
Road category	<p>the proposed road is proposed to be developed to</p> <p>(i) Urban horizontal road N7 in Thai Hoa town: the proposed road section is proposed to be developed to urban road category IV (TCXDVN 104-2007) with technical specifications as below: Design speed: VTK = 50Km/h; Roadbed width: Bnền = 24,0m; Road surface width: Bmặt = 2x6,0=12,0m; Roadside width: Bhèphố = 2x6,0 = 12,0m; Asphalt concrete road A1, Eyc = 120MPa.</p> <p>(ii) Urban road to Hieu 2 River head road in Thai Hoa town: the proposed road section is proposed to be developed to main secondary urban road standards (TCXDVN 104-2007) with the following main standards: Design speed: VKT = 60Km/h; Roadbed width: Bnền =52,0m; Road surface width: Bmặt = 2x15=30,0m; Roadside width: Bhèphố = 2x8,0 = 16,0m; Bbarrier = 6,0m. Asphalt concrete road A1, Eyc = 120MPa.</p>	Confirmed	Agreed

Proposed works	To be determined in the FS	Confirmed	Confirmed
----------------	----------------------------	-----------	-----------

G. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>Decision No 620/QĐ-TTg dated on 12th May, 2015 on approval of socio-economic development planning in Nghe An province by 2020.</p> <p>Decision No. 728 / QĐ-TTg dated 28/4/2016 of the Prime Minister approving the list of PPTA "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 95 / QĐ-UBND dated 23/11/2010 of People's Committee of Nghe An province approving the planning of road connecting and connecting bypasses into 6 National highways (NH1A and 1A National Highway section bypass Vinh, National Highway 7, National Road 15, NH46. , Highway 48, Ho Chi Minh Road) in Nghe An</p> <p>Decision No. 5831 / QĐ.UBND-DTXD dated 06/12/2013 of People's Committee of Nghe An province on the approval of construction works investment project: Road from the center of Thanh Chuong district to Ban Ve hydropower plant resettlement site, Thanh Chuong district, Nghe An province;</p> <p>Decision No. 2882 / QĐ-UBND dated 22/6/2016 of the People's Committee of Nghe An province approving the list of subprojects under the project, "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).</p>
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017:
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		<p>(i) Urban horizontal road N7 in Thai Hoa town: the proposed road section is proposed to be developed to urban road category IV (TCXDVN 104-2007);</p> <p>(ii) Urban road to Hieu 2 River head road in Thai Hoa town: the proposed road section is proposed to be developed to main secondary urban road standards (TCXDVN 104-2007)</p> <p>20 years projected economic life of the subproject</p>
5: Proposed design standard derived from (i) plan, (ii) traffic	✓		The proposed designed standard is derived from the provincial and district transport masterplan for districts.

forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned			The current road standard on each end point is asphalt concrete road and the network connection now and planned is urban road Cat IV towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015		x	Not done yet
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject		x	Not done yet
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.		x	Not done yet
9: Is the Preliminary design already approved by DoT		x	Not done yet
10: Is the preliminary design already approved by PPC		x	As above
11: Is there a bill of quantities with the preliminary design		x	As above
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing		x	As above
13: Are there significant structures required – if yes please identify		x	No
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent		x	No
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit (section 1), the current Right of Way is sufficient for the proposed or required road design while section 1 involves substantial residential and urban land acquisition

H. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Substantial
	Urban Public Land	✓		Substantial
	Urban Private Land	✓		Substantial
A.2 Structures	Private houses	✓		Substantial
	Private other	✓		Extent
	Public Structures	✓		extent

A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves substantial impacts on total residential and urban land acquisition of section 1: 32,240m ² and section 2: 28,800 m ² . More than a dozen of urban/town HHs will be resettled.
A.5	Is there a Land Acquisition and compensation budget – if yes how much		x	Not available yet
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		x	No
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		the field visit identified no issue from EARF that need to be addressed.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	No	▪ No communes/wards identified
Is the population data available	No	Not done yet
Is the number of Poor households available	No	As above

Is the number of near poor households available	No	As above
Are Ethnic minorities identified and specified	No	As above
Is land use specified	Not yet	As above
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

J. Economic Assessment

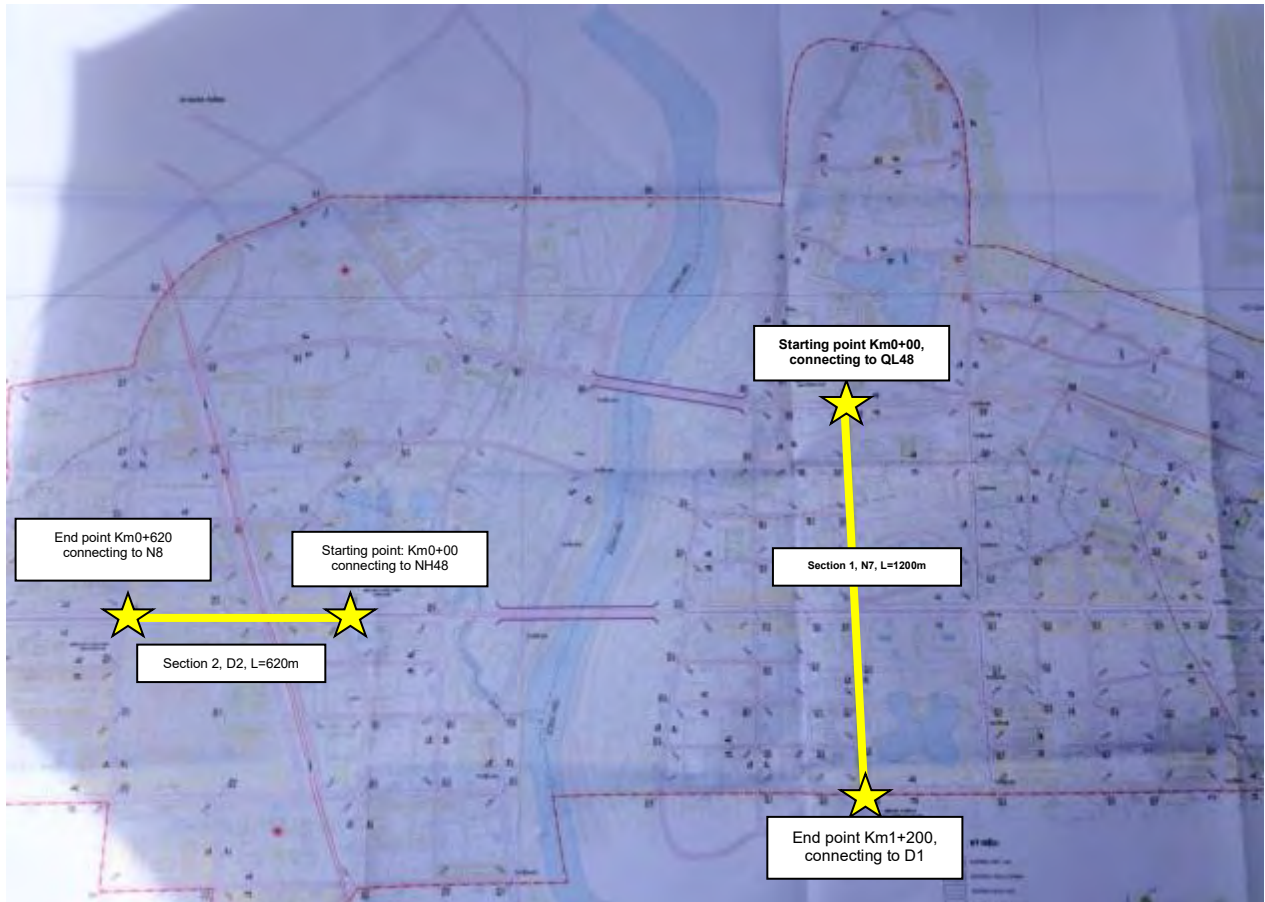
Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not done yet
Is there a detailed worksheet for the EIRR		x	As above
Is it linked to the traffic forecast		x	As above

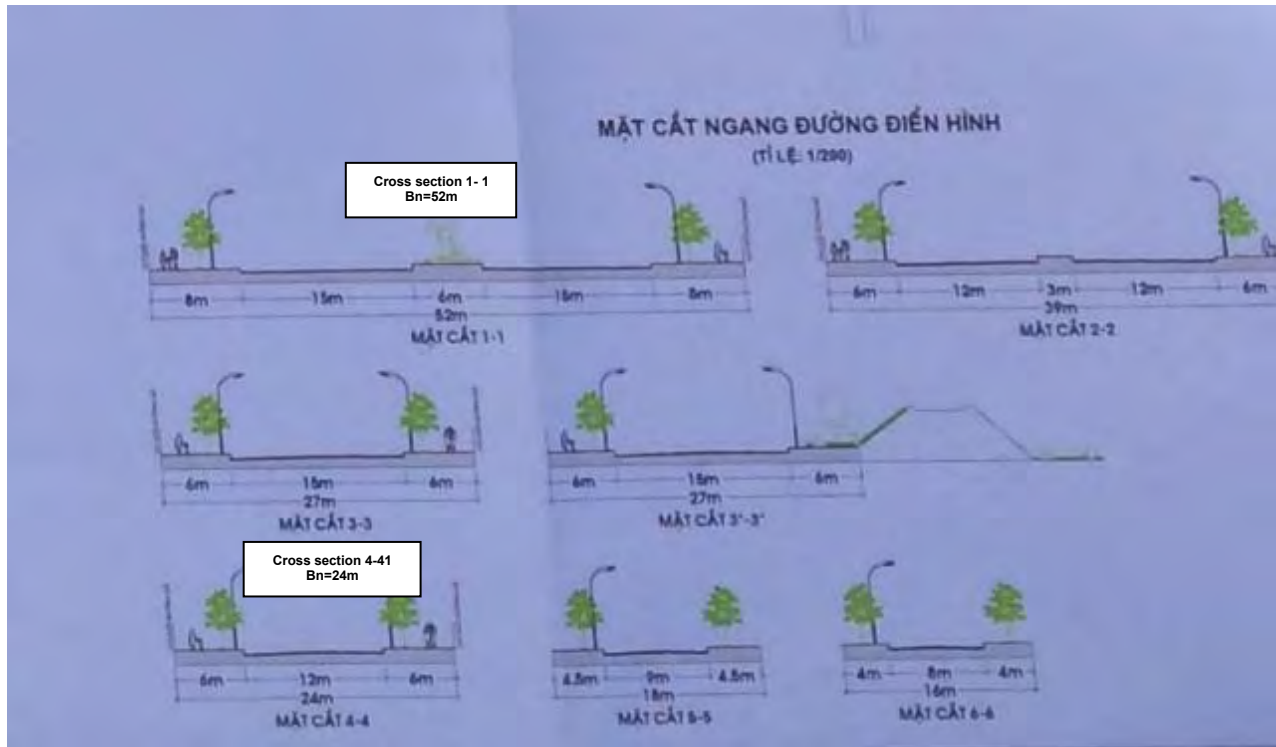
K. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Masterplan as well as FNCP Master Plan.
Is there a clear design standard that is justified		x	The proposed road is developed to category IV urban road standard following the two masterplan to 2030.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP review, (a) the consistency of the total length of the proposed road subproject in the IP (2.65km) while the PPTA and site findings (1.82km). (b) requires traffic count data (c) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation. (d) the subproject involves substantial impacts on total residential and urban land acquisition of section 1: 32,240m ² and section 2: 28,800 m ² . More than a dozen of urban/town HHs will be resettled. (e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design		x	There is not yet a preliminary design
Is there a Feasibility study		x	There is not yet a Feasibility study
Is the Subproject category A for resettlement and affected persons	??	??	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category A or B for substantial Resettlement. However, to confirm cat A or B for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.

Does the Subproject have clear economic inclusiveness outcomes		x	As per the PPTA consultant's subproject field visit assessment, the Subproject has no clear economic inclusiveness outcomes The high cost will be difficult to justify
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>The road passes through urban residential sites and seafood processing trade village, tourism business facilities, intersecting with invested horizontal axis. Currently, pavement is degraded with width of 4-5m. Drainage system is covered. Some vehicles such as small cars, bikes, non-motorized vehicles almost cannot move on the road. Two ends of Hieu 2 bridge will connect to Hieu 2 bridge after completion, ensuring the need for local and regional traffic connection.</p> <p>Construction of these urban road sections based on Thai Hoa town masterplan will provide connectivity between two heads of Hieu River and the main axis road in Thai How town, rather than being intended for through traffic.</p> <p>In addition to the socio-economic development rationales, this subproject also contributes to the overall development of the road network in Nghe An and the FNCP region alike.</p>
Is the project expected to achieve a 9% EIRR		x	Not done yet

L. Road Map





M. Road Sections Chainage Photos



Section 1 – Road N7, Km0+00 connecting to NH48



Section 1 – Road N7, Km0+00 connecting to NH48



Section 1 – Road N7, Km0+00 connecting to NH.48



Section 1 – Road N7, Km0+400



Section 1 – Road N7, connecting to longitudinal road D2, Km0+600



Section 1 – Road N7, Km0+600



Section 1 – Road N7, Km0+900



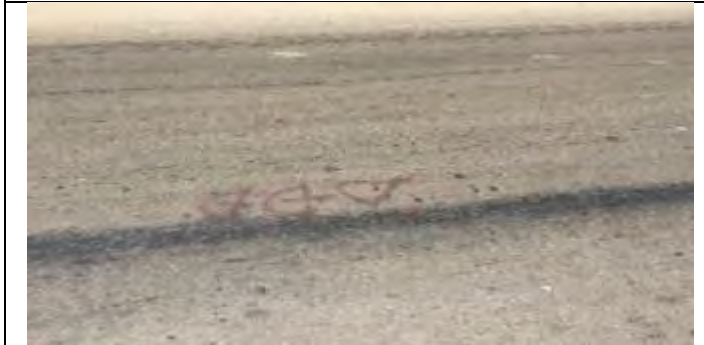
Section 1 – Road N7, Km1+200



Section 1 – Road N7, Km1+200



Section 1 – Road N7, Km1+200



Section 2 – Hieu 2 river head road at Km0+00 connecting to NH48D



Section 2 – Km0+50.00



Section 2 – Km0+00 connecting to NH48D



Section 2 – Km0+80



Section 2 – Km0+200



Section 2 – Km0+250



Section 2 – Km0+300



Section 2 – Km0+300



Section 2 – Km0+400



Section 2 End point – Km0+620 connecting to N8

XX. OUTPUT 2: SUBPROJECT 1 PHUC THO EMBANKMENT

A. Description

177. Phuc Tho Commune River Embankment / Dyke on Lam River, – 1.8 km Embankment (planned with 3.5 m Rural Road Class A). in Nghi Loc (District)

	New	Upgrade
Name of water way	Lam River	No
Length of works (meters)	1.8 km - along the edge of the Song Lam river, creating a polder for the Phuc Tho commune villages (Xom 4, 5 and 6) of about 500 houses.	
Is this part of a bigger protection network	Yes – but a parallel section to create the polderisation of a developing peri-urban area (50 ha)	
Purpose		
(i) transport connectivity - is there a road on top? is this the primary purpose?	Road is planned but assessed as not necessary for access. Road would provide an alternative access route, but the increased costs brings no additional benefit to those protected from river induced flood.	PPTA Suggested to remove road to save costs due to limited benefit
(ii) flood protection avoiding losses – if yes then what is the scale of losses, who is bearing cost of losses, what is being lost	Yes – to the older properties with low floor levels close to the river. Newer properties have purposely built floor above expected flood level.	The level of new development in the urban area raises significant doubt with respect to the cost of flooding to residents
Area being protected (ha)	50 ha; approximately 70% urban, 30% agriculture and aquaculture	
Maximum flood events (frequency)	1 in 20 year;	FS states an inundation area of 1,100 ha, which is significantly greater (factor of 20) than the area being protected.
Mean Flood event (ha)	1 in 2 year event, typical flood area is X ha	Can't be derived based on above.
Typical number of times flooding may occur each yr	No information	
Frequency of maximum flood event observed to date	1 in 20 year adopted	No data provided.
Cost of flooding		
Lives lost in last five years	No data	
Dwelling lost in last 5 years	No data	
Dwelling flooded in last five years – number by duration	No separate data for the specific protected area.	
Cropland flooded in last five years ha by duration	No separate data for the specific protected area.	Land use is changing from agriculture to residential – progressive.
Project area		
Number of communes	One - Phuc Tho	
Population	About 1,700	

	New	Upgrade
Number of dwellings	About 500 houses, where perhaps 40% (new) have elevated floor levels.	
Area of Cropland (ha)	About 10 ha (best estimate)	
Area of Aquaculture (ha)	Up to about 6 ha (best estimate) in two large ponds and some smaller ponds.	
Agriculture Land use	Peanuts, rice, vegetables	
Public infrastructure protected	slipways, 5 pagodas/temples, 1 fishing boat yard and other services	

B. Proposed works

- (i) New embankment adjacent to/on river bank
- (ii) Associated infrastructure – outlet drains and sluices, steps, low level landside community road upgrade and access for fishing boats and boat building yard.

C. Investment

- (i) Proposed investment \$ 4.16 million total (with road) – no data available on cost without road.
- (ii) Proposed investment \$ 2,310 / m of embankment (with road) – no data available on cost without road.
- (iii) Proportion (not available %) of cost that is embankment & proportion (not available %) that is road/other

D. Rationale

178. There is an existing dike in the main road to/through Phuc Tho commune, alongside the Lam River. This new embankment will protect a rural/peri-urban village area located on the river side of the existing dike/road. The new embankment section will enclose the village area and protect it from high tide induced river floods.

- About 40% of 500 houses = 200, equivalent people = 680, crops (10 ha) and livelihoods, public assets (5 temples, 1 boat yard, slipways) are to be protected.
- Up to 1,700, but directly about 1,000 (60%).

179. Reduced risk of flooding

- (i) without project – high tides with climate change, plus occurrence with large flood flows in the river (wet season and other intense storm occasions – say 4 to 5 each year, duration 2 to 5 days.
- (ii) with project scenario (as above but in this case, protection mitigates impacts, keeps area free from floods up to 1 in 20 year events.

180. Social Benefits – who will benefit most, how will poor or marginalized benefit, benefit to ethnic minorities, female headed households, young, elderly and females – no specific data given in feasibility study, data has been requested.

E. Climate Change

- Is climate change factored into the embankment design? **Yes** stated
- If yes, what is included? – no specific details given to verify.

- Is the incremental requirement of climate change quantified? **No**

F. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	Yes		555 QD-UBND, 2/3/2012 Decision No 620/QD-TTG dated on 12th May, 2015 on approval of socio-economic development planning in Nghe An province by 2020. Decision No. 728 / QĐ-TTg dated 28/4/2016 of the Prime Minister approving the list of PPTA "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
2: Included in Sector Plan – if yes state page and section	Yes		Decision No. 929/QD-UBND dated March 10, 2015 issued by Nghe An PPC Decision No. 78/2010/QD-UBND dated Oct. 11, 2010 issued by Nghe An PPC on Planning of Irrigation and Drainage until 2020
3: Proposed design concept document available for screening team – if yes state date of proposal	Yes		December 2016
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	Yes		TCVN 9902:2013
5: Proposed design standard – how does it incorporate the effect of climate change.		No	
6: Is a concept or preliminary engineering design available	Yes		December 2016 – design is considered inappropriate high cost low benefit needs to change (i) remove road from dyke, (ii) remove section of dyke or road from eastern end to existing main road.
7: Is the preliminary design already approved by commune, district or PPC		No	
8: Is there a bill of quantities with the preliminary design		No	
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	Yes		As provided in available documents, February 2017 but date of costing is unclear
10: Are there other significant structures required – if yes please identify		No	Some minor sluice gates for drainage, access ramps/steps to boats.
11: What land is required (ha) and who owns land	Yes		Will be built on public land.
12: is there approval to build the structure on proposed alignments		No	

G. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
-----------	-----------------	-----	----	--------------------------------

A: Resettlement	Land Acquisition required if yes go to a.1		No	
A.1 Land Acquisition	Agriculture Land		No	
	Urban Public Land	Yes		Toe and bank of the river.
	Urban Private Land		No	
A.2 Structures	Private houses		No	Will skirt around one house but may take garden land, in the river bank easement.
	Private other		No	The access to a boat yard will be blocked, so this may need to be relocated to allow for dike alignment.
	Public Structures		No	There are some temples near the alignment, but they should not be directly affected.
A.3	Other Assets		No	No other specific assets were noted, though final selection of dike alignment may create protected public space and/or water features.
A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much		No	
A.6	Is this category B, C or uncertain	C		
B: Environmental Screening				
B.1 water source and network effect on forests - are there any of the following along the alignment or within close proximity – if yes is the risk significant	Production forest land		No	Some minor river bank scrub.
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain	Are in-stream value affected, will minimum in stream flows be adhered to how significant are they		No	Waterway will not be adversely affected by construction of the embankment.

B.3 Does the proposal include any IEE screening			No	
B.4 Did the field visit identify issues from EARF that need to be addressed			No	
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change		No	No impact on any water source.
	Risk from contamination from human settlement or livestock	Yes		During construction and once the embankment is operational, normal drainage outfalls during flood/high tide periods could be impacted.
	Risk of deforestation and de-vegetation		No	There is limited if any value in the vegetation that would be impacted by embankment construction.
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain	B/C		No significant environmental impact foreseen as the protected area is heavily developed and the river bank is well used for fishing activities etc.

H. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	Phuc Tho – villages 4, 5 and 6
Is the population data available for each commune, township	Yes	1,700 people in 500 houses
Is the number of Poor households available	No	No data available
Is the number of near poor households available	No	No data available
Are Ethnic minorities identified and specified	No	No data available
Is land use specified	Yes	River bank – tidal public land
Are the number of female headed households specified	No	No data available
Is the GAP adequately reflected	No	No data available
Who in communes benefits the most - home owners or poor?	No	No data available

I. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
----------	-----	----	-------------------------------

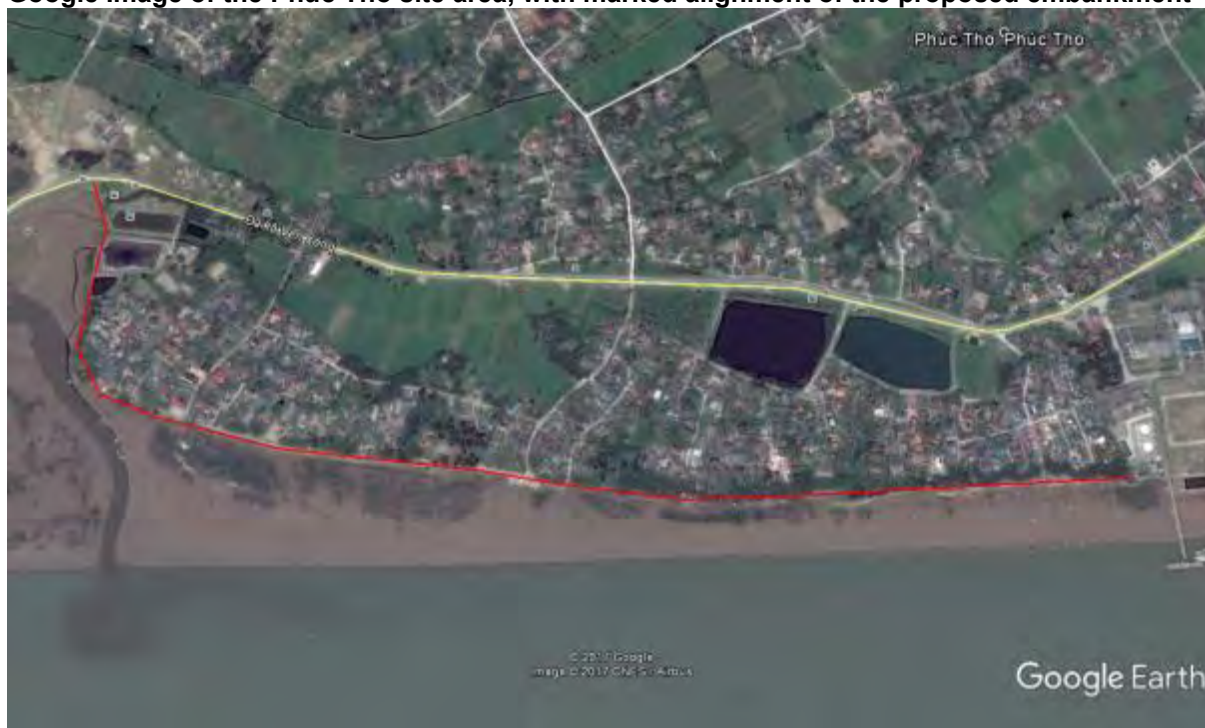
What is the cost per meter	Yes		US\$ 2,310 per m, on the original design with concrete road on top
Are any asset owners identified		No	No data available
Is the Cost of Maintenance identified		No	No data available
Are scheme benefits clearly identified by category of benefit		No	No data available
Is each benefit quantified		No	No data available
Is there an economic assessment – if yes what is EIRR		No	No data available
Is there a detailed worksheet for the EIRR		No	No data available

J. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans		No	
Is there a clear design standard that is justified	Yes		TCVN 9902:2013
Are there outstanding approvals required		No	
Is there a preliminary design	Yes		December 2016
Is there a Feasibility study	Yes		February 2017
Is there sufficient data on the need and purpose of the protection		No	Data has been requested but now awaiting revised design.
Is there sufficient data on risks and water levels		No	Tidal and river flow data has been requested but has yet to be presented.
Is there a risk that the Subproject will be category A for resettlement and affected persons		No	There are no obvious issues that may necessitate Cat A in this location, given current land use and state of existing vegetation and land.
Is there a risk that the Subproject will be category A for environment		No	Ditto
Does the Subproject have clear economic inclusiveness outcomes		Limited	In so far as the most vulnerable older rural residents with low lying properties will benefit the most from added flood protection.
Does the subproject contribute to a system or extended protection network		No	It encloses a highly developed peri-urban area currently on the river side of an existing embankment, providing vulnerable people and property protection from river and tidal surges.
Is the project expected to achieve a 9% EIRR		No	Don't know – no data or calculations presented

Who will manage the assets identified for construction	No		Provincial DARD
Is the scheme an expansion of an existing scheme		No	The proposal adds protection to a small are currently on the river side of the existing dyke that the main road runs on top

Google Image of the Phuc Tho site area, with marked alignment of the proposed embankment



181. The site is characterized by urban development close to the river, with agricultural land between the residential developments and main road (dike). The proposed new embankment will enclose and protect the project area as a polder against riverside floods.

K. Supporting comments

182. The proposal is for a 1.8 km long earth-fill embankment with a concrete road (concrete, Class A) on top, and armoring of the bank as per the similar embankment which carries the local road. The area sites between the long established dike/road and the river. It measures about 50 ha in total, and includes a mix of housing (about 500 for 1,700 people), agricultural land (rice, peanuts, vegetables) and fish ponds.

183. The major risk is from river and tide induced floods, especially high tides with the increasing risks due to climate change. Local developers have already recognized this, as many of the newer houses (many observed under construction) have elevated floor levels to be above such flood risk. Older houses remain at risk, though any redevelopments will be more cognizant of flood levels. Older facilities such as the two established temples and the boat yard are at risk until such times as a protection bank is constructed.

184. The current solution is expensive, especially when including a concrete road on top of the bank. It was discussed and concluded that the road was not essential – but is usual in accordance with Vietnamese standards. Costs can be reduced by modifying the design, removing the road (to be a lower

level internal road at the toe of the bank, and the bank can have an overall smaller section, sufficient to withstand short term high tide and flood flows within the river (wide at the estuary and therefore slow moving). No specific details have been provided on the hydrology and hydraulics, but the new bank would be at a height consistent with the existing main dike/road alongside the river. Revised costings for a simpler embankment, 1.8 km long, without a return section near the navy port (north end) have still to be prepared.

L. Conclusion

185. Following discussions with DPI and their consultants, it was concluded that much data was unavailable and that this needed to be collected and presented. At this stage, the new data has not been made available for inclusion in this checklist. Additionally, when assessing the project, it was hard to see a justification for a road on top of this embankment, and therefore it was suggested the project should be reconsidered for construction without a road on top of the dike. Any required road would be at the toe of the dike, inside as currently exists, but which would benefit with rehabilitation to connected the roads passing through the villages and allow traffic to circulate more easily.

186. The revised design approach is technically appropriate and suitable for purpose. Consultation should be undertaken and completed with the commune stakeholders to ensure no objection to the proposed construction. The dike will impose a barrier between the village people and access to their boats, which will need to be facilitated at agreed locations, with suitable steps and possibly ramps down each side.

187. A final assessment of the project can be completed once the new design, costs and economic evaluation are to hand in a revised feasibility study document. Currently, there appears to be no approval as part of a provincial plan, so clarification should be provided in relation to all statutory approvals required before the project can proceed.

188. Currently, the project must be evaluated as pending, with non-eligibility in the absence of confirmation for inclusion and thus approval in a Provincial Plan. There are no specific safeguards issues that prevent the project from being eligible. However, the economic benefits assessment needs to be informed by clear data sets aligned to the specific area being protected. Data on the maximum flood event inundation area assumes a scale well beyond that of the protected area (approx..50 ha).

M. Recommendation

189. Currently the subproject is eligible but in the proposed format probably not feasible. Options to address the feasibility through cost reduction and reallocation of roading to improve access into the area being protected were recommended.

190. DPI and their consultants have been encouraged to reassess the overall requirements, to lower overall costs whilst still meeting protection levels, and securing the associated benefits. It was agreed that a concrete road was not required on top of the planned embankment. DPI is now awaiting detailed reassessment from their consultants. DPI is currently exploring the option of a lower cost dyke with not road on top but with the upgrading of roads from the existing main road into the area to be protected.

191. This project is therefore pending with the potential it remains eligible with a satisfactory EIRR.



Phuc Tho Dyke Subproject Location



Start point
(at its conjunction with the left dyke of Lam River at
Km103+950)



Village 17 of Phúc Thọ commune
(The dyke is located outward and adjacent to the
riverbank)



Ship repair shop of local people
(The dyke is located outward and adjacent to the riverbank)



Local road in village 17
(The dyke is located outward and adjacent to the riverbank)



Binh Minh village, Phúc Thọ commune
(The dyke is located outward and adjacent to the riverbank)



End point
(at its conjunction with the left dyke of Lam River at Km105+300)

XXI. OUTPUT 2 SUBPROJECT 2: QUY CHAU RIVER EMBANKMENT

A. Description

192. The subproject is based on the Hieu River, Quy Chau District comprises of a 2.0 km Embankment, Left Bank protecting Tan Lac town and Chau Hanh commune.

	Setting	New or Upgrade
Name of water way	Hieu River	
Length of works (meters)	2,000 m	
Is this part of a bigger protection network	This is part of an overall river embankment development between the two parts of Quy Chau, on both sides of the river.	New Works – river currently has no embankments on either side between the two road bridges. Province will implement the right bank embankment in 2018 (approved by National Assembly – Decision No: 399 TD-SNN (DARD)). Objective – 1. Flood Protection of left bank agriculture and commune area; 2. Bank stabilization and improvement to facilitate future urbanization and encouragement of ethnic oriented tourism in the area.
<u>Purpose</u>		
(i) transport connectivity - is the road on top or is this the primary purpose?	Prevention of flooding in low lying areas on the north (left bank). Another government financed program is scheduled to start in 2018 to do similar for the south (right) bank.	Primary stated purpose is for flood protection, but road on top gives access to encourage planned urbanization.
(ii) flood protection avoiding losses – if yes then what is the scale of losses, who is bearing the cost of losses, what is being lost?	Protecting established paddy and other (sugar cane, maize, groundnuts) agricultural production farm areas.	1 in 50 year flood scale, current losses to farmers and their households, future losses (without project) increase due to planned urbanization
Area being protected (ha)	162 Ha (of total 746 ha flooded both sides of river and near vicinity), including 140 ha of agriculture, 29 houses, 120 people	Losses and costs currently born by rural and peri-urban inhabitants, with land (crops) and household property damage.
- Maximum flood event (ha affected)	Area inundated for a 1 in 50 year event - 162 ha (est. 22% of total 746 ha on both sides of river).	
- Annual Flood event (ha inundated)	Not available	
No of flood events per year	2 events in a typical year	
Design Frequency of flood events	1 in 50 year for design of the flood embankment	
Type of Flooding	River bank overflow into farmed and village areas (map available) compounded by local catchment inflows towards river.	Flooding map (scale 1/2000) available on AutoCAD.
<u>Cost of flooding</u>		

	Setting	New or Upgrade
- Lives lost in last five years	1 person	Data for July 2016
- Dwelling lost in last 5 years	3 houses damage (sliding)	Data for July 2016
- Dwelling flooded in last five years – number by duration	29 houses flooded	Data for July 2016
- Cropland flooded in last five years ha by duration	65 ha rice, 17.5 ha of fish pond, 80 ha of village, gardens, orchards and grazing land.	Data for 2016
Project area		
Number of communes	2	Tan Lac town (part) and Chau Hanh commune
Population	120 (2016)	
Number of dwellings flooded	29 houses (2016 event)	
Area of Cropland (ha)	140 ha	
Area of Aquaculture (ha)	17.5 ha	Up in the Na Xen valley
Other Agriculture Land (ha)	Rice 65 ha	
Public infrastructure protected	Na Xen Weir, in Chau Hanh N2 Canal, Na Xen, Tan Lac	No data on likelihood of flood damage.

B. Proposed works:

- (i) New embankment: **Yes**, approved plan: **Yes**
 - a. Top elevation: 86.5 m – Bottom elevation: 72.5 m; Height 14 m, Length = 2,000 m
 - b. Associated infrastructure – top of bank road, gated culvert structures, foot paths, access points and other ancilliary works:
 - i. Drainage sluices from protected area: 6.No., 3 No. with 3 x 1.5m x 1.5m box, 3 No. with 1 x 1.5m x 1.5m box, all with average 45 m long (estimate)
 - ii. Rural Road Class B on top = 3.5 m wide, concrete surface, shoulder: 1.25m x 2; total 6 m wide embankment top.

C. Proposed investment:

- (i) Total cost: \$ 3.38 million;
- (ii) Construction cost: \$ 2.76 million (equal to 62 Billion VND).
- (iii) Proposed investment of embankment:
 - a. \$ 1,690 / m overall
 - b. \$1,350 / m for construction
- (iv) Proportion of cost that is embankment – 84%; **proportion that is road/other – 16%**.

D. Rationale

- (i) Protecting of agriculture land: 140 ha
- (ii) Protects: 120 people
 - o

193. The risk of flooding

- (i) without: total of 162 ha, 140 ha agriculture, 29 houses and 120 people for a 1 in 50 year river flood flow event (can be part impacted by hydropower developments and operations upstream);
- (ii) with project scenario: protection against the river floods in the defined area, and protection for the existing and future houses, remaining farmland, crops. Aquaculture, public infrastructure and increased number of people (developing urbanization).

194. Social Benefits – who will benefit most: existing residents and farmers, future urban settlers; how will poor or marginalized benefit: reduction in risk and potential flood damage; with proportionately higher benefits to poorer ethnic minority people (not quantified). Data on female headed households, young, elderly and females – still to be surveyed and provided.

E. Climate Change

- (i) Is climate change factored into the embankment design? **No**
- (ii) If yes, what is included?
- (iii) Is the incremental requirement of climate change quantified? **No**

195. There has been no specific assessments made for potential climate change impacts. River hydrology as a result of increased rainfall will be attenuated by the developed and possible future developed hydropower schemes in the upper catchment. There is no data to confirm how these may be impacting peak river flows under projected 1 in X year rainfall/runoff events.

F. Findings

- (i) Floods in Hieu river: Flood flows peak in the wet season. The maximum flood flow elevation recorded at Quy Chau (Tan Lac) is 85.8 m, causing overbank flow into the Quy Chau and Chau Hanh communes. Annual flooding in the wet season is 0.7 to 1 m above the mean area elevation;
- (ii) There are 7 small hydropower plants in the catchment area upstream of Chau Hanh commune, but only 2 of these plants discharge directly to the Hieu river. Both of these plants have small reservoir storage area and they are not used to regulate annual flood flows, thus providing little flood protection capacity for Chau Hanh commune and Tan Lac town.
- (iii) Internal drainage behind embankment: During high river stage (flow), the embankment will keep flood water within the Hieu river, but intense local rain will be temporarily blocked behind the embankment, unable to discharge freely to the Hieu river. Back flow from the river will be prevented by the use of gated culverts on the drainage outlets into the river. Movable drainage pumps, to be provided as part of the Project, will be operated by DARD to assist with drainage evacuation during emergencies.
- (iv) The Nghe An Provincial Government has approved plans to build an embankment on the right bank of the Hieu River with a top elevation of +86.5, using Vietnamese funding. Once constructed, this will have adverse impacts for flood on the left bank of the river, where natural bank ground levels are in the order of 82 to 83 m. To mitigate this potential adverse impact, Nghe An Government also needs to build an equivalent embankment on the left bank, thereby saving both sides of the river at Quy Chau from the negative impacts of periodic flooding up to a 1 in 50 year event.
- (v) During flood events, river bank erosion occurs, causing loss of land and agricultural production from flooded land. An armoured embankment with high resistance to erosion is proposed to ensure embankment stability and protection to vulnerable land, crops and property.

G. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	Yes		Has been approved by the Province, Decision No: 2997/QD-UBND-NN, dated 16 July 2013

2: Included in the Sector Plan – if yes state page and section	Yes		Included in the Provincial Sector Plan No: 23/2011/NQ-HDND, dated 2011.
3: Proposed design concept document available for screening team – if yes state date of proposal.	Yes		February, 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject.	Yes		QCVN 04-05:2012/BNNPTNT and TCVN 9902:2013; TCVN 9902:2016. Project economic life: 30 years
5: Proposed design standard - how does it incorporate the effect of climate change.	Yes		Vietnamese standards for 1 in 50 year hydrologic and hydraulic parameters calculations do not mention climate change condition, especially maximum flood flow.
6: Is a preliminary engineering design available	Yes		April 2017
7: Is the preliminary design already approved by commune, district or PPC.		No	
8: Is there a bill of quantities with the preliminary design	Yes		Not provided
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing.	Yes		April, 2017
10: Are there significant structures required – if yes please identify	Yes		New embankment with 2,000 m length, up to 14 m high, along river bank (72.5 m bed level to 86.5 m top of bank) Sluice gates through embankment for local drainage: 6 No., each with barrel sections 1.5 m x 1.5 m, 3 No. with three barrels, 3 No. with single barrel (total 12 gates and 12 barrels). Road on top: Bank top width = 6m (1.25 m x 2 + 3.5 m) with 3.5 m concrete surface (Rural Road Class B)
11: What land is required (ha) and who owns land	Yes		All land needed is public river bank, although inspection on Google maps indicates some land that is required may be cultivated.
12: Is there approval to build the structure on proposed alignments		No	No community consultation has been undertaken.

H. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition required if yes go to a.1	Yes		Though told no, it appears likely there will be some minor land acquisition requirement.
A.1 Land Acquisition	Agriculture Land	Yes		To be advised once a full social survey has been implemented.
	Urban Public Land		No	
	Urban Private Land		No	
A.2 Structures	Private houses		No	
	Private other		No	
	Public Structures		No	
A.3	Other Assets	Yes		Bamboo tree and other overgrowth will need to be removed for construction.

A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much		No	
A.6	Is this category B, C or uncertain	C		
B: Environmental Screening			No	
B.1 water source and network effect on forests - are there any of the following along the alignment or within close proximity – if yes is the risk significant	Production forest land		No	
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain.	Are in-stream values affected, will minimum in stream flows be adhered to and how significant are they			Not applicable – river flows and values will not be impacted other than temporarily during construction.
B.3 Does the proposal include any IEE screening			No	
B.4 Did the field visit identify issues from EARF that need to be addressed			No	It appears a more detailed check on social impacts and land acquisition should be implemented.
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change	Yes		Hieu river flow is changing and peak flows are likely to increase with more intense rainfall events. However, no specific allowance has been included in the designs so far to allow for any potential change over the 2030 to 2040 design horizon.
	Risk from contamination from human settlement or livestock	Yes		The new embankment will encourage further residential and commercial development in an area to be improved for tourism. The risk of future contamination without appropriate wastewater treatment facilities is high.
	Risk of deforestation and/or devegetation	Yes		The construction of the embankment will clear existing bamboo and other river bank vegetation to be replaced with an armoured and/or part grassed embankment. River section bank will be stabilized but converted to more regular channel.
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain	B		

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
----------	---------	-------------------------------

Are communes identified and named	Yes	Chau Hanh commune and Tan Lac town (part)
Is the population data available for each commune, township	Yes	Chau Hanh – 838 households, 4,325 people Tan Lac – 156 households, 1,660 people
Is the number of Poor households available	Yes	50.55%, 502 households
Is the number of near poor households available	Yes	11.17%, 111 households
Are Ethnic minorities identified and specified		
Is land use specified	Yes	As per earlier statements for agriculture, aquaculture, village/urban and orchards/grazing
Are the number of female headed households specified		
Is the GAP adequately reflected		
Who in communes benefits most - home owners or the poor?		

J. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
What is the cost per meter	Yes		\$1,650/m overall (2,000 m)
Is the asset owner identified	Yes		Provincial DARD
Is the Cost of Maintenance identified	Yes		O&M cost in the documents.
Are scheme benefits clearly identified by category of benefit		No	No data
Is each benefit quantified		No	No data
Is there an economic assessment – if yes what is EIRR	Yes		EIRR: 13.8% in normal 12.8% if increasing total cost 10% 12.06% if decreasing of benefit 10% 12.85% if increasing O&M cost 10%
Is there a detailed worksheet for the EIRR		No	Limited information.

K. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	Yes		State the provincial plan - Provincial Sector Plan No: 23/2011/NQ-HDND, dated 2011.
Is there a clear design standard that is justified	Yes		QCVN 04-05:2012/BNNPTNT and TCVN 9902:2013; and TCVN 9902:2016.
Are there outstanding approvals required		No	
Is there a preliminary design	Yes		Technical Design
Is there a Feasibility study	Yes		Limited scope – needs to be completed.
Is sufficient data on the need and purpose of the protection	Yes		Protect land, property and livelihoods (120 people) from frequent irregular flood impacts, and simultaneously protect the area to encourage future development and tourism in the area (the

			development of an ethnic museum highlighting local ethnic crafts and skills has been stated).
Is there sufficient data on risks and water levels	Yes		Preliminary Design; Water Resource Database, September 2012
Is there a risk that the Subproject will be category A for resettlement and affected persons		No	
Is there a risk that the Subproject will be category A for environment		No	
Does the Subproject have clear economic inclusiveness outcomes		No	More work needed by Province to confirm objectives in this regard.
Does the subproject contribute to a system or extended protection network	Yes		Right side embankment will be constructed by other funds. Then if this left side embankment is to be considered, they will protect land and local household in larger area, otherwise left bank is impacted more severely because of the right bank embankment construction.
Is the project expected to achieve a 9% EIRR	Yes		Stated EIRR in preliminary design document is 13.8%
Is who will manage the assets identified	Yes		Sub Department of Water Resources under Nghe An DARD
Is the scheme an expansion of an existing municipal and or rural town supply – if yes, are they required to on lend from the PPC?		No	

196. Stage Discharge: this data needs further checking as there is much inconsistency and if a lower top of bank level is acceptable, then much cost can be saved, as natural bank level will preclude overflow in many locations. Design characteristic parameters are:

- (i) Design Standard: 1 in 50 Year (2%) – derived from the database and hydrology computational procedures.
- (ii) Peak water level: 80.58 m (for a 1 in 50 year river flow)
- (iii) Bed Level (nominal): 72.0 m (at toe of bank)
- (iv) Depth of flow: 8.58 m (to be checked) [$72.0 + 8.58 + 0.3$ freeboard = 80.88m] A bank height of 81.0 m ought to be sufficient if the hydraulic analysis is reasonable.
- (v) Hydraulic Gradient (slope) $I = 0.00042$ (1 in 2,380)
- (vi) Discharge $Q_{2\%} = 3,200 \text{ m}^3/\text{s}$ (to be checked)
- (vii) Overall Hieu river catchment area: 5,340 km^2
- (viii) Catchment area to Quy Chau: (2,500 to 3,000 km^2 , (to be checked)
- (ix) Average flow: 80 m^3/s
- (x) Peak Flow (1 in 50 year): estimated at 3,700 m^3/s , (to be checked)

197. Morphology

- (i) Some data in the ACAD drawings is confusing but overall there is a steady natural gradient of 1 in 2,380 for the river.
- (ii) The stated design bank top level ranges from 86.50 (too high ??) to a section at 85.30 and then back to 86.50 – a largely flat profile except where incoming side drains incise into the bank. Based on levels and data provided, the required top of bank level to contain a 1 in 50 year flow would be 81.0 m or perhaps 81.5 m to contain potential wave action. An

additional 'kerb' wall could be constructed for containment of waves rather than raise the whole embankment.

- (iii) The channel is dominated (at low flows) by clear meandering and deposition of sand.
- (iv) High flows can be aggressive and with tight turns in the river, these are apt to induce scour. Thus on the outside of the bend, there is justification to include durable rock and/or concrete armouring of the proposed embankment.

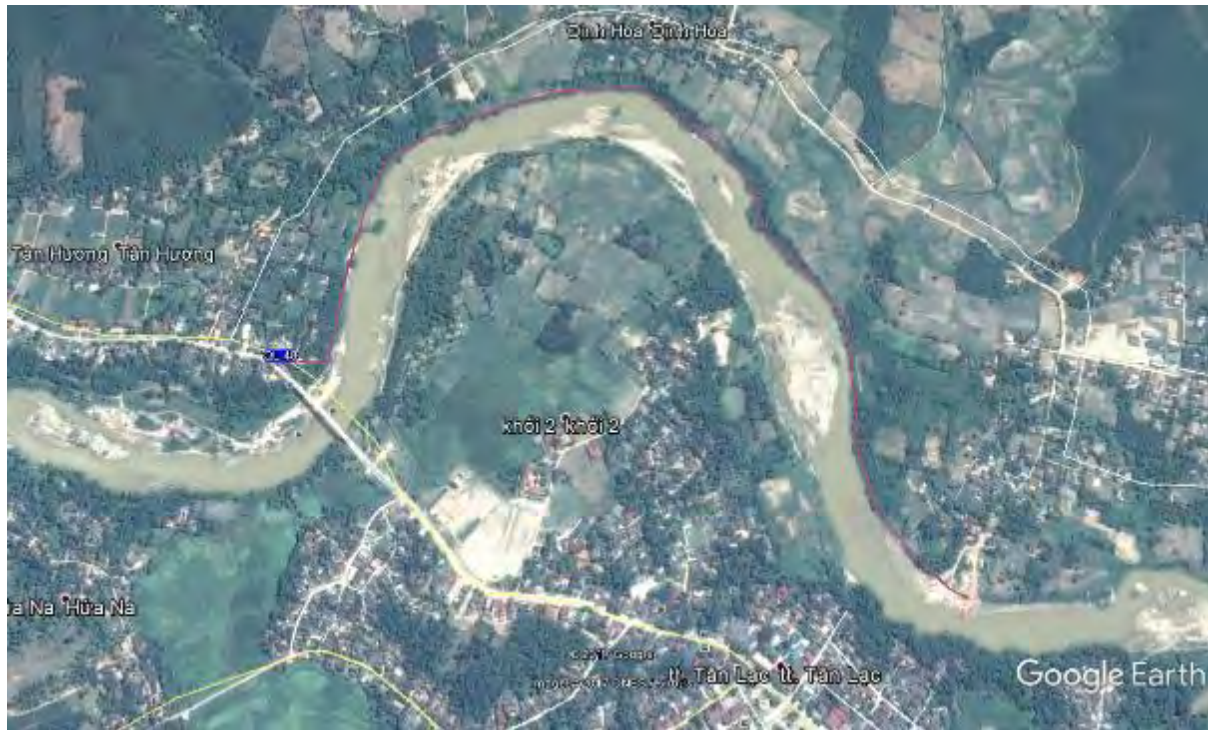
198. A flood inundation map has been provided that indicates some potential to achieve a high proportion of the benefits without an extensive and high embankment as planned. It has been suggested that further options be considered and evaluated to secure a better cost-benefit ratio and potentially an improved EIRR. [The indicated EIRR is likely to be optimistic as the area affected and the number of households and people impacted are significantly lower when assessed for the left bank only. The preliminary design has assumed aggregate numbers for areas and people on both sides of the river)..

199. Rainfall data in Quy Chau region

TT	Month	Rainfall data in Quy Chau (mm)
1	January	116,2
2	February	2,1
3	March	17,3
4	April	96,0
5	May	220,6
6	June	144,6
7	July	158,0
8	August	231,9
9	September	412,3
10	October	162,4
11	November	92,0
12	December	17,4
	Total in 2016	1,670.8
	Total in 2015	1,437.9
	Total in 2014	1,132.9

(Source: Nghe An DONRE, 2016)

Google image of Quy Chau Project Area – river section to north of Tan Lac Town, with embankment alignment along left bank of Hieu River



L. Broad findings:

200. The proposed embankment design is substantial and excessive when assessed against the objective of protecting agricultural land (variously rice, maize, sugar cane and groundnuts).

201. This is more so when the embankment design is for a 1 in 50 year return period to suit urban development rather a more typical 1 in 20 year (or even 1 in 10 year) return period adopted for rural land protection.

202. The rationale is that Quy Chau is to become a tourist town, where they have already established a handicrafts and artifacts museum for ethnic crafts. However, this museum is on the south (right bank) side of the river and would not be protected by this embankment.

203. A plan for constructing an embankment on the right bank is approved for construction in 2018, which will sit opposite the proposed project embankment to be constructed later. The overall objective is that these two embankments will afford an urban level of protection to the town of Tan Lap (right bank) and the neighboring village of Chau Hanh (left bank), to facilitate future development of the area into a tourist retreat. A future development master plan is stated to have been prepared but was not made available for inspection.

204. The alignment and impact of the proposed embankment (the Project, left bank) has not at this stage been presented to a consultative meeting with the people.

205. Technically, the construction of the embankment would not be difficult. Due attention must be paid to the foundation preparation, installation of cut-off toes to mitigate any undermining risk from the river flows, and inclusion of suitable material in the bank construction to mitigate against any potential risk for piping failure. All included outlet gated culverts (to keep river water out, with a standard barrel size of 1.5 x 1.5 m) should include suitable cut-off extensions in the headwalls, both upstream and downstream. Insufficient data has been given to verify if the adopted culvert sizes are appropriate for purpose at each of

the 6 locations in the embankment for incoming drainage flows off the protected land and their extended local catchments.

206. An examination of the flood map suggests it may be possible to reduce the length of the embankment, breaking it into suitable sections that can protect localized low areas. This was discussed with DPI and consultants but has yet to be followed up. The partial drawback is that not all of the planned 162 ha to be protected could be included under such an approach, due to the proximity of some areas to the river bank. A provisional estimate suggests that two embankment sections totaling perhaps 500 m, set back from the river bank, could protect up to 100 ha.

207. The planned embankment is 2,000 m long, to protect a total of 162 ha. This works out at over \$20,000 / ha, with 12 .35 m of embankment per ha protected. The overall cost estimate for the embankment is \$1,650 per m. This is high as the bank is high (up to 13 m), with setback berms and rock armouring. It also includes a 3.5 m wide concrete road on the top of a 6 m wide embankment. As the protected area already has a serviceable road which will be protected by the embankment, it seems unnecessary to include a hard surface road of this scale on top of the bank. However, the DPI indicated this was also a road to be integrated as part of the on-going provincial roads upgrading in the region – the existing road remains a commune developed concrete road for local access. The road will link between the two bridges now constructed across the river near Tan Lap town.

208. There is no land acquisition plan, as none has been foreseen, though clearly some land must be resumed close to the river upon which to locate the planned embankment capped with a road. If up to 13 m high, the strip from river toe (low flows) to landside top of bank (road level) could be in the order of 35 m. Review of Google maps shows there is some land in use that would sit within that band adjacent to the river. Additionally, some necessity to rationalize the alignment, especially where culverts have to be installed, means that yet more land acquisition would be required than as estimated. The adoption of shorter embankments, as outlined in point 7, may help to minimize land acquisition requirements.

209. The project has no particular environmental issues, and is thus classified Category B or even C. The construction of the embankment will necessitate stripping of various growth, including bamboo and other trees, from the river bank to provide working space and cleared ground upon which to build the embankment. Any realignment of the final adopted embankments will have to be reassessed for environmental impacts.

210. There would appear to be no resettlement requirement, as the bank does not impact any existing properties as observed from the Google satellite imagery. However, if the embankment alignment is reconfigured to minimize costs, then relevant surveys will be required to check and confirm resettlement issues are minimal.

M. Conclusion

211. Technically, there is no substantive impediment or risk prevalent to prevent the construction of the proposed embankment. However, the adoption of a high (13 m), armored bank with a concrete road (3.5 m wide) on top may be an excessively costly (\$2.7 m construction; \$3.3 m overall) approach relative to the limited area (162 m) and assets (agricultural land and some farm houses (120 households) to be protected. Suggestions have been proposed to mitigate costs whilst retaining most of the potential benefits.

212. The Project is viewed as being part of a long term program of works to increase the attractiveness of Quy Chau for tourism, particularly as a base to visit local scenic interest sites, and to provide increased market opportunities for the local ethnic minority crafts industry. The proposed works are for a high standard urban development, rather than one sufficient to protect agricultural land and associated villages. The need for the embankment as planned can be foreseen, but it might reasonably be financed as part of the broader development initiatives in the future, when each of the river banks becomes a target for more substantive

housing and commercial properties. There appears to be limited justification for such high cost embankment construction on the basis of protecting rural land with limited high value cropping potential.

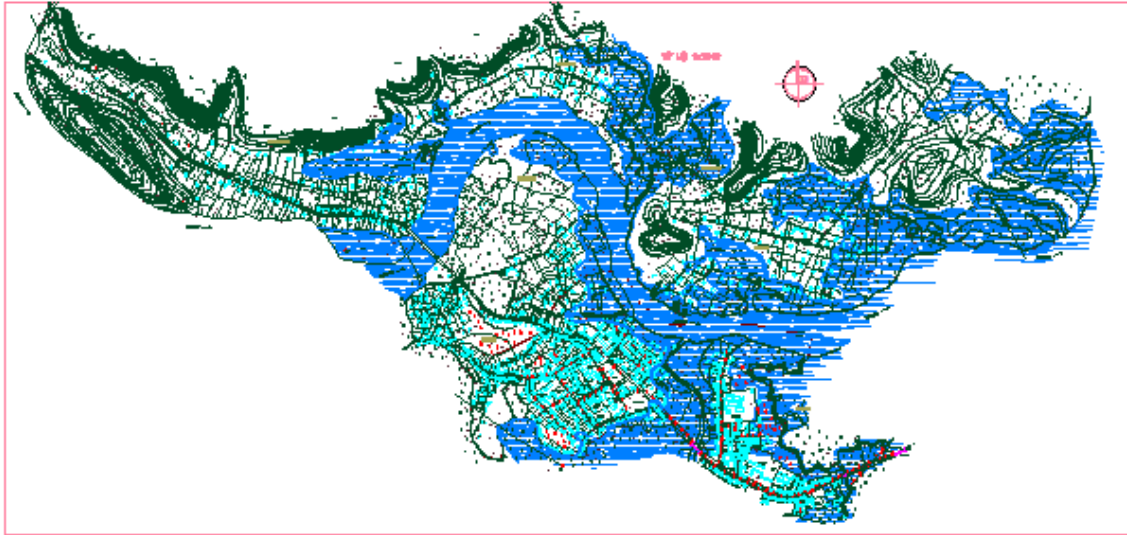
N. Recommendation

213. The purpose and scale of requirements to safely contain high river flows and protect the current agriculture area and commune properties and residents needs some reconsideration. The scale and form of the proposed works could potentially be rationalized, with a lower bank height (81.0 to 81.5 m – that is, 4 m lower than the plan), and in doing this, it may be possible to minimize the actual length of embankment sections required. Against any shortening of embankment length is the need to ensure an aggressive river flow does not further scour and erode the natural embankment on the outside of the river bend, and thereby threaten existing agricultural land and associated commune properties.

214. A stated longer term goal is to create an environment for Quy Chau that could encourage tourist developments for the ethnic culture and surrounding regions natural attractions. At this time, none of this appears to be factored into the benefit stream of the economic analysis. Further consideration should be given to this.

APPENDIX

215. Flooding map in Quy Chau town and Chau Hanh commune (update in July, 02nd, 2017), P = 2%



Starting point of Quy Chau Embankment at Ke Bon bridge



Starting point of Quy Chau Embankment at Ke Bon bridge



Quy Chau embankment upstream



Quy Chau embankment upstream



Ke Bon bridge over Quy Chau river



Ke Bon bridge over Quy Chau river



Quy Chau river embankment sides



Ke Bon bridge over Quy Chau river



Quy Chau embankment site



Quy Chau embankment site



Quy Chau embankment site



Visit to household flooded by Quy Chau river in 2007



Visit to household flooded by Quy Chau river in 2007



Visit to household flooded by Quy Chau river in 2007



Quy Chau embankment site



Quy Chau embankment site



End point of Quy Chau embankment connects to Quy Chau bridge



End point of Quy Chau embankment site



End point of Quay Chau Embankment connects to Quay Chau bridge



End point of Quay Chau Embankment

XXII. OUTPUT 2 SUBPROJECT 3 QUYNH LEUNG EMBANKMENT

A. Description

216. The Subproject is the Mo River East Embankment (Part), Quynh Luu District, Nghe An Province. The provided design documents and feasibility report is an inclusive aggregation of the overall Mo River system and enclosing embankments. It does not separate out the specific details required for the particular section of dike (said to be 5.5 km long, but closer to 7.0 km) that is proposed for financing under this BIIG2 project. As it stands, it is ineligible due to inadequate provision of documentation to make an appropriate assessment. More broadly, it is relatively high cost to protect what appears to be largely commercial prawn farm operations and old salt farm areas. Some of these farmers have built their own prawn tanks, and even fenced off access along the top of the bank. It is therefore questionable as to who actually benefits from this infill section of the bank, and whether it should not be funded through private means. The embankment protects Quynh Bang, Quynh Luong, and Quynh Minh communes

	New	Upgrade
Name of water way	Mo River	
Length of works (meters)	5,500 m stated – <u>actual required is 7,000 m</u>	Yes – this will be enlarging and existing dike and access road.
Is this part of a bigger protection network	Yes – part already completed (part of west bank (balance in planning) and part of right bank (south) and right bank (north – Korea) has been or is being constructed.	Koreans upgrading northern part/east bank with possible sluice gate across the river upstream of the drain connection. Project aims to upgrade central section of the east bank.
<u>Purpose</u>		
(i) transport connectivity - is there a road on top or is this the primary purpose?	Yes – this will be a local village road (3.5 m, Class B Rural) for farmer access to prawn and salt farms.	Originally it was planned as a 5 m wide, Class A road, on a larger embankment, but following discussions, a new design is being prepared to the smaller scale and reduced standard.
(ii) flood protection avoiding losses – if yes then what is the scale of losses, who is bearing the cost of losses, what is being lost?	Protecting established fish/prawn farm areas - with a 3.5 m high dike/wall, to match west bank and connect from existing south (road) to Korean section (north). Flood map shows limited area (450 ha) to be protected by this section of embankment.	There is limited space due to existing prawn farms and/or mangroves, meaning much of the upgrade requires a modified design approach and variance to standards. The prawn farm bank height is 2.8 m, whilst the tidal drain channel design water level is 3.11 m (1 in 20 year (5%) WL is 1.82 m, plus a 1.29 m high wave = 3.11 m. Freeboard (min.) of 0.3 m – min bank level of 3.41 m. Adopted 3.5 m asl.
Area being protected (ha)	450 Ha, with 250 ha prawn farm, 50 ha salt production and 75 ha vegetables, and 75 ha residential. The houses and people are in 3 communes – Quynh Minh, Quynh Luong, Quynh Bang – but there is no separate breakdown of relevant data.	This appears, after examining Google Maps, to be the whole of the east bank area. Actual protected area – that which floods only within the reach of the embankment is about 50% of 300 ha (+/-). Much smaller, so the cost per ha is \$20,000 per ha.
-	Area inundated for a 1 in 20 year event–part (about 50%) of the 450 ha (as described above and	

	New	Upgrade
	subject to protection by this section of dike). Flooded areas are mostly prawn farms and salt pans.	
- Annual Flood event (ha inundated)	Only about 50% of the flood prone area is likely to be inundated (as based on provided flood inundation maps). Thus maybe 250 ha is subject to flood from the tidal drain if there is no dike between elevated roads that cross the drain. In general, the vegetable and residential areas are not flooded with salt water.	
No of flood events per year	2 to 3	
Design Frequency of flood events	1 in 20 year	
Type of Flooding	River bank overflow into farmed and village areas (refer to overall flood inundation maps and overall development plan map and report)	Flooding up to 1,000 mm deep.
<u>Cost of flooding – is this described</u>		
- Lives lost in last five years	No data	
- Dwelling lost in last 5 years	No data	
- Dwelling flooded in last five years – number by duration	280 household were affected by flood in September 2013	
- Cropland flooded in last five years ha by duration	In September 2013 flood 150ha of prawn farm, 350ha of vegetation and 30ha of salt farm	
<u>Project area</u>		
Number of communes	3	
Population	64,840 (year 2014) – overall for the 3 communes, though some of the commune area is outside of the protected and flood risk area.	
Number of dwellings flooded	No data – limited number as generally houses are above the flood inundation level.	
Area of Cropland (ha)	80 ha – vegetables	
Area of Aquaculture (ha)	250 ha – prawn and fish farms	
Other Agriculture Land (ha)	50 ha for salt farming	
Public infrastructure protected	None – houses 70 ha.	

B. Proposed works:

- (i) Rehabilitation and raised embankment
- (ii) Associated infrastructure – village rural road (B Class), drainage structures

C. Investment

- (i) Proposed investment: \$ 4.2 million (95 billion VND) – note this is for a 5.8km dyke but a 7km dyke is required

- (ii) Proposed investment: \$760/m of embankment – this is extremely low given that it includes a road in addition to the dyke structure
- (iii) Proportion of cost that is embankment – no breakdown presented.

D. Rationale

217. Stated need for each scheme / network:

- (i) Is there a clear statement of what is being protected, that is quantified–**Yes** – but not as a separate set of data from that for the whole Mo River protection scheme (Government, Korea and ADB parts). Nghe An PPC issued the Decision No. 3927/QD-UBND dated August 15, 2016 on Mo river protection scheme section Quynh Nghia – Quynh Thanh (west side of Mo river) top elevation +3.5m, concrete road B = 5m
- (ii) How many people will be protected – unknown
- (iii) Do we understand the likely risk of flooding both – **Yes** (the flood inundation maps show that up to 50% of the protected area is subject to flood (1 in 20 year)
 - (a) without project: on September, 30, 2013, a major flood caused losses to 150 ha of prawn farm, 350 ha of vegetables, 30 ha of salt farm, and 280 households were affected. (Note: these values refer to an overall area beyond that which will be protected by the proposed new works).
 - (b) with project scenario: the 450 ha area that is currently unprotected will have protection against a tidal surge combined with rainfall runoff up to 2.5 m high plus 0.3 m of freeboard.

218. Social Benefits – no information

E. Climate Change

- Is climate change factored into the embankment design? - **No**.
- If yes, what is included? To be advised – climate change should be a factor if projected sea level changes are realized.
- Is the incremental requirement of climate change quantified? – **No**.

F. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	Yes		4672/QD-UBND, dated 27 September, 2016 issued by Nghe An PPC on social-economic development master plan in Quynh Luu district.
2: Included in Sector Plan – if yes state page and section	Yes		2997/QD-UBND-NN, dated 16 July, 2013 issued by Nghe An PPC on Planning of water resources in Nghe An province
3: Proposed design concept document available for screening team – if yes state date of proposal		No	But this covers the overall Mo River protection embankment development plan, and does not provide separate data for the specific section of this project.
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	Yes		Details not provided.

5: Proposed design standard - does it incorporate the effect of climate change.		No	
6: Is a preliminary engineering design available	Yes		Design is available with a 5 m top of bank road, but a reconsideration is now in progress for a 3.5 m road on top.
7: Is the preliminary design already approved by commune, district or PPC		No	
8: Is there a bill of quantities with the preliminary design	Yes		A simple summary BoQ for 5.5 km.
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	Yes		Summary totals, but for 5.5 km, not 7 km of embankment as required.
10: Are there significant structures required – if yes please identify		No	Only minor local gated outfall sluices and culverts to replace existing old structures.
11: What land is required (ha) and who owns land	Yes		For the presented design, the embankment footprint will increase. This would mean either clearing or using some of the existing river bank mangrove area, encroaching on existing prawn farm tanks, or a combination. An alternative smaller footprint solution has been suggested.
12: is there approval to build the structure on proposed alignments	Yes		If the current bank footprint is retained with a small wall

G. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition required if yes go to a.1	Yes		Extent – minor. The existing embankment footprint will increase due to additional height, and either encroaches on mangrove areas or on prawn farms.
A.1 Land Acquisition	Agriculture Land	Yes		No firm data
	Urban Public Land		No	
	Urban Private Land		No	Unless mangrove areas have to be avoided, then could require some part of prawn farm tanks.
A.2 Structures	Private houses		No	
	Private other		No	
	Public Structures		No	
A.3	Other Assets		No	
A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much	Yes		2 billion VND (US\$ 90,000)
A.6	Is this category B, C or uncertain			Not relevant.
B: Environmental Screening				

B.1 water source and network effect on forests - are there any of the following along the alignment or within close proximity – if yes is the risk significant	Production forest land		No	
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain	Are in-stream value affected, will minimum in stream flows be adhered too how significant are they	Yes		Potential disturbance of river side mangroves. Flows are tidal and highly variable, but the normal tide cycles will continue.
B.3 Does the proposal include any IEE screening			No	
B.4 Did the field visit identify issues from EARF that need to be addressed		Yes		The issue of potential impact and management of mangroves during construction and over the life of the project.
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change	Yes		In so far as the Mo River is a tidal estuarine system with regular diurnal inflow-outflow, and tide levels may increase with climate change.
	Risk from contamination from human settlement or livestock	Yes		The high density of both prawn farms, fish farms, salt farms and other coastal aquatic activities presents a set of potential risks that will need to be managed.
	Risk of deforestation devegetation	Yes		Of the mangrove areas to make way for the larger embankment
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain	Uncertain Risk of category A		The potential disturbance to mangrove areas – extent and impact – has not been assessed, but may influence final classification.

H. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	3 No. communes: Quang Quynh Minh, Quang Quynh Luong and Quang Quynh Bang
Is the population data available for each commune, township	Yes	Quynh Minh: 5173 people Quynh Luong: 6700 people Quynh Bang: 11765 people But not broken down sufficient to quantify peoples within the specific protected area for the project.
Is the number of Poor households available	No	No clear data available
Is the number of near poor households available	No	No clear data available
Are Ethnic minorities identified and specified	No	No ethnic presence in the area
Is land use specified	Yes	All land is utilized for prawn farms, salt pans, vegetable production or residential.

Are the number of female headed households specified	No	No clear data available
Is the GAP adequately reflected	No	No clear data available
Who in communes benefits most - home owners or poor?	No	No clear data available

I. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
What is the cost per meter	Yes		US\$ 760 / m for a 5.5 km long embankment additional \$1 million required for the total length
Is the asset owner identified	Yes		District DARD
Is the Cost of Maintenance identified		No	
Are scheme benefits clearly identified by category of benefit		No	Benefits are wrapped up in an assessment for the whole Mo river embankment development, done by Government and Korea, as well as this request for ADB funding.
Is each benefit quantified		No	
Is there an economic assessment – if yes what is EIRR	Yes		EIRR – 16.5% for the whole project – nothing separate for the BIIG2 component. Also the capital cost is under estimated for 5.5km not 7km
Is there a detailed worksheet for the EIRR	Yes		Same qualification applies

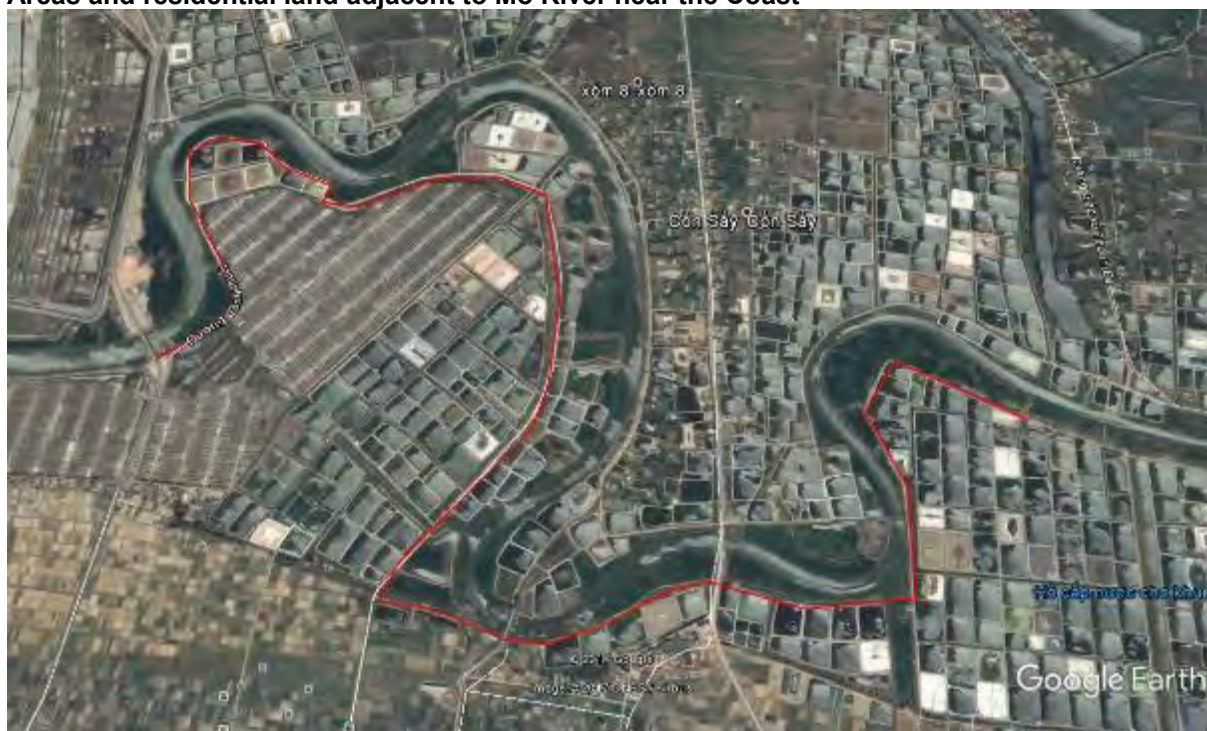
J.

K. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	Yes		4672/QD-UBND, dated 27 September, 2016 issued by Nghe An PPC on social economic development master plan in Quynh Luu district.
Is there a clear design standard that is justified	Yes		QCVN 04-05-2012/BNNPTNT; TC1613/QD-BNN-KHCN; TCVN 8419:2010
Are there outstanding approvals required	Yes		Not approved as no plan approval – not eligible at this stage
Is there a preliminary design	Yes		April 2017
Is there a Feasibility study	Yes		April 2017
Is there sufficient data on the need and purpose of the protection		No	Available data is for overall scheme, but no particular breakdown available for the proposed project component part.
Is there sufficient data on risks and water levels		No	
Is there a risk that the Subproject will be category A for resettlement and affected persons	Yes		Potential for disturbance of mangroves.
Is there a risk that the Subproject will be category A for environment	Yes		As above.
Does the Subproject have clear economic inclusiveness outcomes		No	Insufficient data to clarify this.

Does the subproject contribute to a system or extended protection network	Yes		Part of the overall Mo river saline intrusion protection scheme. Other part approved by DARD for construction in next year (north, east side)
Is the project expected to achieve a 9% EIRR	Yes		Stated as 16,49% for overall scheme, but no breakdown by sections.
Is who will manage the assets identified.	Yes		Provincial DARD
Is the scheme an expansion of an existing municipal and or rural town supply – if yes, are they required to on lend from the PPC?		No	

Google Image of Embankment to protect Quynh Luu Prawn farms, Salt Pans, Vegetable Growing Areas and residential land adjacent to Mo River near the Coast



Note: the red line, for the new dike as proposed, is 5.5 km long, but does not reach to the next road bridge. A further 1.5 km of dike would be required to complete this. The red line follows the line of the existing road, which is the effective existing dike at around 2.5 m elevation.

L. Other Issues

219. The length of the required dike is closer to 7 km than 5.5 km, when the full sweep of the dike around the river bends, following existing road alignments, is taken into account. This is for the most part a gravel surfaced and/or dirt road suitable for the smaller transport used around the prawn ponds, and may only be problematic for such transport when it is exceptionally wet.

220. The area directly protected by this section of the dike is relatively small – only about 10% of the overall benefit area as outlined in the preliminary design document for the whole Mo River system. The DPI and their consultants have not considered this particular project activity within the context of its own direct benefit area against the costs of the work, therefore making the eligibility assessment difficult at this time.

221. The protected area is mixed prawn farms, salt farms, vegetable farms and residential. In general both the vegetable farm areas and residential area do not fall under the defined flood areas as seen in the flood map. Whilst there may be some small areas of housing and vegetables farms that can be affected by high tide inundation, this appears to be insufficient to justify the expenditure on raising the existing road, let alone adding a 5 m wide (original concept) road on the top. Details for a revised design with a 3.5 m non-concrete road atop the bank are awaited.

222. The flood level is defined as 3.11 m – this being a combination of high tide (1.82 m) and wave action (1.29 m). To this is added 0.30 m for freeboard, which makes top of bank height 3.41 m, rounded out to 3.5 m in the preliminary design. The prawn farm banks are set at 2.8 m, and clearly for the new improved farms, the operators consider this to be sufficient to avoid salt water ingress from the adjacent Mo River. Some further reassessment should be made as to whether a 3.5 m high embankment is needed, and whether if this is the case, it cannot be achieved by adding a simple pre-cast concrete wall crest on an embankment finished at 2.8 m. The wall would rarely be tested, but could be sufficient to temporarily hold back an unexpected small tidal surge with strong wind.

223. A lower bank height likely means much of this proposed embankment would be unnecessary, and some appropriate maintenance and capping with a graded gravel top could suffice in meeting the main needs – minimization of any saltwater intrusion from the drain. A few drain outlets from the protected area may still have to be improved – new gates, bigger flow capacity, and this should be fully assessed when determining discharge capacity requirements from the particular small catchment areas.

224. No particular data has been provided about households flooding as a result of overbank flows from the saltwater drain. A further request for data has been made. If a larger embankment as designed is to be built, then some land acquisition will be required, either from the prawn farms (re-alignment and raising of their external banks) or by infill over what is currently mangrove type growth along the inner edge of the Mo River. If substantive mangrove removal is to be implemented, then an environmental impact assessment would be required, with a high risk for classification as Category A – and thus ineligibility.

225. On balance, this project probably has an ineligible EIRR, but has not been properly configured to date for this to be assessed. The adoption of the larger affected area as if there were no dikes along the drain is incorrect practice.

Conclusion

226. As currently configured, despite it being technically feasible to build an embankment as planned and designed, **this project has to be assessed as ineligible**. The constraints have been outlined to DPI and it is understood they are now reassessing their aims, scope of work and other details ahead of making a revised submission.

M. Subproject Photos



<p>Subproject masterplan and PPTA discussion with district and communes</p>	<p>Starting point of Quynh Luu Embankment</p>
	
<p>Earth road on top of Embankment and mangroves</p>	<p>Earth embankment and drain channel along</p>
	
<p>Embankment alignment goes through the private area (locally claimed temporary hiring land)</p>	<p>Earth embankment and mangroves</p>
	
<p>Earth embankment alignment goes through the private landowner</p>	<p>Earth embankment alignment</p>
	
<p>Salt farm and canal along the embankment</p>	<p>Earth embankment alignment</p>



Damaged Drain culvert



Earth embankment alignment along the canal and mangroves



Prawn farm along the earth embankment



Prawn farm along the earth embankment



Prawn farm along the earth embankment



Prawn farm along the earth embankment



Earth surface embankment



Earth surface embankment



Earth surface embankment



Drain gate



Earth surface embankment and prawn farm



Earth surface embankment and prawn farm

XXIII. OUTPUT 2 SUBPROJECT 4 YEN THANH ROAD AND IRRIGATION CANALS

A. Description

227. The subproject is located in Yen Thanh District and will support

- (i) Irrigation: 6 communes, Tang Thanh, Van Thanh, Hau Thanh, Ma Thanh, Tien Thanh, and Tan Thanh
- (ii) Roads: 5 communes, Van Thanh, Phuc Thanh, Hau Thanh, Lang Thanh and Ma Thanh

1. Road Subcomponent

- (i) Yen Thanh subproject road section has a length of 16,931 km. They are all earth rural roads, passing through mainly agricultural production areas and some sections through the residential area.
- (ii) Total length of the road sections = 16,931 km, passing through 8 communes (My Thanh, Minh Thanh, Lang Thanh, Vinh Thanh, Dong Thanh, Trung Thanh, Bao Thanh, Phuc Thanh); Mainly following the existing road with width (5.0m - 7m). The existing road surface has many potholes, the elephant pits make it difficult to travel for trade and economic development of agricultural production, especially on rainy days.

No.	Road sections	Length (km)	Start point	End point
1	Mỹ Thành	Road		
	Road from hamlet 14A to Lý Thành	1,7	Intersection with the cement concrete road at power station of Ly Thanh commune	Intersection with the cultural house hamlet (to Thanh Cong)
2	Minh Thành			
	Road hamlet 6 to hamlet 5	1,5	Connects to Giếng Mẹ bridge	Mr. Dong's house, village 5
3	Lăng Thành			
	Road from commune centre to Tổng đội TNXP6	4,6	Intersection with Bệnh viện-Hợp Thành road	Connects to road 22
4	Vinh Thành			
	Road from NH7 to Bien Hoa Canal	3,7	Connects to NH7 at km 11+50.00	Connects to Biên Hòa canal embankment
5	Đồng Thành			
	Transport road from Đồng Xuân-Đồng Trố	2,0	Connects to Pagoda bypass road	Pagoda road
6	Trung Thành			
	Trung Long Road	0,8	NH7B	Máy Kéo bridge
7	Bảo Thành			
	Inter-commune road to hamlet 6	1,131	Hamlet 2 cultural house	Hamlet 4
8	Phúc Thành			
	Road around lotus lake	1,5	Hoang temple road	Mr. Toan's house, hamlet 18
	Total	16,931		

228. Decision No. 4927 / QD-BGTVT of December 25, 2014 of the Ministry of Communications and Transport promulgating guiding the selection of rural roads technical specifications for the national target program on rural construction new period 2010-2020. Grade of construction: The road is designed according to the standard roads of category A and type B.

No.	Road sections	Length (km)	Start point	End point	Proposed rural road categories
1	Mỹ Thành	Road			
	Road from hamlet 14A to Lý Thành	1,7	Intersection with the cement concrete road at power station of Ly Thanh commune	Intersection with the cultural house hamlet (to Thanh Cong)	Rural Road Category A
2	Minh Thành				
	Road hamlet 6 to hamlet 5	1,5	Connects to Giếng Mẹ bridge	Mr. Dong's house, village 5	Rural Road Category A
3	Lăng Thành				
	Road from commune centre to Tổng đội TNXP6	4,6	Intersection with Bệnh viện-Hợp Thành road	Connects to road 22	Rural Road Category A
4	Vĩnh Thành				
	Road from NH7 to Biên Hoa Canal	3,7	Connects to NH7 at km 11+50.00	Connects to Biên Hòa canal embankment	Rural Road Category B
5	Đồng Thành				
	Transport road from Đồng Xuân- Đồng Trỏ	2,0	Connects to Pagoda bypass road	Pagoda road	Rural Road Category A
6	Trung Thành				
	Trung Long Road	0,8	NH7B	Máy Kéo bridge	Rural Road Category A
7	Bảo Thành				
	Inter-commune road to hamlet 6	1,131	Hamlet 2 cultural house	Hamlet 4	Rural Road Category A
8	Phúc Thành				
	Road around lotus lake	1,5	Hoang temple road	Mr. Toan's house, hamlet 18	Rural Road Category B
	Total	16,931			

2. Description for Irrigation Component of Subproject

- (i) The rehabilitation and upgrading of various tail reach canal sections, improving from open earth ditch to lined section.
- (ii) Project area that is:
 - (a) Total project area – aggregated irrigation command areas: 660 ha.
 - (b) Area flooded each year: none
 - (c) Aggregate length of all the irrigation canal sections – 26,100 m
 - (d) Proposed Irrigation Canal Categorization: to be upgraded to Grade IV Irrigation Works with the guarantee frequency: P = 75%; and flood frequency design: P = 2.0%.
 - (e) Design Option for irrigation canals: Cross-section rectangular design. Irrigation canals will be structured with M200 reinforced concrete made in place (B > 1 m)

or ordinary concrete M200 made in place ($B < 1$ m), walls and bottom of the canal are (12 - 15 cm thick). The bottom of the canal is made of a 10 cm M10 concrete layer or lined with a solid tarpaulin.

o

No.	Canal name	In commune	Length (m)	Service area (ha)	Type (after upgrade)
1	Canal from Ky Ruou reservoir	Tang Thanh	2100	100	Lining
2	Lo Ngoi canal	Van Thanh	2000	110	Lining
3	Main Canal from Bau Ganh weir	Hau Thanh	5000	110	Lining
4	Chua Lui canal	Ma Thanh	1500	60	Lining
5	Ke Sat canal	Tien Thanh	4500	80	Lining
6	Nha Tro canal (with 5 x 800 m branches)	Tan Thanh	6500	110	Lining
7	Ma To canal	Tan Thanh	4500	50	Lining
	Total		26100	660	

- (i) Current performance and constraints – canals are unlined and in various state of low to poor maintenance by water users, making them hydraulically inefficient, and unable to properly deliver required discharge to the tail reach (as stated by local irrigators).
- (ii) Each section is separate, and whilst JICA is in the process of upgrading (lining) the main canal through Yen Thanh, including some subsidiary canals, the proposed canal reaches for upgrading under BIIG2 are separate systems fed from small reservoirs. Reliability of supply for these small systems is a major concern due to variable and limited rainfall through a prolonged dry season (climate change impacts) which could limit the benefits of improving the tail reach sections in these small systems.

229. Land use in project area

- (i) Irrigation Command areas – 660 ha (see tables)
- (ii) Area of crop irrigated dry season – 660 ha

No.	Canal name	Length (m)	Service area in dry season (ha)	Type (after upgrade)
1	Canal from Ky Ruou reservoir	2100	100	Lining
2	Lo Ngoi canal	2000	110	Lining
3	Main Canal from Bau Ganh weir	5000	110	Lining
4	Chua Lui canal	1500	60	Lining
5	Ke Sat canal	4500	80	Lining
6	Nha Tro canal (with 5 x 800 m branches)	6500	110	Lining
7	Ma To canal	4500	50	Lining
	Total	26100	660	

230. Area of irrigated crop wet season – 435 ha

No.	Canal name	Length (m)	Service area in wet season (ha)	Type (after upgrade)
1	Canal from Ky Ruou reservoir	2100	80	Lining
2	Lo Ngoi canal	2000	40	Lining
3	Main Canal from Bau Ganh weir	5000	85	Lining
4	Chua Lui canal	1500	30	Lining
5	Ke Sat canal	4500	70	Lining
6	Nha Tro canal (with 5 x 800 m branches)	6500	75	Lining
7	Ma To canal	4500	35	Lining
	Total	26100	435	

231. Area of other perennial or seasonal crops – 120 ha

No.	Canal name	In commune	Length (m)	Service area in vegetable (ha)	Type (after upgrade)
1	Canal from Ky Ruou reservoir	Tang Thanh	2100	15	Lining
2	Lo Ngoi canal	Van Thanh	2000	10	Lining
3	Main Canal from Bau Ganh weir	Hau Thanh	5000	20	Lining
4	Chua Lui canal	Ma Thanh	1500	15	Lining
5	Ke Sat canal	Tien Thanh	4500	20	Lining
6	Nha Tro canal (5 x 800 m branches)	Tan Thanh	6500	20	Lining
7	Ma To canal	Tan Thanh	4500	20	Lining
	Total		26100	120	

232. Major crops irrigated or produced: Winter-Spring rice, Summer-Autumn rice and summer vegetables.

233. Structures to be upgraded in canals – canal lining, 26,100m, rectangular cross-section with various dimensions including 84 box culverts (for drains across the canals and head canal supply culverts); 49 interstream culverts, 23 chutes, and 1 water conduit bridge.

B. Proposed investment costs by works, area and section:

Proposed investment (USD)	Proposed irrigation investment (USD)	Proposed road investment (USD)	Proposed irrigation investment \$/ha	Proposed road investment \$/km	Proposed investment cost per km of upgraded canal
4,115,000	2,220,897	1,986,368	2,847	275,884	98,270

C. Rationale

234. The subproject aims

- (i) to improve the efficiency of using water resources from 7 reservoirs: Hồ Kí Rượu, hồ Vệ Vững, Hồ Bàu Ganh, hồ Hồ Chùa Lụi, Hồ Kê Sặt, hồ Nhà Trò, Hồ Mã Tổ in Yen Thanh District. The total reservoir storage volume is over 40.0 million m³ to irrigate 780 hectares of crops (of which the subproject area is 660 hectares, mainly paddy rice).

- (ii) contribute to poverty alleviation, economic improvement for about 37,800 people in 9 communes in Yen Thanh district through the construction of new irrigation canals from the 7 reservoirs, which were built to promote agricultural production, improve crop yields, improve farm income and reduce vulnerability to drought and flood, with associated damage to crops, infrastructure, land erosion and livelihoods.
- (iii) Construct and upgrade inter commune rural roads for people to travel in the project and surrounding areas.

235. Proposed works:

- (i) To improve canal systems totaling 22.6 km to secure rice and vegetable irrigation operations for 780 hectares in Van Thanh, Tang Thanh, Hau Thanh, Ma Thanh, Tien Thanh and Tan Thanh communes of Yen Thanh district.
- (ii) Repair and upgrade the inter-commune rural roads of 16.931 km in Yen Thanh District to support the efficient transportation of agricultural products, and provide better communication links for the people in the project and surrounding areas.
- (iii) To upgrade and construct the inter-commune rural roads to link poor communes with production areas, with economic centers (e.g. Yen Thanh Market), and with more developed regions to expand employment opportunities.

Beneficiaries by the Subproject									
Irrigation Canal Section					Road Section				
Direct	Indirect	Poor Famer HHs	Near poor farmer HHs	Female headed HHs	Direct	Indirect	Poor Famer HHs	Near poor farmer HHs	Female headed HHs
16,800	42,000	924	1,680	1,344	37,800	63,000	2,079	3,780	2,016

236. The subproject will directly benefit about 16,800 people in 9 communes in Yen Thanh district.

D. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
The PPTA notes that the subproject is predominantly a road subproject and is poorly aligned to the output 2 purpose of productive infrastructure, as such it is considered to be ineligible for output 2 without reformulation based on reduced road investment			
1: Include in SEDP – if yes state page and section number	Yes		Decision No: 2997/QĐ-UBND-NN, dated 16 July 2013 issued by Nghe An PPC Decision No 620/QĐ-TTg dated on 12 th May, 2015 on approval of socio-economic development planning in Nghe An province by 2020. Decision No. 728 / QĐ-TTg dated 28/4/2016 of the Prime Minister approving the list of PPTA "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB).
2: Included in Sector Plan – if yes state page and section	Yes		Decision No. 929/QĐ-UBND dated March 10, 2015 issued by Nghe An PPC Decision No. 78/2010/QĐ-UBND dated Oct. 11, 2010 issued by Nghe An PPC on Planning of Irrigation and Drainage until 2020
3: Proposed design concept document available for screening team – if yes state date of proposal	Yes		April 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	Yes		Economic life: 30 years
5: Proposed design standard proposed – how does it incorporate the effect of climate change.	Yes		Proposed Irrigation Canal Categorization: the irrigation canals are proposed to be developed to Grade IV Irrigation Works with the guarantee frequency: P = 75%; and flood frequency design: P = 2.0%. 8 inter-commune rural roads are proposed to be developed to rural road category A and B standards specified in Decision No. 4927 / QĐ-BGTVT of December 25, 2014 of the Ministry of Communications and Transport. Climate change is not yet factored into the designs.
6: Is a concept or preliminary engineering design available	Yes		Plan, cross section, typical longitudinal section
7: Is the preliminary design already approved by commune, district or PPC		No	Not available
8: Is there a bill of quantities with the preliminary design		No	Not available
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	Yes		13 July 2017 (just a draft cost estimate)
10: Are there significant structures required – if yes please identify		No	

11: What land is required (ha) and who owns land		No	Upgrades follow existing alignments and right of way
12: is there approval to build the structure on proposed alignments		No	As per discussion with DPI and District, DPI will provide an official approval to build the structure on proposed alignments by PPC and DPC and the technical and competent provincial authorities

E. Safeguards

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition required if yes go to A.1		No	Follows existing alignment and scale
A.1 Land Acquisition	Agriculture Land	Yes		Minor
	Urban Public Land		No	Some alignment on public land corridors in front of properties with closed channel section – temporary disruption during construction.
	Urban Private Land		No	
A.2 Structures	Private houses		No	
	Private other		No	
	Public Structures		No	
A.3	Other Assets		No	
A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much		No	
A.6	IS other land affected from the discharge of water		No	
A.6	Is this category B, C or uncertain	B		
B: Environmental Screening				
B.1 water source and network effect on forests Are there any of the following along the alignment of within close proximity? – if yes is the risk significant?	Production forest land		No	
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain	Is water evacuated into receiving bodies		No	Outflows will be to farm lands with any excess to existing drains

	Are their risks of water contamination from discharges		No	Aim is to reduce losses and hence reduce overall water use Water is only supplied through canals at time of need, so any overspill from canals is generally limited and usually directed to drains and/or natural waterways. Operational control has to be improved to maximize benefits.
	Is water use increased		No	
	Downstream impact of water discharge including increased amplitude of flood events due to faster flood evacuations		No	
B.3 Does the proposal include any IEE screening			No	The proposed road subproject doesn't include any IEE screening. Irrigation is existing so no impact.
B.4 Did the field visit identify issues from EARF that need to be addressed			No	The field visit identified no issue from EARF that needs to be addressed.
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change	Yes		To the extent that flows and/or water storage could be adversely impacted with changing rainfall and temperature patterns (altered runoff and evaporation rates)
	Risk from contamination from human settlement or livestock	Yes		To be discussed and outlined where settlements are close to water source, in catchment and/or close to the canal network feeding the section to be upgraded.
	Risk of deforestation devegetation		No	
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain		B	As per the PPTA consultant's field visit to the subproject sites, the subproject is classified under category B or C for environment. However, to confirm cat B or C for environment, it requires an IEE for the FS.

F.

G. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	8 communes: Tang Thanh, Lang Thanh, Phuc Thanh, Van Thanh, Hau Thanh, Ma Thanh, Tien Thanh, and Tan Thanh
Is the population data available for each commune, township	No	Overall project area data provided, but no breakdown by commune.
Is the number of Poor households available	Yes	Ditto
Is the number of near poor households available	Yes	Ditto
Are ethnic minorities identified and specified	No	
Is land use specified	Yes	Rural, agriculture, mostly paddy rice
Are the number of female headed households specified	Yes	Overall project area data provided, but no breakdown by commune.
Is the GAP adequately reflected	No	

Who in communes benefits most? Home owners or the poor?	Yes	Irrigators for production, poor home owners with increased livelihoods and work opportunities, communes through better connectivity.
--	-----	--

H. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an investment cost per meter of upgraded canal? Is there an investment cost per meter of upgraded road?	Yes		US\$ 98.27 / m of upgraded canal US\$ 275,000 per km of upgraded road
Is the asset owner identified	Yes		Yen Thanh DPC
Is the Cost of Maintenance identified		No	
Are scheme benefits clearly identified by category of benefit		No	
Is each benefit quantified		No	
Is there an economic assessment – if yes what is EIRR?	Yes		The FS states the subproject is expected to achieve a 12% EIRR, but no evidence or analysis is presented to confirm how this was derived.
Is there a detailed worksheet for the EIRR		No	

I. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	Yes		The subproject is considered eligible by being part of the Yen Thanh SEDP and DARD Masterplan as well as NCCP Master Plan.
Is there a clear design standard that is justified	Yes		Proposed Irrigation Canal Categorization: the irrigation canals are proposed to be developed to Grade IV Irrigation Works with the guarantee frequency: P = 75%; and flood frequency design: P = 2.0%. 8 inter-commune rural roads are proposed to be developed to rural road category A and B standards specified in Decision No. 4927 / QD-BGTVT of December 25, 2014 of the Ministry of Communications and Transport.
Are there outstanding approvals required	Yes		Requires clarification and confirmation: (a) the consistency of the total length of the proposed irrigation canals and road section in the FS and the IP. (b) Requires traffic count data to justify the proposed mountainous road category V. (c) the consistency of the total budget in the IP of US\$ 4,040,000 while the FS of US\$ 4,115,000. (d) Initial Environmental Examination and IOL and REMDP reports (e) Design documents, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design is it sufficient to understand the proposal	Yes		There is already a draft preliminary design
Is there a Feasibility study	Yes		There is a draft Feasibility study

Is there sufficient data on the need and purpose of the investment		No	There is insufficient data (benefits) on the need and purpose of the investment. More data and information should be provided in the full FS development for approval.
Is there sufficient data on water supply reliability?		No	Not available
Is there a risk that the Subproject will be category A for resettlement and affected persons		No	In the PPTA's view, the subproject will be classified as category B or C for resettlement and affected persons
Is there a risk that the Subproject will be category A for environment		No	In the PPTA's view, the subproject will be classified as category B or C for environment
Does the Subproject have clear economic inclusiveness outcomes	Yes		The PPTA consultant's subproject field visit assessment confirms the subproject has clear economic inclusiveness outcomes, but further evidence will have to be provided in the final FS.
Does the subproject contribute to a system or extended protection network	Yes		The sections of canal to be upgraded are part of smaller upland reservoir fed systems. These have greater dry season water supply reliability problems. The FS should explain how these upgrade works will improve water supply reliability and how this will benefit the various beneficiary categories – irrigators, poor, women, communes.
Is the project expected to achieve a 9% EIRR	Yes		The FS has stated that the project is expected to achieve a 12% EIRR, but no supporting evidence has been provided.
Is who will manage the assets identified	Yes		Yen Thanh DPC
Is the scheme an expansion of an existing municipal and or rural town supply – if yes, are they required to on lend from the PPC?		No	these are existing sections with no indication of extension and/or expansion of command area as part of the proposed upgrade works.

J. Reformulation Discussion:

237. Following the screening this Subproject was the subject of reformulation in response to the screening findings after having completed an initial site visit. It was revisited after the change in scope, at which time it was expected Nghe An DPI and their consultants would provide updated documentation outlining the change and the impacts for the project investment. New documentation is being provided but more attention to the likely outcome of the proposed investment is needed to ensure that there is a stronger likelihood of feasibility. The DPI agreed to provide additional detail.

238. The scope refers to several separate (non-homogeneous) parts of several small irrigation schemes, within the District. The proposal also includes the upgrade of a rural road through the area. Canal rehabilitation will convert earth canals to lined canals – in many cases to overcome deferred maintenance and restore overall conveyance capacity, particularly to tail reach sections. The water is supplied from several interlinked and/or small catchment specific reservoirs (7 No.). No detail has been provided in respect of these reservoir operations, water balance and overall capacity (singularly or combined) to adequately support the proposed upgraded canal works and command areas, and no additional allowance or adjustment is given for the potential impacts of climate change.

239. The adequacy of detail provided at this stage makes it difficult to verify the eligibility of this subproject in terms of the likely benefits accruing to support community based economic growth. Though the overall impact would be positive, there is no plan provided to establish the level of expected improvement, nor the future maintenance program required to secure that improvement well into the future.

240. Without further provision of data and relevant analysis, it is difficult to assess the eligibility of this project. Though it complies in several respects, the lack of a clear benefit stream (well defined and achievable outcomes) suggests the project should be placed on hold until further detailed planning and evaluation work has been completed.

K. Recommendation

241. As screened the subproject is not eligible in terms of alignment to output targets of productive infrastructure. Further there is a significant risk that many of the irrigation command areas will fail to achieve the required feasibility in terms of (i) adequate water balances, (ii) beneficiary returns, and (iii) sustainability.

242. The DPI agreed to revisit the subproject to realign it to the output 2 goals and provide greater attention to the expected benefits of irrigation.

L. Appendix

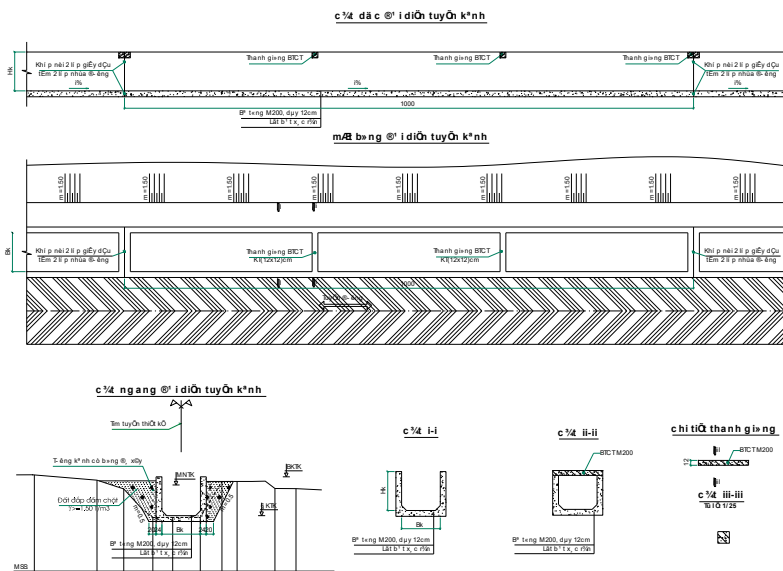
1. Water Source Reservoir and Irrigation Systems

No.	Reservoir and Weir	Canal System	Commune	Area of reservoir F (km ²)	Capacity of reservoir W (m ³ x 10 ⁶)	Water extracted from reservoir (%)	Length of canal (m)
1	Kí Rượu	Kí Rượu canal	Tăng Thành	2.60	1.20	100.00	2100
2	Vệ Vừng	Lò Ngói canal	Văn Thành	37.20	18.20	4.40	2000
3	Bàu Ganh	Bàu Ganh canal	Hậu Thành	2.20	0.90	100.00	5000
4	Chùa Lụi	Chùa Lụi canal	Mã Thành	2.90	1.10	75.00	1500
5	Kê Sặt	Kê Sặt canal	Tiến Thành	9.30	2.97	44.00	4500
6	Nhà Trò	Nhà Trò canal	Tân Thành	12.02	4.71	34.00	6500
7	Mã Tổ	Mã Tổ canal	Tân Thành	18.00	11.00	12.70	4500

2. Irrigation Command Area for each Irrigation Sub-system

No.	Reservoir & Weir	Canal	Commune	Area of service irrigation (ha)	Crop Winter-Spring (ha)	Crop Summer-Autumn (ha)	Length of canal (m)
1	Kí Rượu	Kí Rượu canal	Tăng Thành	100	60	50	2100
2	Vệ Vừng	Lò Ngói canal	Văn Thành	60	80	70	2000
3	Bàu Ganh	Bàu Ganh canal	Hậu Thành	110	165	145	5000
4	Chùa Lụi	Chùa Lụi canal	Mã Thành	60	112	100	1500
5	Kẻ Sặt	Kẻ Sặt canal	Tiến Thành	80	224	200	4500
6	Nhà Trò	Nhà Trò canal	Tân Thành	140	84	75	6500
7	Mã Tổ	Mã Tổ canal	Tân Thành	110	140	125	4500

Figure 1: Typical concept design for canal system (Longitudinal and cross-section) Exact dimensions will be determined in FS report and basic design phase



General Layout Plans (over Google Earth Image) of each irrigation sub-system



Figure 2: Ký Ruou reservoir and Canal System (blue) with Irrigation Command Area (yellow)

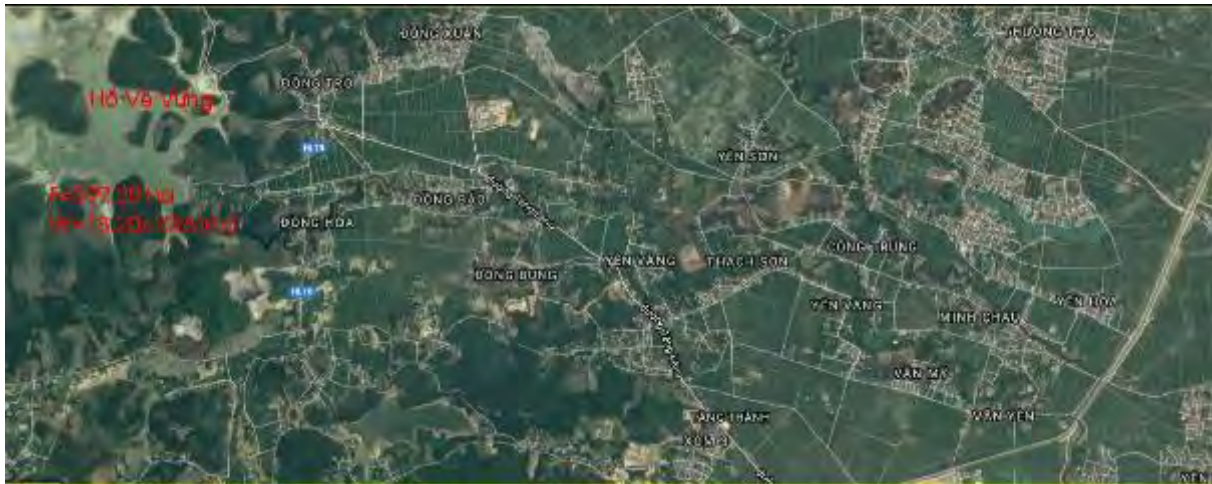


Figure 3: Ve Vung reservoir and Canal System (blue) with Irrigation Command Area (yellow) (below)



Figure 4: Canal System (blue) with Irrigation Command Area (yellow)

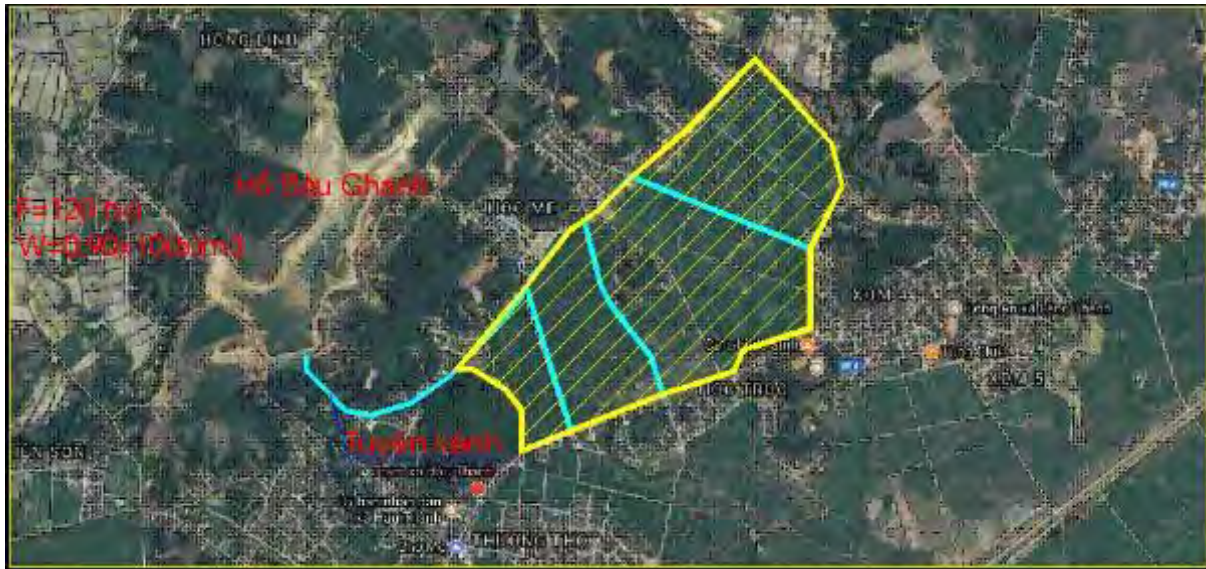


Figure 5: Bau Chanh reservoir and Canal System (blue) with Irrigation Command Area (yellow)

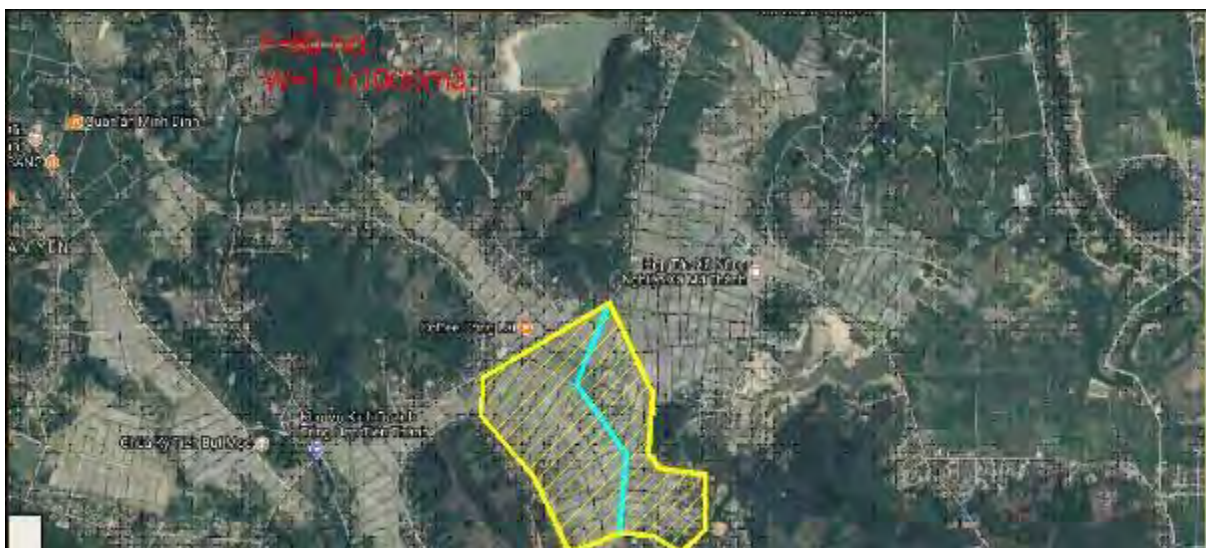


Figure 6: Ke Sat reservoir and Canal System (blue) with Irrigation Command Area (yellow)



Figure 7: Ke Sat reservoir and Canal System (blue) with Irrigation Command Area (yellow)

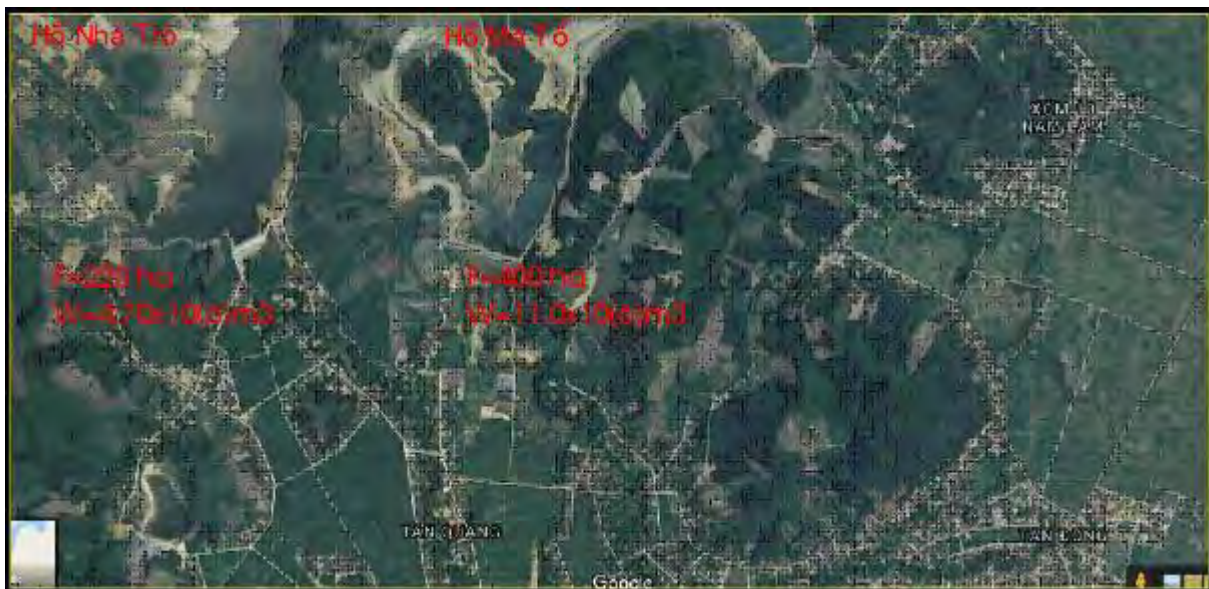


Figure 8: Ma To reservoir and below the Canal System (blue) with Irrigation Command Area (yellow)



III. QUANG BINH PROVINCE

EXECUTIVE SUMMARY

N. Output 1 Transport Connectivity - Additional Subproject Screening

1. Summary of Findings

243. Four additional subprojects are included in the long list. Detailed findings of individual subproject screening are presented in sections III to VI below. As proposed and presented to the PPTA the **additional road subprojects are most probably eligible for ADB financing.**

244. The major caveat is the lack of detailed data on the scale of social resettlement that needs to be confirmed once center line and design details are available. Further, there needs to be more clarity over the impact on production and protection forest areas which are currently unexplained. A number of important approvals are required and these are urgent.

245. There is less certainty over their feasibility, however cost effectiveness options will be needed during detailed design.

246. A number of formulation options and clarifications are identified and have been discussed with the DPI/PMU and their consultants. These formulation changes are being developed currently. However, the resultant subproject design will not have been screened by the PPTA. The PPTA consultants worked closely with the District and Provincial staff to discuss issues regarding the use of existing alignments rather than the proposed new alignments, the need for certainty over start and end points, and the need for better information on the safeguards concerns. All parties are in agreement however these agreements need ratification.

247. The **PPTA concludes that the proposed subprojects are, with the exception of the Road from Loc Ninh commune to Tay Bac Industrial Zone in Dong Hoi city, eligible. However, their feasibility needs to be confirmed.** The subproject road from Loc Ninh commune to Tay Bac Industrial Zone in Dong Hoi city as proposed is not eligible due to its (i) requirement to move graves and tombs, and (ii) possible impacts on protection forests. A further concern is the approval required for the railway crossing with the road from Loc Ninh to Tay Bac industrial zone, which will be complex and costly to achieve. Options have been discussed to modify the design to avoid these impacts and if so the subproject could be resubmitted.

248. A summary of the assessed criteria is presented in the following table. For some criteria, there is inadequate data available at the time of screening. The detailed actions are recorded in the appended subproject reports, as are agreements where these have been reached.

249. Whilst the PPTA and Government representatives have agreement on the eligibility and the proposed design categories of the road subprojects, no traffic count data was sighted and not traffic forecasts were available to assess the accuracy of the proposed technical design standards that have mostly been taken from planning documents. Traffic projections should be prepared prior to any FS work to ensure that the correct design standards are being applied.

Table 14: Output One Screening Results

Subproject Name	Eligibility						Safeguard Compliance		GAP	Feasibility and Viability indicators				Sustainability	Eligibility
	C1	C2	C3	C4	C5	C6	C7	C8		C9	C10	C11	C12		
Criterion															

1 South Quang Hai bridge to Lac Giao	✓	✓	✓	✓	?	✓	?	✓	?	?	x	X	X	✓	Not Yet
2. National Highway 1A bypass with Eastern branch of Ho Chi Minh road	✓	✓	✓	✓	?	✓	?	?	?	X	X	?	?	✓	Not Yet
3. Dinh Muoi Tourism Road, Quang Ninh	✓	✓	✓	✓	✓	✓	?	?		✓	✓	?	?	✓	Yes
4 Road from Loc Ninh commune to Tay Bac Industrial Zone in Dong Hoi city	✓	✓	✓	✓	?	?	X	X		?	?	?	?	?	NO

O. Output 2 Productive Infrastructure

1. Summary of Subproject Screening

Table 15: Summary of Findings

Sub Project	Scale	Planned Work	Total Cost (US \$)	Unit Cost (US\$)	Eligibility	Feasibility	Recommendation
Upgrading irrigation and flood drainage system of Kenh Kia river, Ba Don town area and Quang Trach district	3.5 km long, earth banks each side, 45 m bed width with drainage 2.5 km of earth drain upgrade for 400 ha mixed use 3 No and 1 upgraded irrigation pumps (each 250 m ³ /hr.) for 200 ha	<p>Improve natural river capacity with conversion to embanked channel to alleviate flood risks (excavation 45 m bed width and bank construction 2 to 3 m high)</p> <p>Protect mostly irrigated rice (200 ha) with some limited flower and vegetable areas (up to 10%)</p> <p>Improve 3 No. drainage channels for irrigated (300 ha) and urban areas (up to about 100 ha) with waste inflows from expanding urban areas</p>	4,250,000	Irrigated Area = US\$ 21,000 / ha Per Drain length = US\$ 700 / m	No	<p>Unit costs need break down between the different parts.</p> <p>This project is impacted by wastewater drainage from urban areas that can be recycled back into the food chain.</p> <p>As presented the project is ineligible - category A environment.</p>	Not eligible - urban wastewater entering drains with water recycled to irrigation supplying the food chain - without separation or treatment, is environment Category A.
Upgrading and expansion of Gianh river fishing port, Bo Trach district	2014 capacity - 36,000 t/yr. Future (2030) - 70,000 t/yr.	Ba Don Drainage, Flood Protection	4,175,000	US\$ 123 / additional tonne of fish handled (\$12.5/t over 10 years)	NO	<p>There is no means for the enterprise to meet its costs and to maintain the port operations</p> <p>Project has potential but requires a major management shakeup to turn a poorly run operation around to secure a permit for safe hygienic export quality fish handling and processing. DPI are now looking to rearrange the works to minimize/eliminate dredging, relocate</p>	Currently environment category A due to poor operational hygiene, fuel presence of fish landing piers, dredging requirement, and proposal for continuation. Technically viable, but needs reconfiguration to minimize/eliminate dredging, move fuel away from piers, and improve overall fish catch handling and processing through sequential steps - seaward to landward. Project

						<p>fueling and organize the site for more effective and efficient management. A Master Plan is to be prepared for further consideration.</p>	<p>has potential if redeveloped to a proper Master Plan with improved and enforced operations management.</p>
--	--	--	--	--	--	--	---

250. Two additional subprojects are proposed (see table 2) with detailed screening results presented in sections VII and VIII below. The screening results find both proposed subprojects are not eligible for a number of reasons including environmental and social safeguards, a lack of feasibility – technical and economic and for the Giang river port, a significant management constraint.

251. Currently the PPTA confirms both subprojects to be ineligible and most likely not feasible.

252. The screening criteria summary is presented below with the detailed subproject screening reports provided in Sections VII to IX. These include the required actions and agreements where these have been reached.

Table 16: Output 2 Subproject Screening Findings

Subproject Name	Eligibility						Safeguard Compliance		GAP	Feasibility and Viability indicators				Sustainability	Eligibility
	C 1	C 2	C 3	C 4	C 5	C 6	C 7	C 8		C 9	C 10	C 11	C1 2		
Upgrading irrigation and flood drainage system of Kenh Kia river, Ba Don town area and Quang Trach district	✓	✓	✓	✓	?	?	?	X	?	?	?	X	X	?	NO
Upgrading and expansion of Gianh river fishing port, Bo Trach district	✓	✓	✓	✓	?	?	?	X	?	X	?	X	X	?	NO

XXIV. APPROACH AND METHODOLOGY

A. Introduction

253. The subproject screening was undertaken by the PPTA during June 2017 based on the long list of subprojects proposed by the PMU. The long list was modified and confirmed during loan fact finding. The proposed subprojects once screened will form the basis of the Government Investment proposal (IP) report.

254. The screening process is presented below. However, it was far more than a simple eligibility screening with a need to review both eligibility and likely feasibility. In doing so, significant issues arose in terms of eligibility and also the likelihood of the proposed subprojects being feasible. As part of the PPTA review process, additional input was provided to Quang Binh DPI/PMU to review current and alternative formulation of each subproject that would reduce the risk of ineligibility and or a lack of feasibility.

255. Significant weaknesses in road subprojects relate to (i) proposed new alignments that are yet to be approved or marked on the ground with often unclear justification for the proposed road design category, (ii) the inconsistent data sets relating to length of roads, costs and date of costings with the possibility of cost estimates being out of date and or inaccurate. For the output 1 **road subprojects** no significant safeguard classification issues were identified however some subprojects need to be carefully designed to ensure that resettlement is minimized. Most roads have traffic counts although these were mostly not provided to the PPTA and it is unclear if the projected traffic is realistic or not. As such, the economic feasibility of the proposed roads is not easily assessable. For output 2 subprojects, **productive infrastructure for business development improved**, four proposals were reviewed with three of these being river and flood protection and one an irrigation scheme. The quality of these subprojects is lower than the road subprojects with weaknesses in rationale and design and commensurate risks in terms of safeguards and economic viability. During debriefing and consultation phases, these issues have been discussed in depth with the PMU who have started to make suggested changes or look at alternative options for the formulation of these subprojects.

1. Documents Reviewed

256. The screening involved a review of documentation including sector plans, provincial plans and subproject documentation. Wherever possible local engineering consultants' concept and design documents were reviewed if available. Consultation meetings were held with sector and DPI representatives and the PMU staff as well as field visits made to each subproject site with consultation of District and Commune staff.

2. Field Surveys

257. During the screening each field site was visited. For output 1, road alignments were inspected from end to end, maps reviewed and visual assessments made, with field visits for social and environmental safeguard purposes. However, the findings of these are caveated as the centerline is often yet to be surveyed and marked. Based on the visual assessment, the likelihood of severely affected households was assessed by number of households to identify the likelihood of triggering a category A classification. Each visit involved DPI and local consultant staff and where possible DOT representatives, and meetings were held with district and commune officials. For many sites, local PMU staff had not previously visited the site and the inspections provided an improved awareness of proposed subproject scope and issues.

258. For output 2 subproject proposed sites were visited, often more than once, including observation of all structures, potential beneficiary impact zones and related infrastructure. The fieldwork involved local consultants and in most cases local staff of Districts and communes and the PMU representatives. Overall, the level of preparedness of the output 2 subproject is less advanced than for output 1 resulting in far higher degrees of uncertainty about these proposals.

B. Screening criteria

1. Output One: Road Infrastructure

259. The eligibility criteria for subproject screening are presented in the following table

Table 17: Assessment Criteria for Output One Road Subprojects

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the FNCP Master Plan outcome theme of improved connectivity
	C3: aligned with the FNCP Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of Subproject scope and works program C6: Preliminary design drawings and supporting technical assessments available
Safeguard Compliance	
REMDF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with traffic count and network derived demand forecasts and the Provincial planning documents C11: New alignments have PPC approval and are marked on the ground
Financial Cost Estimates between \$8 and \$15 million	C12: Current cost estimate consistent with benchmarks for road categorization
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with traffic forecast
Sustainability	C14: Road category standard consistent with forecast Passenger Car Unit (PCU) at Project completion

2. Output 2: Productive infrastructure for business development improved

260. The eligibility criteria for subproject screening are presented in the following table

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the provincial SEDP and or sector Master Plan outcome theme of improved connectivity
	C3: aligned with the Provincial Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of subproject scope and works program C6: Preliminary design drawings and social survey to ascertain demand available
Safeguard Compliance	
REMDF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C

Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with needs C11: Supports a clear rationale and beneficiary impact
Financial Cost Estimates between \$1 and \$5 million	C12: Current cost estimate consistent with benchmarks for cost
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with demand estimate
Sustainability	C14: Cost per ha protected or irrigated is within affordability benchmarks

XXV. SUBPROJECT 1: ROAD FROM SOUTH QUANG HAI BRIDGE TO LAC GIAO

A. Subproject description

261. The subproject road runs from south Quang Hai bridge to Lac Giao subproject. The road alignment was approved according to Quang Binh Transport Master Plan until 2020 in Decision No. 540 / QĐ-UBND dated 13/03/2013 of Quang Binh People's Committee. The scope of works includes the construction of 1 small bridge with HL-93 and 22 culverts of all types, and drainage works, protection works, and traffic systems.

- (i) Starting point (Km0 + 0.00) connects to Quang Hai concrete road, the south of Quang Hai bridge in Quang Loc commune, Ba Don town.
- (ii) End point: Km9+750 connects to PR559 in Quang Tien commune, Ba Don town.
- (iii) Total length 10.5km.

B. Road alignment:

262. The new road follows the planned road DT59 and the axis ring road of Ba Don town. Starting point intersects with Quang Hai concrete road (200m from Quang Hai bridge) new road passes through rice paddies of Quang Loc commune; Quang Tan; Quang Trung; Quang Tien: End point intersects with PR59 at km11 + 200 in Quang Tien commune.

C. Existing Status

- (i) The proposed road is not formed yet. This is a new road, which passes through the paddy fields and some inland field canals, crossing many inter-commune concrete roads. The two sides of the road are paddy fields, garden land, flat terrain, the right side of the road (30m-150m from the central line of the road) are the residential areas along the road.
- (ii) Km0+00 to km1+160 (1,160m): the road base is not formed yet. The existing road is in the middle and the two sides are the paddy field on the left side of the road has a system of concrete ditches along the road, with an electricity line of 110KVA high above the road. The right side of the road is the residential area and the school is located about 120m away from the road.
- (iii) Km1+160 to km2+00 (840m): the road base is not formed. The existing road surface is in the middle and the two sides are the paddy field on the left side of the road has an earth ditch system along the road.
- (iv) Km2+00 to km2+689.64 (689m): the road base is not formed. The existing road is in the middle and the left side of the route is paddy field, the central line on the left side is located about 170m from the residential area, the right side is the graveyard of Vinh Phuoc village, Quang Loc commune about 30m away from the road.
- (v) Km2+689.64 to km2+731.39 (42m): the road section goes across the Hoi Truong river L = 41.75m, the river is about 2m deep from normal water level in the dry season.
- (vi) Km2+731 to km3+360 (628m): the road base is not formed. The existing road surface is in the middle and left side of the road is a rice field, the center line on the right side is 300m away from Quang Tan commune cemetery, and 42m away from the broadcasting antenna pole.
- (vii) Km3+360 to km5+120 (1.9km): the road base is not formed. The existing road surface is in the middle and left side of the road is a rice field, the right side of the road is 42m away from the local church.
- (viii) Km5+120 to km8+920 (3.8km): the road base is not formed. The existing road surface is in the middle and to left of the road is there is a rice field. The rocky mountain range and the school can also be seen on the left.
- (ix) Km8+920 to km9+720 (800m): the road base is not formed. The existing road surface in the middle is the 110kw power pole and the two sides is the rice field
- (x) Km9+720 to km10+142 (422m): the road base is not formed. The existing road surface is in the middle and left side of the road is a rice field, the right side is the residential concrete road with Bn=5m.

D. Proposed Road Categorization:

263. The proposed design category is plain road category V standards specified in TCVN 4054 – 2005. Design speed: $V_{TK} = 40\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 60\text{m}$; Maximum vertical slope: $I_{max} = 7\%$; Roadbed width: $B_{nên} = 7,5\text{m}$; Road surface width: $B_{mặt} = 5,5\text{m}$; Roadside width: $B_{lề} = 2 \times 1,0 = 2\text{m}$; Reinforced shoulders $B_{lềgc} = 2 \times 0,5 = 1\text{m}$; The frequency of road, culverts, small bridge design is 4%, medium bridge 1%; Bridge design load of HL93; culverts of H30-XB80; axle road pavement is 10T. Asphalt road surface A2, $E_{yc} = 100\text{MPa}$.

E. Investment

- (i) Proposed investment \$ total: US\$ 5,298,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 311,389/km.

F. Rationale

264. Ba Don town, Quang Binh province is a newly established town, which experiences difficulties and annual impacts from natural disasters such as rain, floods and storms. Infrastructure is still limited making transport difficult, especially in the southern communes of Quang Loc, Quang Trung, Quang Tan and Quang Tien. Currently, roads are mostly earth roads, partly passing along Gianh River, so the travel is very difficult, especially in the rainy and flood seasons. Upgrading this road will provide connectivity between 4 communes Quang Loc, Quang Trung, Quang Tan and Quang Tien in Ba Don town, rather than being intended for through traffic.

265. Ba Don town is now a grade 4 city, functioning as administrative, political, economic, cultural and social center of Quang Trach district. In addition, this is the center of service, tourism and commerce in the north of Quang Binh province, which is one of the important transportation hubs on the sea, river, road and national railway.

266. The road from the south of Quang Hai Bridge to Lac Giao will form a continuous transport network in Quang Loc, Quang Trung, Quang Tan and Quang Tien districts of Ba Don town. Access to National highways and provincial roads will create favorable conditions for economic development - tourism and rescue during the flood season, exchanges of goods, creating an important transport network, socio-economic development not only improving the people's travel/transport in the region, but also contributing to improving the living conditions of people in the neighboring communes.

G. Summary of subproject site visits findings

267. Several suggested modifications or issues were identified during the field visits and screening of documents. In summary these included:

- (i) At km3 + 100: adjust the road alignment to avoid Quang Tan cemetery.
- (ii) From Km6 + 0.0 to Km8 + 00: the consultant has proposed road alignment in the FS is not feasible, as the road alignment does not follow the approved detailed planning of Quang Binh province. It is recommended to adjust the alignment to the left of the rocky mountain range in accordance with the detailed planning direction of Quang Binh Planning Institute, approved by QB PPC (completely avoid the residential area).
- (iii) Change the proposed end point of the road to the existing intersection point of PR559.
- (iv) At Km2 + 731 proposed to construct a new bridge, the PPTA recommends to study the adjustment to construct box culverts. The technical specifications and size should be referred to the upstream irrigation culvert 200 meters away.
- (v) Bridge design load, large box culvert HL93, small culverts H30-XB80. (The FS proposed H13-XB60 is not suitable).

- (vi) Road surface structure proposed cement concrete design according to Decision 3230/2012 of the Ministry of Transportation.
- (vii) Traffic volume on PR559 is small, mainly light trucks, medium trucks for transportation of goods, agricultural products and construction materials. No Actual traffic count data are provided yet.

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	Starting point (Km0 + 0.00) connects to Quang Hai concrete road, the south of Quang Hai bridge in Quang Loc commune, Ba Don town.	Confirmed	Confirmed
End point	Km9+750 connects to PR559 in Quang Tien commune, Ba Don town.	Confirmed	Confirmed
Length	10.5km	<p>10.5km</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the consistency of the total budget in IP of US\$ 5,298,000 in the IP and the FS of US\$ 7,573,626.</p> <p>(b) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>(c) At km3 + 100: the proposed road alignment section goes through Quang Tan cemetery. It is strongly recommended the adjustment of the proposed road alignment so as to avoid Quang Tan cemetery resettlement.</p> <p>(d) From Km6 + 0.0 to Km8 + 00: the proposed road alignment section goes through the residential area, involving the substantial residential resettlement (this road alignment does not follow the approved detailed planning of Quang Binh province). It is recommended to adjust the alignment to the left of the rocky mountain range in accordance with the detailed planning direction of Quang Binh Planning Institute, approved by QB PPC (completely avoid the residential area).</p> <p>(e) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p>	<p>DPI confirmed approval of the new alignment and total length of the proposed road subproject and will reply to the consultant with the official approval.</p> <p>MOU of QB DPI, DOT, DOC, DONRE, DARD, Ba Don town PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon the road is proposed to be developed to plain road category V standards specified in TCVN 4054 – 2005.</p>

		(f) The subproject involves substantial agricultural land acquisition and extent residential land acquisition. Some households will be reallocated.	
Road category	The road is proposed to be developed to plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: I _{max} = 7%; Roadbed width: B _{nền} = 7,5m; Road surface width: B _{mặt} = 5,5m; Roadside width: B _{lề} = 2x1,0 = 2m; Reinforced shoulders B _{lềgc} = 2x0,5 = 1m; The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Bridge design load of HL93; culverts of H30-XB80; axle road pavement is 10T. Asphalt concrete road surface A1, E _{yc} =130MPa.	Requires traffic count data to justify the proposed plain road design category V. Confirmed the road is proposed to be developed to plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: I _{max} = 7%; Roadbed width: B _{nền} = 7,5m; Road surface width: B _{mặt} = 5,5m; Roadside width: B _{lề} = 2x1,0 = 2m; Reinforced shoulders B _{lềgc} = 2x0,5 = 1m; Asphalt concrete road surface A1, E _{yc} =130MPa.	Agreed V
Proposed works	01 small bridge with HL-93 and 25 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

H. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No 952/QD-TTG dated on 23/06/2011 on approval of socio-economic development planning in Quang Binh province by 2020... Resolution No.02/2016/NQ-HDND dated 05/01/2016 on the task of socio-economic development for 5 years (2016 - 2020)
2: Included in DoT Master Plan – if yes state page and section	✓		Quang Binh transportation development plan up to 2020 was approved by Quang Binh Provincial People's Committee in Decision No. 540 / QD-UBND dated March 13, 2013. Decision No.2032/QD-UBND dated 30/08/2012 on approving the master plan of Ba Don town.
3: Proposed design concept exists – if yes state date of proposal	✓		MOU of QB DPI, DOT, DOC, DONRE, DARD, Ba Don town PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: Rmin = 60m; Maximum vertical slope: I _{max} = 7%; Roadbed width: B _{nền} = 7,5m; Road surface width: B _{mặt} = 5,5m; Roadside width: B _{lề} = 2x1,0 = 2m; Reinforced shoulders B _{lềgc} = 2x0,5 = 1m; Asphalt concrete road surface A1, E _{yc} =130MPa.
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road subproject is proposed to be developed to the plain road category V standards specified in TCVN 4054 – 2005.

5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport master plan for districts. The current road standard on each end point is asphalt concrete road and the network connection now and planned is urban road Cat III towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015		✓	Requires traffic count data to justify the proposed plain road design category V.
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		Not provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat V.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		Not provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		Not provided
13: Are there significant structures required – if yes please identify	✓		Not provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

I. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Substantial
	Urban Public Land	✓		minor
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		minor
	Private other	✓		minor
	Public Structures	✓		minor
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves substantial agricultural land acquisition and extensive residential land acquisition. Some households will be reallocated.

A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget: 9.500,000,000 VND equivalents to USD 426,009
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		x	No
	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they	✓		There are some areas (water, rivers) affected by the existing or proposed alignments.
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts	✓		The proposed road subproject will involves risks of large cuts of wetland, water and agricultural area
	Water course disruption		x	N/A
	Flood Plain Disruption	✓	x	The proposed road subproject will involves flood plan disruption when constructing Thuan Loc bridge construction site at Km2+700

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 4 communes in Ba Don town: Quang Loc, Quang Tan Quang Trung, and Quang Tien
Is the population data available	Yes	Ba Don town's total population as of 2016 is 27,481 HHs; The subproject will directly benefit totally 22,880 people including Quang Loc commune (8,167 people); Quang Tan commune (3,528 people); Quang Trung Commune (5,646 people) and Quang Tien commune (5,539 people).
Is the number of Poor households available	Yes	Based on the PPTA consultant's field visit findings and interviews with the local authorities, (i) Ba Don town (including 2,036 poor HHs accounting for 7.41 %; 5,481 near poor HHs, accounting for 19.94%).
Is the number of near poor households available	Not yet	Not available

Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not provided
Is there a detailed worksheet for the EIRR		x	Not provided
Is it linked to the traffic forecast		x	Not provided

L. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed plain road design category V. MOU of QB DPI, DOT, DOC, DONRE, DARD, Ba Don town PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon plain road category V standards specified in TCVN 4054 – 2005. Design speed: VTK = 40Km/h; Minimum horizontal curve radius: R _{min} = 60m; Maximum vertical slope: I _{max} = 7%; Roadbed width: B _{nền} = 7,5m; Road surface width: B _{mặt} = 5,5m; Roadside width: B _{lề} = 2x1,0 = 2m; Reinforced shoulders B _{lềgc} = 2x0,5 = 1m; Asphalt concrete road surface A1, Eyc = 130MPa.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP and FS review, (a) PMU reconfirms the consistency of the total budget in IP of US\$ 5,298,000 in the IP and the FS of US\$ 7,573,626. (b) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project. (c) At km3 + 100: the proposed road alignment section goes through Quang Tan cemetery. It is strongly recommended the adjustment of the proposed road alignment so as to avoid Quang Tan cemetery resettlement. (d) From Km6 + 0.0 to Km8 + 00: the proposed road alignment section goes through the residential area, involving the substantial residential resettlement (this road alignment does not follow the approved detailed planning of Quang Binh province). It is recommended to adjust the alignment to the left of the rocky mountain range in accordance with the detailed planning direction of Quang Binh Planning Institute, approved by QB PPC (completely avoid the residential area). (e) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.

			<p>(f) The subproject involves substantial agricultural land acquisition and extent residential land acquisition. Some households will be reallocated.</p> <p>(h) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons	??	??	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category A or B for substantial Resettlement. However, to confirm cat A or B for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		?	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment. Wetland impacts need to be reviewed probable Category B
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <ul style="list-style-type: none"> Ba Don town, Quang Binh province is a newly established town, which has suffered difficulties and annual impact of natural disasters such as rain, floods and storms. Infrastructure for production and travel of the people are still difficult, especially in the southern communes of Quang Loc, Quang Trung, Quang Tan and Quang Tien. Currently, transport roads are basically earth roads, partly passing along Gianh River, so the travel, activities and production of the people are very difficult, especially in the rainy and flood seasons affecting the development of the whole area. Ba Don town is now a grade 4 city, functioning as administrative, political, economic, cultural and social center of Quang Trach district. In addition, this is the center of service, tourism and commerce in the north of Quang Binh province, which is one of the important transportation hubs on the sea, river, road and national railway. The road from the south of Quang Hai Bridge to Lac Giao will form a continuous transport network in Quang Loc, Quang Trung, Quang Tan and Quang Tien districts of Ba Don town. Access to National highways and provincial roads will create favorable conditions for economic development - tourism and rescue during the flood season, exchanges of goods, creating an important transport network, socio-economic development not only improving the people's travel/transport in the region, but also contributing to improving the living conditions of people in the neighboring communes. <p>Upgrading this road will provide connectivity between 4 communes Quang Loc, Quang Trung, Quang Tan and Quang Tien in Ba Don town, rather than being intended for through traffic.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

M. Road Map



N. Road Chainage Photos



Starting point - Km0+00 connects to cement concrete road



Km0+0.00: Alignment goes through paddy field



Km0+120: rice irrigation canal



Km0+250: paddy field



Mark DC2-2 Km0+300



Intersection point with cement concrete road at Km0+300



Intersection point with cement concrete road at Km1+0.00



Km1+100: paddy field



The road alignment goes closely along the cemetery at Km2+100



Thuan Loc bridge construction site at Km2+700



Thuan Loc bridge construction site at Km2+700



Km2+800: paddy field



Km3+00: rice irrigation canal and paddy field



The road alignment goes closely along the cemetery Quang Tan at Km3+100



Mark DC2-9



Km4+100



Mark DC2-10



Km5+600



Km6+0.00



Km6+200 PA2



Mark DC2-13



Km6+200 Option#1



The road alignment goes through the fence of the school at Km7+400



Km7+600



DC2-16



The road alignment goes through the residential area at Km7+900



The road alignment goes through the residential area at Km7+800



Km8+00



Km8+500



DC2-19 Km9+30



Km9+30



Km9+70



Km9+70



Km9+700



End point Km9+775, intersecting with PR559



End point Km9+775, intersecting with PR559

XXVI. ROAD CONNECTS FROM NATIONAL HIGHWAY 1A BYPASS WITH EASTERN BRANCH OF HO CHI MINH ROAD

A. Subproject description

268. The road connects from National Highway 1A bypass with Eastern branch of Ho Chi Minh road subproject. Total length of 2.88km. The road alignment: the road alignment follows the detailed planning of Tran Hung Dao extended road (section connecting from the end point of Ton Duc Thang road to the eastern branch of HCM Road). The road passes through Nam Ly ward and Bac Nghia ward in Dong Hoi city.

- (i) The starting point connects to end point of Ton Duc Thang road.
- (ii) The alignment follows the new road alignment to NH1A bypass, from here the road alignment follows Ha Huy Tap road of 0,7km to the power station site at Km2+270.98. The new alignment follows the planned road alignment connecting to the eastern branch of HCM Road.
- (iii) Total length of 2.88 km.

269. The road alignment was approved in accordance with the detailed planning of Tran Hung Dao Street in the Decision No. 2014 / QĐ-CT dated 28/8/2012 of Quang Binh People's Committee.

1. Section 1:

- (i) Starting point at Km1+298.16
- (ii) End point at Km1+451.06 (section from the end point of Ton Duc Thang street to NH1A bypass at Km661+088).
- (iii) Total length of 0.15km.

2. Section 2:

- (i) Starting point from the intersection of NH1A bypass at Km661 + 881
- (ii) Ending point being the power station, the alignment follows the existing road of Ha Huy Tap. Upgrading and repair of the existing road surface.
- (iii) Total length of 0.7km.

3. Section 3:

- (i) Starting point at Km2+270.98
- (ii) End point at Km4+298.84 (from the power station to the eastern branch of HCM Road at Km988+325).
- (iii) Total length of 2.03km.

B. Existing Status

270. The proposed road is not formed yet. This is a new road passing through the paddy fields and some inland field canals, crossing many inter-commune cement concrete roads. The two sides of the road are paddy fields, residential land, horticultural land, lowland terrain and low hills, passing through residential areas along the road.

- (i) Section 1: from Km1 + 298.16 to Km1 + 451.06 (The section from the end point of Ton Duc Thang to National Highway 1A). This section is not formed yet, it is a new road. The central line passes through the paddy field. Length L = 152.9m
- (ii) Section 2: from the intersection of QL1A bypass (at the intersection of Km661 + 881 National Highway 1A) to the Power Station, the length of this section is about 700m. This is currently an existing road of Ha Huy Tap. At present, the density of traffic on this section is relatively large, the road surface is 5.5-6.0m wide and some sections of the road surface have been degraded, causing difficulties for people's travel.

- (iii) Section 3: from Km2 + 270.98 to Km4 + 298.84 (from the Power Station to the Eastern branch of HCM Road). This road section is not formed. The new alignment design passes through the low hills and some of the ponds, rice fields and eucalyptus gardens.

271. **Intersections:** Interchanges on the road are designed at grade intersections. The intersection structure is the same as the main road structure.

- (i) Intersection 1: concourse at km1 + 451.06 (intersecting with the bypass of Dong Hoi city at km661 + 881);
- (ii) Intersection 2: Y-junction at km2 + 270.98 (interchange of power station).
- (iii) Intersection 3: Y junction at the end of the road at km4 + 298.84 (intersection with the Eastern branch of Ho Chi Minh Road at Km988 + 325).

C. Proposed Road Categorization:

1. Section 1

272. This proposed section scale is half of the detailed plan as follows: The road is proposed to be developed to main secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Design speed: $V_{tk} = 60 \text{ Km/h}$; Minimum horizontal curve radius: $R_{min} = 125 \text{ m}$; Maximum vertical slope: $I_{max} = 6\%$; Roadbed width: $B_{nền} = 11,0 \text{ m}$; Road surface width: $B_{mặt} = 9,0 \text{ m}$; Roadside width: $B_{lề} = 2 \times 1,0 = 2 \text{ m}$; The frequency of road, culverts, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, axle road pavement is 10T. Asphalt road pavement is A1, $E_{yc} = 155 \text{ MPa}$.

2. Section 2:

273. The proposed road section follows the existing road Ha Huy Tap, of which the road pavement is proposed to be upgraded and repaired by using reinforced concrete asphalt pavement on the existing pavement.

D. Overview of proposed works:

274. The road subproject will construct 3 new bridges (Ha Huy Tap bridge at Km1+358,20; Phu Vinh bridge at Km3+14,56; and Xom Zet bridge at Km4+200).

E. Investment

- (i) Proposed investment \$ total: US\$ 5,328,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 1,850,000/km.

F. Rationale

- (i) Dong Hoi city is recognized as a grade II city under Decision No. 1270 / QD-TTg dated 30/7/2014 of the Prime Minister, defined as a general economic area, the driving force for development of Quang Binh. In the future, Dong Hoi city will be a modern city with beautiful scenery, clean environment because of its favorable position adjacent to Nhat Le river and facing the South China Sea. In particular, Bao Ninh peninsula with a convenient location is unique, the east is the sea, the west is the Nhat Le river, the north is the Nhat Le estuary will become an ideal place for economic tourism development.
- (ii) Dong Hoi city has two main roads along NH1A and Ho Chi Minh Road. These are the two most important national roads of the country. By the end of 2009, the city had a third major route, NH1A bypass across the city. One of the most popular roads is Tran Hung Dao extended road. This is the east-west axis road, connecting NH1A, NH1A bypass, and Dong Hoi city's central traffic network. There is also a link between the city and the intercity bus station and highway in the west, connecting to the coastal road and the Bao Ninh Tourism area to the east. With the main street function mainly connected peripheral traffic, interprovincial focal point.

- (iii) The proposed road is the East-West horizontal axis road located in the center of Dong Hoi city. The proposed road will connect the city to the intercity bus terminal and highway in the west, connecting it to the coastal road and Bao Ninh Center tourism area to the east. The road also connects to NH 1A, NH1A bypass and the central urban traffic network of Dong Hoi city. With the main street functions is mainly connected the peripheral traffic, inter-provincial focal points, along the National Highway, urban road network.
- (iv) The proposed road will create a major urban road linking East and West of Dong Hoi City to shorten the distance from the intersection axes to the East HCM Highway about 4.0 km. The road will meet the demand of travel, to reduce traffic load for NH 1A in the rainy and flood season; In addition, the road will contribute to the formation of a continuous transportation network to facilitate the socio-economic development of Dong Hoi city and Quang Binh province.
- (v) Upgrading this road will provide connectivity between the center of Dong Hoi city and the intercity bus terminal and highway in the west, and the coastal road and Bao Ninh Center tourism area.

G. Summary of subproject site visits findings and recommendations

275. Some sections of the road alignment in the FS **do not comply** with the approved detailed planning; the central line of some sections has been adjusted to minimize the site clearance (houses resettlement). Hence, the adjustment of the detailed planning and road alignments should be approved as a basis for project implementation.

276. The road section from NH1A bypass to the Power Station on Ha Huy Tap Road (Km1 + 451.06 - Km2 + Km2 + 270.98) is not implemented as planned due to the road passing through a residential area. It is suggested to check the extent of site clearance (houses resettlement) so as to prepare the FS to complete the road alignment in accordance with the approved planning. The social safeguard categorization is therefore uncertain at this stage

277. The pavement structure of phase 1 with Eyc = 155Mpa is too high, it is suggested to calculate and choose Eyc = 130Mpa to be consistent with a plain road category III.

278. No traffic count data are available to justify the road.

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	<p>Section 1: Starting point at Km1+298,16;</p> <p>Section 2: Starting point from the intersection of NH1A bypass at Km661 + 881</p> <p>Section 3: starting point at Km2+270,98</p>	Confirmed	Confirmed
End point	<p>Section 1: end point at Km1+451,06 (section from the end point of Ton Duc Thang street to NH1A bypass at Km661+088).</p> <p>Section 2: End point at the power station, the alignment follows the existing road of Ha Huy Tap.</p> <p>Section 3: end point at Km4+298,84 (from the power station to the eastern branch of HCM Road at Km Km988+325).</p>	Confirmed	Confirmed

Length	2.88km IP) 2.18 (FS)	2.88km Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP and FS review, (a) PMU reconfirms (i) the total length of the proposed road subproject including all the new alignment sections (2.88km in the IP while in the FS is 2.18km); (ii) the consistency of the total budget in IP of US\$ 5,328,000 in the IP and the FS of US\$ 8,182,331. (b) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project. (c) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation. (d) the subproject involves substantial agricultural land acquisition and extent residential land acquisition. Some households will be reallocated. (e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment. MOU of QB DPI, DOT, DOC, DONRE, DARD, Dong Hoi city PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon main secondary urban road standards according to TCXDVN 104-2007; and adjustment of the road alignment for phase 1 investment (half of the detailed master plan of the road subproject)
Road category	The road is proposed to be developed to main secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Design speed: Vtk= 60Km / h; Minimum horizontal curve radius: Rmin = 125m; Maximum vertical slope: lmax = 6%; Roadbed width: Bnền = 11,0m; Road surface width: Bmặt = 9,0m; Roadside width: Blề = 2x1,0 = 2m; The frequency of road, culverts, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, axle road pavement is 10T. Asphalt road pavement is A1, Eyc = 155MPa.	Requires traffic count data to justify the proposed plain road design category III. Confirmed the road is proposed to be developed to main secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Design speed: Vtk= 60Km / h; Minimum horizontal curve radius: Rmin = 125m; Maximum vertical slope: lmax = 6%; Roadbed width: Bnền = 11,0m; Road surface width: Bmặt = 9,0m; Roadside width: Blề = 2x1,0 = 2m; The frequency of road, culverts, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, axle road pavement is 10T. Asphalt road pavement is A1, Eyc = 155MPa.	Agreed to the main secondary urban road standards according to TCXDVN 104-2007
Proposed works	3 new bridges with HL-93 and 22 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

H. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No 952/QĐ-TTĐ dated on 23/06/2011 on approval of socio-economic development planning in Quang Binh province by 2020... Resolution No.02/2016/NQ-HĐND dated 05/01/2016 on the task of socio-economic development for 5 years (2016 - 2020)
2: Included in DoT Master Plan – if yes state page and section	✓		Quang Binh transportation development plan up to 2020 was approved by Quang Binh Provincial People's Committee in Decision No. 540 / QĐ-UBND dated March 13, 2013. Quang Binh province's construction planning to 2030 approved by the Chairman of Quang Binh Provincial People's Committee in Decision No. 2865 / QB-UBND dated 18/11/2013; The master plan for the construction of Dong Hoi city and its vicinity to 2025 with a vision to 2035 approved by the Chairman of Quang Binh Provincial People's Committee in Decision No. 1538 / QĐ-CT dated 06/7/2012; Detailed planning of the construction area of Tran Hung Dao extended road connecting from Ga market to the Eastern branch of Ho Chi Minh road, Dong Hoi city approved by the Chairman of Quang Binh Provincial People's Committee in Decision No. 2014 / QĐ-CT dated 28/8/2012.
3: Proposed design concept exists – if yes state date of proposal	✓		MOU of QB DPI, DOT, DOC, DONRE, DARD, Dong Hoi city PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon main secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Design speed: Vtk= 60Km / h; Minimum horizontal curve radius: Rmin = 125m; Maximum vertical slope: Imax = 6%; Roadbed width: Bnền = 11,0m; Road surface width: Bmặt = 9,0m; Roadside width: Blề = 2x1,0 = 2m; The frequency of road, culverts, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, axle road pavement is 10T. Asphalt road pavement is A1, Eyc = 155MPa.
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road subproject is proposed to be developed to main secondary urban road standards according to TCXDVN 104-2007.
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport master plan for districts. The current road standard on each end point is asphalt road and the network connection now and planned is main secondary urban road standards according to TCXDVN 104-2007 (towards 2030): Bn=32m; Bm=2x9m; Bl=2x6m; Bgpc=2m.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data to justify the proposed main secondary urban road standards according to TCXDVN 104-2007.
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is main secondary urban road standards according to TCXDVN 104-2007.

9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		To be provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		To be provided
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base for section 1: the proposed road is not formed, this is a new road passing through the paddy fields, private garden land and residential areas, and section 2; the current Right of Way is sufficient for the proposed or required road design

I. Safeguard compliance

Table 18:

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Substantial
	Urban Public Land	✓		Extent
	Urban Private Land	✓		Extent
A.2 Structures	Private houses	✓		Extent
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves substantial agricultural land acquisition and extent residential land acquisition. Some households will be reallocated the number is yet to be confirmed
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget: 20,048,000,000 VND equivalent to USD 897,042
B: Environmental Screening				
B.1 Forests	Production forest land		x	No
- are there any of the following along the alignment of within close proximity – if yes is the risk significant	Protection forest land		x	No
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed		x	No

	alignments? If yes how significant are they			
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		the field visit identified no issues from EARF that need to be addressed
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts	✓		The proposed road subproject will involves risks of large cuts of wetland, water and agricultural area
	Water course disruption		x	N/A
	Flood Plain Disruption		x	N/A

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 2 wards in Dong Hoi city: Nam Ly, and Bac Nghia wards
Is the population data available	Yes	Dong Hoi city's total population as of 2016 is 117,953 people (equivalent to 32,528) HHs. (i) Nam Ly ward has 17,915 people (4,872 HHs) (ii) Bac Ly ward has 17,000 people (4,045 HHs) The subproject will directly benefit totally 21,459 people in Nam Ly and Bac Ly wards of Dong Hoi city.
Is the number of Poor households available	Yes	Dong Hoi city's total poor HHs as of 2016 is 9,348 poor HHs (equivalent to 11.77%). (i) Nam Ly ward has 26 poor HHs (0.60%) (ii) Bac Lay ward has 13 poor HHs (0.32%)
Is the number of near poor households available	Not yet	Dong Hoi city's poor HHs as of 2016 is 316 near poor HHs (equivalent to 0.97%). (i) Nam Ly ward has 14 near poor HHs (0.32%) (ii) Bac Ly ward has 29 near poor HHs (0.71%)
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not Provided
Is there a detailed worksheet for the EIRR		x	Not Provided
Is it linked to the traffic forecast		x	Not Provided

L. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed main secondary urban road design category. MOU of QB DPI, DOT, DOC, DONRE, DARD, Dong Hoi city PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon main secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Design speed: Vtk= 60Km/h; Minimum horizontal curve radius: Rmin = 125m; Maximum vertical slope: lmax = 6%; Roadbed width: Bnền = 11,0m; Road surface width: Bmặt = 9,0m; Roadside width: Blề = 2x1,0 = 2m; The frequency of road, culverts, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, axle road pavement is 10T. Asphalt road pavement is A1, Eyc = 155MPa.
Are there outstanding approvals required	✓		Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP and FS review, (a) PMU reconfirms (i) the total length of the proposed road subproject including all the new alignment sections (2.88km in the IP while in the FS is 2.18km); (ii) the consistency of the total budget in IP of US\$ 5,328,000 in the IP and the FS of US\$ 8,182,331. (b) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project. (c) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation. (d) the subproject involves substantial agricultural land acquisition and extent residential land acquisition. Some households will be reallocated. (e) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		??	Unclear until a final alignment is defined there is substantial land acquisition and there is an unknown number of resettlement required As per the PPTA consultant's field visit to the subproject sites, the Subproject is probably classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.

			<p>Dong Hoi city is recognized as a grade II city under Decision No. 1270 / QD-TTg dated 30/7/2014 of the Prime Minister, defined as a general economic area, the driving force for development of Quang Binh. In the future, Dong Hoi city will be a modern city with beautiful scenery, clean environment because of its favorable position adjacent to Nhat Le river and facing the South China Sea. In particular, Bao Ninh peninsula with a convenient location is unique, the east is the sea, the west is the Nhat Le river, the north is the Nhat Le estuary will become an ideal place for economic tourism development.</p> <p>Dong Hoi city has two main roads along NH1A and Ho Chi Minh Road. These are the two most important national roads of the country. By the end of 2009, the city had a third major route, NH1A bypass across the city. One of the most popular roads is Tran Hung Dao extended road. This is the east-west axis road, connecting NH1A, NH1A bypass, and Dong Hoi city's central traffic network. There is also a link between the city and the intercity bus station and highway in the west, connecting to the coastal road and the Bao Ninh Tourism area to the east. With the main street function mainly connected peripheral traffic, interprovincial focal point.</p> <p>The proposed road is the East-West horizontal axis road located in the center of Dong Hoi city. The proposed road will connect the city to the intercity bus terminal and highway in the west, connecting it to the coastal road and Bao Ninh Center tourism area to the east. The road also connects to NH 1A, NH1A bypass and the central urban traffic network of Dong Hoi city. With the main street functions is mainly connected the peripheral traffic, inter-provincial focal points, along the National Highway, urban road network.</p> <p>The proposed road will create a major urban road linking East and West of Dong Hoi City to shorten the distance from the intersection axes to the East HCM Highway about 4.0 km. The road will meet the demand of travel, to reduce traffic load for NH 1A in the rainy and flood season; In addition, the road will contribute to the formation of a continuous transportation network to facilitate the socio-economic development of Dong Hoi city and Quang Binh province.</p> <p>Upgrading this road will provide connectivity between the center of Dong Hoi city and the intercity bus terminal and highway in the west, and the coastal road and Bao Ninh Center tourism area.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

M. Road Map



N. Road Chainage Photos



Starting point – Km1+298.16 connecting from Ton Duc Thang street



Km0+30.00: the new alignment goes through the garden and rice fields



Km0+120: the new alignment goes through the rice fields



The intersection point of NH1A at Km0+150



The intersection point of Hà Huy Tập road at Km2+271



Km2+300: the new alignment goes through residential areas (some HHs to be resettled)



Km2+450



The road goes through private land at Km2+500



The road goes through private land at Km2+670



The road goes through private land at Km2+700



Thuan Loc bridge site at Km2+700



Km2+800



The road goes through the residential area at Km2+850



The road goes through garden land Km2+850



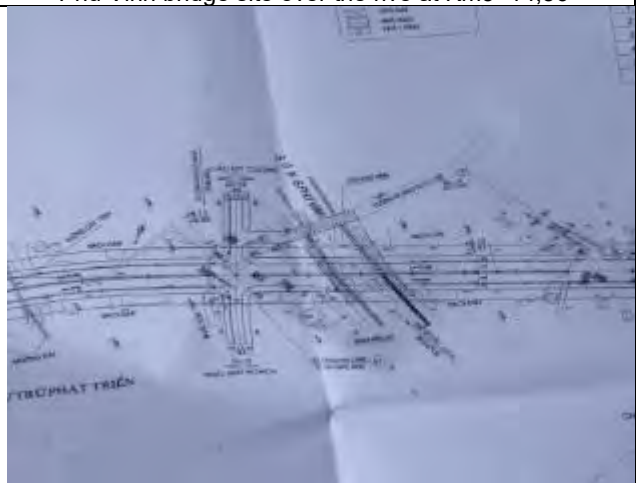
Intersection point with the asphalt road at Km2+850



Phu Vinh bridge site over the river at Km3+14,56



Phu Vinh bridge site Km3+14,56



Phu Vinh bridge drawing Km3+14,56



The road goes through agricultural field at Km3+160



The road goes through the residential land at km3+150



Xom Zet bridge site at Km4+200



Xom Zet bridge construction site at Km4+200



End point at Km4+298,84 connecting to HCM road



End Mark point at Km4+298,84 connecting to HCM road

XXVII. DINH MUOI TOURISM ROAD, QUANG NINH DISTRICT

A. Subproject description

279. The subproject is the construction of Dinh Muoi Tourism Road, Quang Ninh district subproject. Overview of proposed works: the road subproject will construct 10 culverts of all types, and drainage works, protection works, and traffic systems.

- (i) Starting point (Km0+0.00) connects to NH1A at Km676+410 in Vo Ninh commune, Quang Ninh district, Quang Binh province.
- (ii) End point: (Km4+172.50) connects to PR569 in Hai Ninh commune, Quang Ninh district, Quang Binh province.
- (iii) Total length of 4.01 km

1. Road alignment:

280. The proposed road follows the planned main axis road of Dinh Muoi urban center, according to the master plan of Dinh Muoi urban area to 2020 with the vision of 2030 approved by People's Committee of Quang Binh province in Decision No. 1693 / QĐ-UBND dated 06/6/2016. Dinh Muoi tourist road is the main road located in the center of Dinh Muoi urban area. The total length of the road is 4.01 km.

281. The alignment was approved according to the master plan of the main axis of Dinh Muoi urban center in Decision No.1693 / QĐ-UBND, dated 6/6/2016 of Quang Binh People's Committee.

B. Existing Status

282. The proposed road is a new alignment passing through vegetable fields and sand dunes. The last section of the proposed road goes through a protection forest area with industrial trees such as casuarinas, acacia, and eucalyptus on both sides of the alignment.

- (i) Road section from NR1A to Km0 + 300; the current status is garden land, growing various crops, ponds for aquaculture. Topography is plain with small horizontal slope.
- (ii) Section from Km0 + 300 to Km1 + 315 (National Highway 1A bypass); The current state of the route is high elevation sand hills, with elevations around 10 ÷ 12m, along the main routes are planted forests for sand and short-term industrial plants such as acacia, acacia, eucalyptus, slope on the flanks there are places up to 50%, no inhabitants.
- (iii) Section from Km0 + 300 to Km1 + 315 (National Highway 1A bypass); the current status of the road is high sand hills, with elevations around 10 ÷ 12m. Along the main road are sand prevention production forests and short-term industrial plants such as acacia, eucalyptus. Horizontal slope in some section are up to 50%. This area has no inhabitants.
- (iv) Section from Km1 + 315 to Km3 + 150; the current state of the road is high elevation sand dunes, with high elevations of about 12 ÷ 15m. Along the main road are sand prevention production forests and short-term industrial plants such as acacia, eucalyptus. Horizontal slope in some section are up to 60%. This area has no inhabitants.
- (v) Section from Km3 + 150 to Km4 + 172 at the end section intersecting with PR569; the current status of the road is sand dunes stretching along the sea. Along the main road are sand prevention production forests and short-term industrial plants such as acacia, eucalyptus. Slope down to the sea is on average 15%. This area has no inhabitants.

C. Proposed Road Categorization:

- (i) Section 1 from Km0 + 0.00 - Km2 + 100: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the main secondary urban road standards

according to TCXDVN 104-2007; Main design standards are as follows: Design speed: VTK = 60Km/h; Minimum horizontal curve radius: $R_{min} = 125m$; Maximum vertical slope: $I_{max} = 6\%$; Roadbed width: $B_{nền} = 50,0m$; Road surface width: $B_{mặt} = 2 \times 9,5 = 18,0m$; Roadside width: $B_{lề} = 2 \times 10,0 = 20,0m$; Barrier = 11,0m. The frequency of road, sewer, and small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A1, $E_{yc} = 155MPa$.

- (ii) Section 2 from Km2 + 100 - Km4 + 172: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the grade IV plain road standard TCVN4054-2005; Main design standards are as follows: Design speed: VTK = 60Km/h; Minimum horizontal curve radius: $R_{min} = 125m$; Maximum vertical slope: $I_{max} = 7\%$; Roadbed width: $B_{nền} = 9,0m$; Road surface width: $B_{mặt} = 7,0m$; Roadside width: $B_{lề} = 2 \times 1,0 = 2,0m$; $B_{lề\text{giác}\acute{o}} = 2 \times 0,5 = 1,0m$. The frequency of road, sewer, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete A1, $E_{yc} = 155MPa$.

D. Investment

- (i) Proposed investment \$ total: US\$ 4,100,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 1,023,976 /km.

E. Rationale

- (i) Dinh Muoi is an area that is oriented to develop into a new urban area and is expected to become the V-grade urban town in the period 2020 ÷ 2030. Dinh Muoi is 7km far from the center of Quang Ninh district in the North West, 14 km in the south of Dong Hoi city center along the National Highway 1A.
- (ii) Dinh Muoi tourist road, Quang Ninh district is one of the main roads of Dinh Muoi urban area, total length 4,004 km. According to the master plan for the urban area of Dinh Muoi until 2020, with a vision to 2030 was approved by the People's Committee of Quang Binh in Decision No. 1693 / QD-UBND dated 06/6/2016 will form 3 main axis in the east-west direction of the city, of which the Dinh Muoi Tourist Road is the main road located at the center of the city of Dinh Muoi.
- (iii) The proposed road subproject will link the Hai Ninh marine resort complex including Hai Ninh beach resorts, other resorts, water parks and golf courses are planned in the near future. In addition, this road connects East-West corridor with road 10. Therefore, the road subproject will facilitate the opening of Dong Hoi-Hai Ninh-Bang tourism road; Dong Hoi - Than Dinh Mountain; Dong Hoi - Hai Ninh - Vinh Moc Tunnel ... completing the infrastructure of Dinh Muoi urban area in particular and Quang Ninh district in general, and expanding the space of the town so as to promote socio-economic development.
- (iv) Construction of this road will provide connectivity between three communes: Vo Ninh, Gia Ninh and Hai Ninh, Quang Ninh district, rather than being intended for through traffic.

F. Summary of subproject site visits findings and recommendations

283. Dinh Muoi tourism road intersects three main roads: National Highway 1A; Flood Avoidance road (National Road 1A) and PR 659 along the road also intersect with some residential roads.

- (i) The terrain of the area is relatively steep, with sandy hills of 15-20m high.
- (ii) The first section of the road has ponds, lakes and residential areas, while the rest of the road is mostly sand dunes and perennial crops.
- (iii) Currently, the whole area has no drainage system, rainwater mainly flows in the direction of the top slope and focus on the ditches and then seep into the sand or into the sea.
- (iv) Km0 + 165,17-Km2 + 100.00: the road alignment follows the approved master plan of Dinh Muoi urban center.
- (v) Km2 section + 100.00-Km4 + 169.38: The road alignment is proposed to be developed straight to minimize the length of the road.

- (vi) Section from Km0+165,17-Km2+100,00:
- $B_n = 50,0m$.
 - $B_m = 2 \times 9,5m = 19,0m$.
 - $B_{gpc} = 11,0m$ (proposed for development).
 - $B_{vh} = 2 \times 10,0m = 20,0m$.
 - $i = 2\%$; $i = 3\%$.
- (vii) Km2 + 100.00-Km4 + 169.38: The road alignment is developed straight to minimize the length of the road. The route was designed according to the plain road standard IV (TCVN 4054-2005), design speed $V_{tk} = 60km/h$, cross-sectional scale such as:
- $B_n = 9.0m$.
 - $B_m = 2 \times 3.5m = 7.0m$.
 - $B_m = 2 \times 0.5m = 1.0m$.
 - $B_m = 2 \times 0,5m = 1.0m$.
 - $i_{max} = 2\%$; and $i_{slope} = 4\%$.

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	at (Km0+0.00) connects to NH1A at Km676+410 in Vo Ninh commune, Quang Ninh district, Quang Binh province.	Confirmed	Confirmed
End point	at (Km4+172.50) connects to PR569 in Hai Ninh commune, Quang Ninh district, Quang Binh province.	Confirmed	Confirmed
Length	4.1km	<p>4.1km requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <ul style="list-style-type: none"> • (a) PMU reconfirms the total length of the proposed road subproject including all the existing road sections. • • (b) The alignment and the scale of the detailed planning must be approved as the basis for the implementation of the project. • (c) Pavement structures: section 1 (Km0 + 0.00 - Km2 + 100) follows the main urban secondary street scale design $E_{yc} = 155Mpa$ is appropriate; section 2 (Km2 + 100 - Km4 + 172) follows the plain road category IV. It is proposed to calculate and choose the $E_{yc} = 130Mpa$. 	<p>DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.</p> <p>MOU of QB DPI, DOT, DOC, DONRE, DARD, Quang Ninh DPC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon Section 1: main secondary urban road standards according to TCXDVN 104-2007; and Section 2: Section 2 from Km2 + 100 - Km4 + 172: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the grade IV plain road standard TCVN4054-2005;</p>

		<ul style="list-style-type: none"> • (d) Roadbed is covered with sand, therefore geotextile coatings should be used to cover the outside of the roadbed adjacent to the earth layer to ensure the stability of the roadbed. • (e) Several road sections go through the protection coastal forest areas. Inquires DPI and consultants propose mitigation measures approved by PPC and DARD and DONRE for the environmental impact assessment. • (f) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation. • (g) the subproject involves some impacts on land acquisition of 35 ha including 24,8ha of production and protection forest areas, 0.78 ha of garden lands, 1 ha of residential land, and the rest is public land. • 6 households (14 persons) will be affected while 1 household will be severely affected with 90% of their total assets (4th graded house, garden, and assets and structure....), and two graves in the back garden will be reallocated. • 1 HH will have 200m of fence affected (5% loss); 4 HHs will have forest land affected. 	
Road category	<p>Section 1 from Km0 + 0.00 - Km2 + 100: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the main secondary urban road standards according to TCXDVN 104-2007;</p> <p>Section 2 from Km2 + 100 - Km4 + 172: the proposed alignment follows the approved master plan of Dinh Muoi</p>	<p>Requires traffic count data to justify the proposed plain road design categories.</p> <p>Confirmed the road categories proposed</p>	Agreed

	urban area. The road is designed according to the grade IV plain road standard TCVN4054-2005;		
Proposed works	10 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No 952/QD-TTG dated on 23/06/2011 on approval of socio-economic development planning in Quang Binh province by 2020...
2: Included in DoT Master Plan – if yes state page and section	✓		No.540/QD-PC dated 13/3/2013 on approval of transportation development planning in Quang Binh province by 2020; which emphasized road transport network development, including (i) National Highway system; (ii) Provincial road system: Continue to renovate, upgrade existing provincial roads to reach III – IV road level, sections passing urban area are built in accordance with urban planning; (iii) Rural transport system: Continue to construct, upgrade rural transport system with the target of district road system will have basically reached level IV – V road standard(pavement structure is asphalted or 100% cement concreted)... Master plan for the urban area of Dinh Muoi until 2020, with a vision to 2030 was approved by the People's Committee of Quang Binh in Decision No. 1693 / QD-UBND dated 06/6/2016
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017:
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		Section 1 from Km0 + 0.00 - Km2 + 100: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the main secondary urban road standards according to TCXDVN 104-2007; Section 2 from Km2 + 100 - Km4 + 172: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the grade IV plain road standard TCVN4054-2005; 20 years projected economic life of the subproject
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport master plan for towns. The current road standard on each end point is asphalt concrete road and the network connection now and planned is plain road Cat IV towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data to justify the proposed plain road design categories.

			Traffic count carried out in 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Cat IV.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		To be provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		To be provided
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

G. Safeguard compliance

Table 19:

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts on land acquisition of 35 ha including 24,8ha of production and protection forest areas, 0.78 ha of garden lands, 1 ha of residential land, and the rest is public land. 6 households (14 persons) will be affected while 1 household will be severely affected with 90% of their total assets (4th graded house, garden, and assets and structure....), and two graves in the back garden will be reallocated. 1 HH will have 200m of fence affected (5% loss); 4 HHs will be affected forest lands.

A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget: 6,054,243,455 VND equivalents to USD 272,440,955
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		land acquisition of 35 ha including 24,8ha of production and protection forest areas, 0.78 ha of garden land
	Protection forest land	✓		As above
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified an issue from EARF that need to be addressed: Protection coastal forest area.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

H. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 3 communes in Quang Ninh district: <ul style="list-style-type: none"> ▪ Vo Ninh, ▪ Gia Ninh, ▪ Hai Ninh
Is the population data available	Yes	Quang Ninh district's total population as of 2016 is 102,786 people (equivalent to 27,481) HHs. (i) Vo Ninh commune has 8,607 people (1,710 HHs) (ii) Gia Ninh commune has 7,170 people (1,424 HHs) (iii) Hai Ninh commune has 5,407 people (1,538 HHs). (iv) Duy Ninh commune has 6,783 people (1,929 HHs) The subproject will directly benefit totally 11,366 people including 4 communes, Vo Ninh, Gia Ninh, Hai Ninh, and Duy Ninh.
Is the number of Poor households available	Not yet	Quang Ninh district's total poor households as of 2016 are 9,348 poor HHs (accounting for 11.77%). (i) Vo Ninh commune has 125 poor HHs (0.7%) (ii) Gia Ninh commune has 148 poor HHs (0.1%) (iii) Hai Ninh commune has 179 poor HHs (0.11%). (iv) Duy Ninh commune has 223 poor HHs (0.77%)
Is the number of near poor households available	Not yet	Quang Ninh district's total near poor households as of 2016 are 2,533 poor HHs (accounting for 9.69%). (i) Vo Ninh commune has 99 near poor HHs (0.05%)

		(ii) Gia Ninh commune has 113 near poor HHs (0.07%) (iii) Hai Ninh commune has 138 near poor HHs (0.08%). (iv) Duy Ninh commune has 173 near poor HHs (0.08%)
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

I. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Requires FS to assess the EIRR of the subproject.
Is there a detailed worksheet for the EIRR		x	As presented above
Is it linked to the traffic forecast		x	As presented above

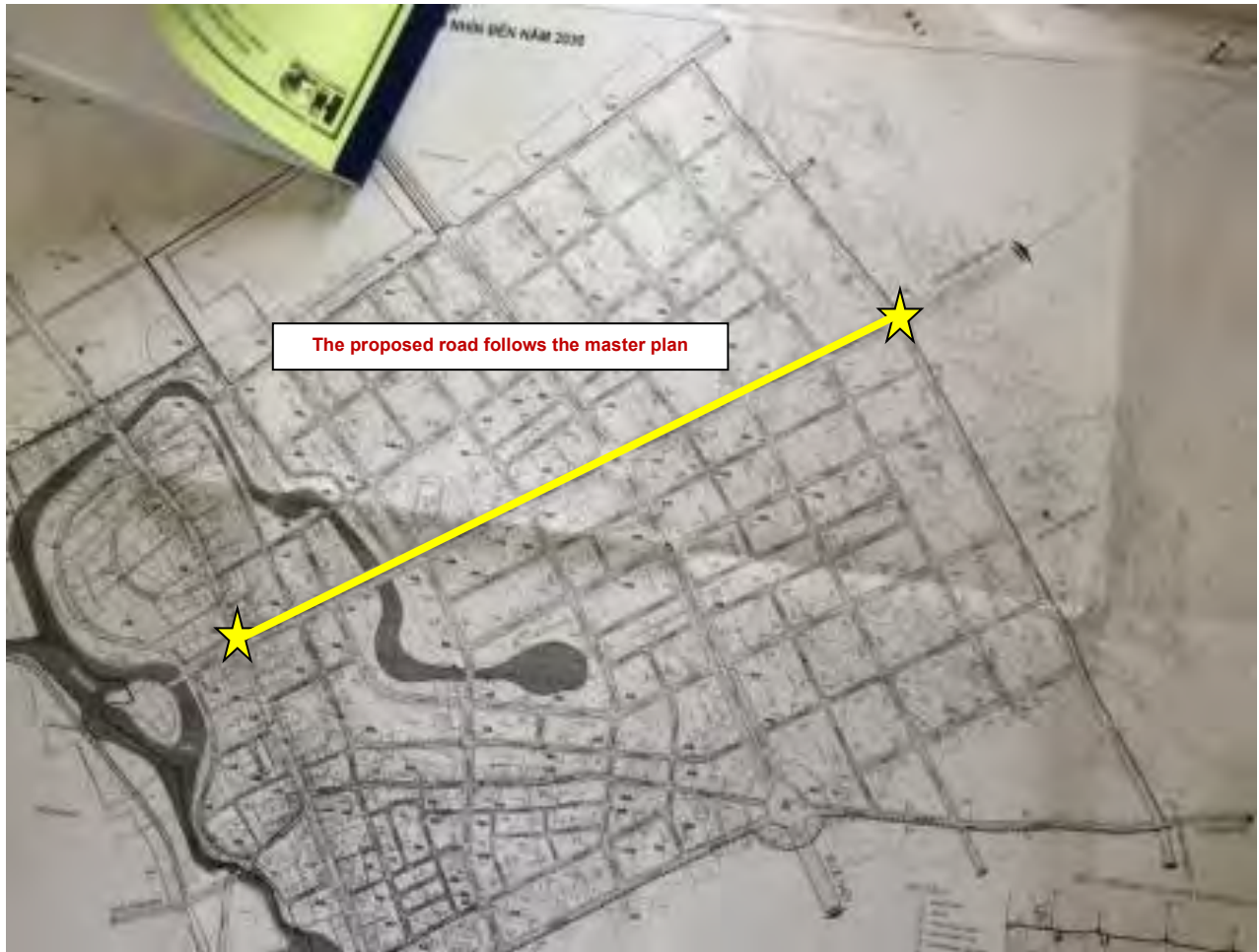
J. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed plain road design categories. Section 1 from Km0 + 0.00 - Km2 + 100: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the main secondary urban road standards according to TCXDVN 104-2007; Section 2 from Km2 + 100 - Km4 + 172: the proposed alignment follows the approved master plan of Dinh Muoi urban area. The road is designed according to the grade IV plain road standard TCVN4054-2005;
Are there outstanding approvals required	✓		(a) PMU reconfirms the total length of the proposed road subproject including all the existing road sections. (b) The alignment and the scale of the detailed planning must be approved as the basis for the implementation of the project. (c) Pavement structures: section 1 (Km0 + 0.00 - Km2 + 100) follows the main urban secondary street scale design Eyc = 155Mpa is appropriate; section 2 (Km2 + 100 - Km4 + 172) follows the plain road category IV. It is proposed to calculate and choose the Eyc = 130Mpa. (d) Roadbed is covered with sand, therefore geotextile coatings should be used to cover the outside of the roadbed adjacent to the earth layer to ensure the stability of the roadbed. (e) Several road sections go through the protection coastal forest areas. Inquires DPI and consultants propose mitigation measures approved by PPC and DARD and DONRE for the environmental impact assessment. (f) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets... When the road is put into operation. (g) the subproject involves some impacts on land acquisition of 35 ha including 24,8ha of production and protection forest areas, 0.78 ha of garden lands, 1 ha of residential land, and the rest is public land. 6 households (14 persons) will be affected while 1 household will be severely affected with 90% of their total assets (4th graded house,

			garden, and assets and structure....), and two graves in the back garden will be reallocated. 1 HH will have 200m of fence affected (5% loss); 4 HHs will be affected forest lands.
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		??	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		??	Forest areas and impacts need review possible Category A or offsite compensation required As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits. Dinh Muoi tourist road, Quang Ninh district is one of the main roads of Dinh Muoi urban area, total length 4,004 km. According to the master plan for the urban area of Dinh Muoi until 2020, with a vision to 2030 was approved by the People's Committee of Quang Binh in Decision No. 1693 / QD-UBND dated 06/6/2016 will form 3 main axis in the east-west direction of the city, of which the Dinh Muoi Tourism Road is the main road located at the center of the city of Dinh Muoi. The proposed road subproject will link the Hai Ninh marine resort complex including Hai Ninh beach resorts, other resorts, water parks and golf courses are planned in the near future. In addition, this road connects East-West corridor with road 10. Therefore, the road subproject will facilitate the opening of Dong Hoi-Hai Ninh-Bang tourism road; Dong Hoi - Than Dinh Mountain; Dong Hoi - Hai Ninh - Vinh Moc Tunnel ... completing the infrastructure of Dinh Muoi urban area in particular and Quang Ninh district in general, and expanding the space of the town so as to promote socio-economic development. Construction of this road will provide connectivity between three communes: Vo Ninh, Gia Ninh and Hai Ninh in Quang Ninh district, rather than being intended for through traffic.
Is the project expected to achieve a 9% EIRR		x	To be provided

K. Road Map





L. Road Chainage Photos



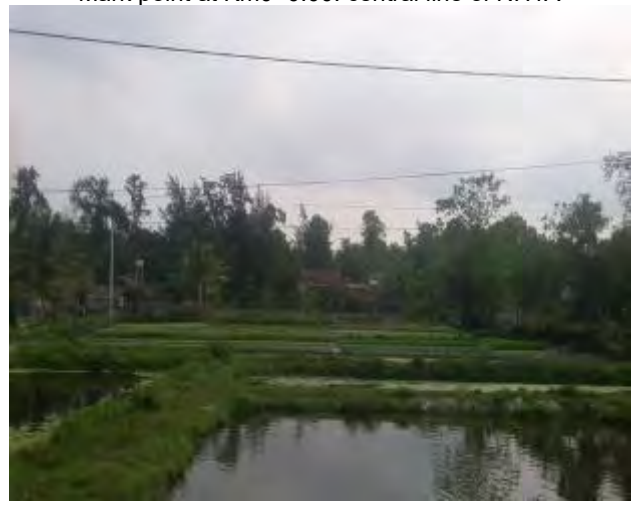
Starting point: Km0+00 connects to NH1A



Mark point at Km0+0.00: central line of NH1A



(Km0+159,55) to 44 (Km0+277,44): the road alignment involves loss of one level 4 house to be resettled.



(Km0+159,55) to 44 (Km0+277,44): the road alignment goes through the garden land, crops, and ponds for aquaculture.



Km0+200: the road alignment goes through the production forest area



(Km0 + 277.44) intersects National Highway 1A at (Km1 + 312.68): the current state of the road is high elevated sand dunes, with elevations of about 10 ÷ 12m



Km0+800:

Km1+315 cross-cutting position of NH1A bypass



Km1+315: cross-cutting position of NH1A bypass

Km1+315: cross-cutting position of NH1A bypass



Km1+315: cross-cutting position of NH1A bypass



Km1+315



Km3+150: cross-cutting position of the forest road



Km3+150: D14 mark point



Km3+150



Km3+200: the road alignment passes through the protection coastal forest



Km4+172.50 Intersection point of PR569



Km4+100: the road alignment passes through the protection coastal forest



End point Km4+172.50 connects to PR569



End point Km4+172.50 connects to PR 569 (section 1 of the representative subproject)

XXVIII. ROAD FROM LOC NINH COMMUNE TO TAY BAC INDUSTRIAL ZONE IN DONG HOI CITY

A. Subproject description

284. The proposed road runs from Loc Ninh commune to Tay Bac Industrial Zone in Dong Hoi city subproject. The proposed road passes through 2 communes Quang Phu and Loc Ninh in Dong Hoi city, Quang Binh province. The road subproject will construct 01 new railway overpass bridge; 22 culverts of all types, and drainage works, protection works, and traffic systems.

- (i) Starting point (Km0+00): connects to Truong Phap road, Quang Phu commune (Quang Phu beach), Dong Hoi city.
- (ii) End point: (Km3+817,22): connects to Tay Bac industrial zone ring road in Dong Hoi city.
- (iii) Total length of 3.817km.

285. The proposed road alignment follows the planned road of 36m wide, which was approved by Quang Binh Provincial People's Committee with detailed plan 1/2000. Starting point from Truong Phuc road goes along the new road through sand dunes, paddy fields, intersecting with NH1A, and crossing the railway and connecting to the ring road the North West Dong Hoi Industrial Park. The road passes through 2 communes, Quang Phu and Loc Ninh Commune of Dong Hoi City, Quang Binh Province. The length of the route is 3.82 km. The alignment was approved according to the detailed road plan in Decision No. 1693 / QĐ-CT dated 8/7/2013 of Quang Binh PPC.

B. Existing Status:

286. The proposed road is a new alignment, which goes through the sand dunes of Quang Phu Commune, paddy fields and hills and garden lands in Loc Ninh Commune. The road passes through some intra-field canals, crossing many inter-village crossroads. The two sides of the road are paddy fields, residential land, horticultural land, lowland terrain and low hills, passing through residential areas along the road, specifically:

- (i) The starting section from Km0 + 00 - Km0 + 783.40 passes through the sand dunes of Quang Phu commune;
- (ii) Section from Km0 + 783.40 - Km3 + 817.22 (end point) passes through paddy fields, ponds and production forests and residential areas along Loc Ninh commune road.
- (iii) At Km2 + 625 intersects with National Highway 1A
- (iv) At Km3 + 125 crosses the railway
- (v) At the crossroads with NH1A (Ly Thanh Tong Street) and Truong Phuc Phan road, the road passes through the residential area.

287. The road terrain is flat, the only residential area is adjacent to intersection with Ly Thanh Tong and Truong Phuc Str. Generally, topographic and geomorphic conditions are favorable for construction work.

C. Proposed Road Categorization:

- (i) Section from Km0 + 00 - Km2 + 626.08 (NH1A): The road is proposed to be developed to secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Main design standards are as follows: Design speed: $V_{tk} = 60\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 125\text{m}$; Maximum vertical slope: $I_{max} = 6\%$; Roadbed width: $B_{n\grave{e}n} = 18\text{m}$; Road surface width: $B_{m\grave{a}t} = 9,5\text{m}$; Roadside width: left pavement $B_{l\grave{e}} = 2,5\text{m}$; right pavement $B_{h\grave{e}} = 6,0\text{m}$. The frequency of road, culvert, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A1, $E_{yc} = 155\text{MPa}$.
- (ii) Section from Km2 + 626.08 (NH1A) - Km3 + 817.22: The road is proposed to be developed to secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Design speed: $V_{K-TK} = 60\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 125\text{m}$; Maximum

vertical slope: $I_{max} = 6\%$; Roadbed width: $B_{nen} = 18.0m$; Road surface width: $B_{mat} = 11.0m$; Roadside width: Left pavement $B_{le} = 1.0m$; right pavement $B_{he} = 6.0m$. The frequency of road, culvert, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, road pavement of 10T. Asphalt concrete road A1, $E_{yc} = 155MPa$.

D. Investment

- (i) Proposed investment \$ total: US\$ 5,280,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 1,383,285 /km.

E. Rationale

- (i) The road from Loc Ninh Commune to Dong Hoi Northwest Industrial Park is one of the main roads in the East-West, which motivates the development of Dong Hoi City, connecting Ho Chi Minh Road - Northwestern industrial and urban area with cultural, sports and resort center in the northeast of the city. The formation of the road will facilitate the rapid urbanization and expansion of the city to the north, combining urban solutions to form functional areas and create a new land fund.
- (ii) This road links the areas and serving the travel needs of both sides of the road, as a bridge between the functional areas to promote socio-economic development such as Quang Phu tourist area, Dong Hoi Northwest Railway, North South Railway Station
- (iii) According to the detailed planning 1/2000 approved, the proposed road subproject is the main road running along the planning area connecting the planned area of 151ha with main roads being the coastal road of Vietnam. NH1A (Ly Thanh Tong Street), Phan Dinh Phung Street, connecting with NH 1A to avoid Dong Hoi City and Ho Chi Minh Road. The road will be the first basis to encourage and facilitate the socialization of investment in the land fund of both sides of the road.
- (iv) The road will be a precondition for realizing the detailed plan of land use in the two sides of the road, converting land for cultivation and inefficient forest land into service land and construction land, public, sports and green lands. This will transform the sector structure of people from low-income agriculture into high-income and stable trade and services. This will create new jobs for people in Quang Phu and Loc Ninh communes in particular and people in Dong Hoi city in general.
- (v) With the importance of the project road, Quang Binh provincial People's Committee has established and approved the detailed planning and demarcation plan of 36m wide road axis, linking Quang Phu - Loc Ninh - Tay Bac Dong Industrial Zone Hoi - Phan Dinh Phung street, Dong Hoi street, the rate of 1 / 2,000 (Decision No. 1693 / QĐ-UBND dated July 18, 2013);
- (vi) In addition to the socio-economic development rationales, this subproject also contributes to the overall development of the road network in Quang Binh and the FNCP region alike.

F. Summary of subproject site visits findings and recommendations

288. Some concerns about the proposed road:

- (i) Section from Km0 + 783.40 passes through the sand dunes of Quang Phu commune; Dong Hoi Airport area is located 15m away on the right side of the road section. Requires the approval / agreement of the Dong Hoi airport flight safety zone so that the road alignment section may not be affected.
- (ii) Section from Km0 + 783.40 passes through the protection (casuarinas, and eucalyptus) forest areas. Inquires DPI and consultants confirm the protection forest classification and propose mitigation measures approved by PPC and DARD and DONRE for the environmental impact assessment.
- (iii) At Km2 + 625 intersects with National Highway 1A. Requires the approval/agreement of the NH1A intersection points by the MOT/DRVN.
- (iv) At Km3 + 125 proposed to construct a new bridge overpassing the railway with span structure of $L=(18+33+18)m$. Requires the approval / agreement of VN railway authority as below:
 - (a) The choice of design solution must meet the requirements required by the Railway Law as follows:
 - (b) The aerial protection scope of the railroad from the top of the rails vertically to the 1000 mm according to the technical grade is 5.30 meters (According to Decision No. 1468 / QĐ-TTg dated August 24, 2015 by the Prime Minister approving the adjustment of the master plan on development of Vietnam's railways transport till 2020 with a vision to 2030: The existing railway remains the same width of 1 meter Modernization level meets national railway

- technical standards. No detailed planning for the North-South high speed rail passes through Quang Binh province);
- (c) The boundary of the protective strip between two sides of the railroad shall be determined as follows: 7 meters from the outermost edge of the outermost rail toward the non-embankment road surface; 5 meters from the embankment foot or 3 meters from the outer edge of the vertical drainage ditch towards backfill embankment; 5 meters from the edge of the peach or 3 meters from the edge of the groove leading to the excavation;

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	at starting point (Km0+00): connects to Truong Phap road, Quang Phu commune (Quang Phu beach), Dong Hoi city.	Confirmed	Confirmed
End point	at (Km3+817,22): connects to Tay Bac industrial zone ring road in Dong Hoi city.	Confirmed	Confirmed
Length	3.817km	<p>3.817km</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the total length of the proposed road subproject including all the new alignment sections.</p> <p>(b) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>(c) the first section from km0+300 to km300+900 goes through the protection (casuarinas, and eucalyptus) forest areas. requires DPI and consultants confirm the protection forest classification and propose mitigation measures approved by PPC, DARD, and DONRE for the environmental impact assessment.</p> <p>(f) requires the approval / agreement of the Dong Hoi airport flight safety zone so that the road alignment section may not be affected.</p> <p>(h) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(g) at Km2 + 950 the central line pass through some houses and tombs (27 graves of the Nguyen and Hoang families, the PPTA recommend that readjusting the alignment central-line planning to the left so as to avoid site clearance of the families' two graves.</p> <p>(h) the subproject involves some impacts on land acquisition of 7,5ha of 49 HHs of which the HHs agricultural lands will be acquired</p>	<p>DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.</p> <p>MOU of QB DPI, DOT, DOC, DONRE, DARD, Dong Hoi city PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon the road is proposed to be developed to secondary urban road standards according to TCXDVN 104-2007; and phase 1 investment (half of the detailed master plan of the road subproject)</p>

		from 30 to 70%, and 23 HHs will have less than 70% agricultural land acquisition. 9 households will be reallocated.	
Road category	The road is proposed to be developed to secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Main design standards are as follows: Design speed: V _{tk} = 60Km/h; Minimum horizontal curve radius: R _{min} = 125m; Maximum vertical slope: I _{max} = 6%; Roadbed width: B _{nên} = 18m; Road surface width: B _{mặt} = 9,5m; Roadside width: left pavement B _{lề} = 2,5m; right pavement B _h =6,0m.	Requires traffic count data to justify the proposed road design categories. Confirmed the road categories proposed	Agreed
Proposed works	1 bridge and 22 culverts of all types, and drainage works, protection works, and traffic systems to be constructed	Confirmed	Confirmed

G. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No 952/QĐ-TTĐ dated on 23/06/2011 on approval of socio-economic development planning in Quang Binh province by 2020... Master plan of socio-economic development of Dong Hoi city in the period of 2011-2020, vision to 2025; General planning of Dong Hoi city to 2020, Quang Binh province. The general planning of Dong Hoi city and surrounding areas to 2025, vision to 2035 was approved by the People's Committee of Quang Binh province in Decision No. 1538 / QĐ-UBND dated 06/7/2012;
2: Included in DoT Master Plan – if yes state page and section	✓		No.540/QĐ-PC dated 13/3/2013 on approval of transportation development planning in Quang Binh province by 2020; which emphasized road transport network development, including (i) National Highway system; (ii) Provincial road system: Continue to renovate, upgrade existing provincial roads to reach III – IV road level, sections passing urban area are built in accordance with urban planning; (iii) Rural transport system: Continue to construct, upgrade rural transport system with the target of district road system will have basically reached level IV – V road standard (pavement structure is asphalted or 100% cement concreted)... The detailed construction plan along National Highway 1A, Dong Hoi Street was approved by Decision No. 1081 / QĐ-UBND dated 17th May, 2011 of Quang Binh People's Committee. Quang Binh transportation development plan up to 2020 was approved by Quang Binh Provincial People's Committee in Decision No. 540 / QĐ-UBND dated March 13, 2013. Detailed planning and demarcation of 36m road axis, connecting Quang Phu - Loc Ninh - Dong Hoi Northwest Industrial Park - Phan Dinh Phung Street, Dong Hoi Street (1 / 2,000 scale). Approved by

			Quang Binh Provincial People's Committee (Decision No. 1693 / QĐ-UBND dated 18/7/2013);
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road is proposed to be developed to secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Main design standards are as follows: Design speed: Vtk = 60Km/h; Minimum horizontal curve radius: Rmin = 125m; Maximum vertical slope: lmax = 6%; Roadbed width: Bnền = 18m; Road surface width: Bmặt = 9,5m; Roadside width: left pavement Bìè = 2,5m; right pavement Bhe=6,0m. 20 years projected economic life of the subproject
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport master plan for towns. The current road standard on each end point is asphalt concrete and the network connection now and planned is a secondary urban road towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data to justify the proposed secondary urban road design categories. Traffic count carried out in 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is secondary urban road category.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		To be provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		To be provided
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

H. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial

A.1	Land Acquisition	Agriculture Land	✓		minor
		Urban Public Land	✓		minor
		Urban Private Land	✓		minor
A.2	Structures	Private houses	✓		minor
		Private other	✓		minor
		Public Structures	✓		minor
A.3		Other Assets	✓		minor
A.4		Resettlement – if yes number of households identified	✓		<p>Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts on land acquisition of 7,5ha of 49 HHs of which the HHs agricultural lands will be acquired from 30 to 70%, and 23 HHs will have less than 70% agricultural land acquisition.</p> <p>9 households will be reallocated.</p> <p>at Km2 + 950 the central line passes through some houses and tombs (27 graves of the Nguyen and Hoang families, the PPTA recommend that adjusting the alignment central-line planning to the left so as to avoid site clearance of the families' two graves.</p>
A.5		Is there a Land Acquisition and compensation budget – if yes how much	✓		<p>Estimated costs of Land Acquisition and compensation budget:</p> <p>25,000,000,000 VND equivalents to USD 1,118,568</p>
B:	Environmental Screening				
B.1	Forests	Production forest land	✓		land acquisition of 7,5ha of 49 HHs of which the HHs agricultural lands will be acquired from 30 to 70%, and 23 HHs will have less than 70% agricultural land acquisition.
	- are there any of the following along the alignment of within close proximity – if yes is the risk significant	Protection forest land	✓		As above
		Protected areas		x	No
B.2	Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3	Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4	Did the field visit identify issues form EARF that need to be addressed		✓		the field visit identified an issue from EARF that need to be addressed: Protection forest area.
B.5	New Alignments	Risk of land slips		x	N/A
		Risk of Large cuts		x	No
		Water course disruption		x	N/A
		Flood Plain Disruption		x	As presented above

I. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes 2 communes in Dong Hoi city: <ul style="list-style-type: none"> ▪ Quang Phu and ▪ Loc Ninh
Is the population data available	Yes	Dong Hoi city's total population as of 2016 is 117,953 people (equivalent to 32,528) HHs. (i) Quang Phu commune has 3,250 people (864 HHs) (ii) Loc Ninh commune has 8,584 people (2,209 HHs) The subproject will directly benefit totally 28,442 people including 2 communes, Quang Phu and Loc Ninh.
Is the number of Poor households available	Yes	Dong Hoi city's total poor HHs as of 2016 is 9,348 poor HHs (equivalent to 11.77%). (i) Quang Phu commune has 12 poor HHs (1.42%) (ii) Loc Ninh commune has 22 poor HHs (0.98%)
Is the number of near poor households available	Yes	Dong Hoi city's poor HHs as of 2016 is 316 near poor HHs (equivalent to 0.97%). (i) Quang Phu commune has 24 near poor HHs (2.78%) (ii) Loc Ninh commune has 19 near poor HHs (0.85%)
Are Ethnic minorities identified and specified	No	No
Is land use specified	Not yet	N/A
Are the number of female headed households specified	Yes	Dong Hoi city's female headed households as of 2016 is 4478. (i) Quang Phu commune has 195 female headed households (ii) Loc Ninh commune has 530 near poor HHs (0.85%)
Is the GAP adequately reflected	Not yet	As presented above

J. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not Provided
Is there a detailed worksheet for the EIRR		x	Not Provided
Is it linked to the traffic forecast		x	Not Provided

K. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed road design categories. The road is proposed to be developed to secondary urban road standards according to TCXDVN 104-2007; Main design standards are as follows: Main design standards are as follows: Design speed: Vtk = 60Km/h; Minimum horizontal curve radius: Rmin = 125m; Maximum vertical slope: Imax = 6%; Roadbed width: Bnền = 18m; Road surface width: Bmặt = 9,5m; Roadside width: left pavement Blề = 2,5m; right pavement Bhe=6,0m.
Are there outstanding approvals required	✓		Requires clarification and confirmation:

			<p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the total length of the proposed road subproject including all the existing road sections.</p> <p>(b) The alignment and the scale of the detailed planning must be approved as the basis for the implementation of the project.</p> <p>(c) Pavement structures: section 1 (Km0 + 0.00 - Km2 + 100) follows the main urban secondary street scale design Eyc = 155Mpa is appropriate; section 2 (Km2 + 100 - Km4 + 172) follows the plain road category IV. It is proposed to calculate and choose the Eyc = 130Mpa.</p> <p>(d) Roadbed is covered with sand, therefore geotextile coatings should be used to cover the outside of the roadbed adjacent to the earth layer to ensure the stability of the roadbed.</p> <p>(e) Several road sections go through the protection coastal forest areas. Inquires DPI and consultants propose mitigation measures approved by PPC and DARD and DONRE for the environmental impact assessment.</p> <p>(f) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(g) the subproject involves some impacts on land acquisition of 35 ha including 24,8ha of production and protection forest areas, 0.78 ha of garden lands, 1 ha of residential land, and the rest is public land. 6 households (14 persons) will be affected while 1 household will be severely affected with 90% of their total assets (4th graded house, garden, and assets and structure....), and two graves in the back garden will be reallocated. 1 HH will have 200m of fence affected (5% loss); 4 HHs will be affected forest lands.</p>
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons	✓	??	Tombs and graves to be moved category A. As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category A or B for substantial Resettlement. However, to confirm cat A or B for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>The road from Loc Ninh Commune to Dong Hoi Northwest Industrial Park is one of the main roads in the East-West, which motivates the development of Dong Hoi City, connecting Ho Chi Minh Road - Northwestern industrial and urban area with cultural, sports and resort center in the northeast of the city. The formation of the road will facilitate the rapid urbanization and expansion of the city to the north, combining urban solutions to form functional areas and create a new land fund.</p> <p>This road links the areas and serving the travel needs of both sides of the road, as a bridge between the functional areas to promote socio-economic development such as Quang Phu tourist area, Dong Hoi Northwest Railway, North South Railway Station</p>

			<p>According to the detailed planning 1/2000 approved, the proposed road subproject is the main road running along the planning area connecting the planned area of 151ha with main roads being the coastal road of Vietnam. NH1A (Ly Thanh Tong Street), Phan Dinh Phung Street, connecting with NH 1A to avoid Dong Hoi City and Ho Chi Minh Road. The road will be the first basis to encourage and facilitate the socialization of investment in the land fund of both sides of the road.</p> <p>The road will be a precondition for realizing the detailed plan of land use in the two sides of the road, converting land for cultivation and inefficient forest land into service land and construction land, public, sports and green lands. This will transform the sector structure of people from low-income agriculture into high-income and stable trade and services and create new jobs for people in Quang Phu and Loc Ninh communes in particular and people in Dong Hoi city in general.</p> <p>With the importance of the project road, Quang Binh provincial People's Committee has established and approved the detailed planning and demarcation plan of 36m wide road axis, linking Quang Phu - Loc Ninh - Tay Bac Dong Industrial Zone Hoi - Phan Dinh Phung street, Dong Hoi street, the rate of 1 / 2,000 (Decision No. 1693 / QD-UBND dated July 18, 2013);</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

L. Road Map



M. Road Chainage Photos



Starting point at Km0+00 connecting to Truong Phap street



Starting point at Km0+0.00 connecting to Truong Phap street



Km0+80 the road goes through the casuarinas, and eucalyptuses



Km0+120 the road goes through sand dunes and the casuarinas, and eucalyptuses forest



Km0+500 the road goes through sand dunes and the casuarinas, and eucalyptuses forest



Km0+600: the road goes through sand dunes and the casuarinas, and eucalyptuses forest



Km0+700: the road goes through sand dunes and the casuarinas, and eucalyptuses forest



Km1+00: the road goes through paddy field



Km1+00: the road goes through the paddy field and crossing the horizontal gravel feeder road



Km1+100: the road goes through the paddy field



Km1+100



Km2+010



Km2+100



Mark DC2 Km2+010



The intersection point of NH1A at Km2+625



The intersection point of NH1A at Km2+625



The intersection point of NH1A at Km2+625



Km2+700: the road alignment goes through the paddy field after crossing NH1A



Km2+800: paddy field



Km2+900: rice irrigation canal



Intersection point of Truong Phuc Phan road at Km2+925



Km2+950: the road alignment goes through the residential area



Km3+025: the road alignment goes through the residential area



Railway crossing point at Km3+125



Km3+250: fishing pond and banana garden



Km3+300: paddy field



End point at Km3+817



Km3+750: the road goes through the acacia forest



End point at Km3+817: the road connects to the ring road of Tay Bac industrial zone in Dong Hoi city



End point at Km3+817 intersecting with Tay Bac industrial zone in Dong Hoi city

XXIX. OUTPUT 2: SUBPROJECT 1 - KENH KIA RIVER, BA DON DISTRICT

A. Project Description

289. Located in Ba Don Town and Quang Trach District within the Quang Long, Quang Phuoc and Quang Phong (Communes) the subproject will provide:

- (i) rehabilitation and upgrading/regularization of a main channelized river (Kenh Kia) tail reach section (3.5 km, to 45 m bed width),
- (ii) rehabilitation of 3 No. inflow drains (open earth ditch) and associated gated sluice outlet structures, and
- (iii) the provision of four new small scale irrigation low lift pumping stations (1-2 m lift, up to 250 m³/hr).
- (iv) The Government and/or the District/Communes will rehabilitate and revise the associated box section concrete irrigation canals (total 2,700 m). A further 3.5 km section of the Kenh Kia river, upstream of this section under the project, is already contained within embankments, but some maintenance and improvement is required on the upstream section to ensure full containment of flood flows. It is the lower reach which is most directly influenced by tidal outfall river levels and thus backup under high flows in that reach when the discharge to the coastal river is cyclically restricted.

290. The project area is predominantly paddy rice which is subject to flooding from localized intense rainfall and drainage runoff in conjunction with increased runoff and elevated water levels in the Kenh Kia catchment and channel that restricts drainage evacuation for variable periods. Key features of the project are:

- (i) Total project area – aggregated gross irrigation area supplied by four pumping stations – 200 ha.
- (ii) Approximate area adjacent to drains and river that is flooded each year – up to 120 ha.
- (iii) The Kenh Kia River has been converted to a low level channel (unlined) from Dong Duong to Ba Don (Highway 12A), a total distance of 7 km. It has existing embankments but these are uneven and unable to contain wet season flood flows from the upper catchment. The outlet to the Nguon Nay River (which is tidal) is controlled by gates (5 No.) to prevent saline water intrusion. There is a large overspill weir adjacent to the sluice gates. The proposed channel upgrade will have a 45 m bed width, a 64 m top width at design flow level, and a bank top height of 2.5 m at Ba Don rising to 3.36 m at Du dong.
- (iv) Length of all irrigation canal sections – overall total of 2,700 m to be rehabilitated by local government and commune resources.
- (v) Only one irrigation pump station is installed (1994) by the Commune – with electric power, a centrifugal pump with a 200 mm outflow pipe. The arrangement is of poor layout and construction. The existing irrigation canals are mixed old box section concrete (poor condition) or open earth ditches (supply channel to the pump station).
- (vi) Current drains performance and constraints – the local catchment drains to the Kenh Kia from the irrigated and residential areas to the east are unlined and in varying state of low to poor maintenance, making them hydraulically inefficient, and unable to properly deliver their design discharge (as stated by local irrigators).
- (vii) Problem to be addressed – the area is affected by floods (or flood risk) twice per year. At the end of the winter-spring crop (ready for harvest), low level floods can occur due to backflow from the river into the local drains (which have no control sluice at their outfalls), This interrupts harvest and damages the crops (rice, vegetables, flowers - lower yield, poor quality). After the summer crop, the main wet season starts (late September) and more substantial floods can occur, drowning out command area and entering adjacent houses etc. Existing banks alongside the Kenh Kia river will be overtopped/submerged. No crops are grown during this time due to the regular large floods (the available flood map indicates depth and areal extent - land/property affected).
- (viii) Conversely, in the dry season (May-June-July), there is much reduced flow in the Kenh Kia river, with low water levels. Local areas have difficulty accessing water to finish the growth of the summer crop (mainly rice, some vegetables, flowers, lotus and associated aquaculture). Some assistance is provided with temporary pumps to lift water into the existing irrigation network – these are mostly short individual systems no more than 1 km long. It is proposed that permanent pumping stations be installed (4 No.) to alleviate drought risk for four irrigation sub systems totaling approximately 200 ha.
- (ix) Tidal gate operations can maintain water levels in the Kenh Kia river provided there is runoff coming from the upper catchment. Any local drainage inflows can be recycled, but there is a risk that these flows can be contaminated from residential effluent runoff, and thus compromise water quality and generate health risks from contaminated crops. The natural and drainage inflows help to maintain water levels in the Kenh Kia river which can then be accessed for irrigation during droughts, but as upstream water sources are stressed due to upstream demand in the dry months, this water supply

is not reliable. A broader approach to improve water use efficiency in upstream areas would be required to ensure adequate water provisions in dry season for the lower reaches. As described, this was not considered for the project.

- (x) Kenh Kia outlet sluice operations at times of high flow (post significant rainfall events, during the wet season) are governed by tidal cycles in the Nguoc Nay river, which means some cyclic fluctuation in the Kenh Kia water levels which thereby necessitates raising the banks to a consistent graded level over the 3.5 km section (Dong Duong to Ba Don) together with sluice gated outlets for drains flowing into this reach. When high water levels persist, outflows from the small side drains are restricted, and this leads to temporary flooding in the lower reaches of these drains. The areas affected are mostly paddy and fish farm land adjacent to the Kenh Kia river. Under larger events, the proposed banks for the Kenh Kia river may also be swamped and the flooding would be deeper and more extensive, so the banks need to be high enough to contain flow in the channel under dynamic conditions.
- (xi) Small flood events may last 1 to 2 days and if not too deep, may not harm crops significantly. Larger events are both deep over cultivated land through into houses, and may last 3 to 5 days depending on the storm events. [some flooding in 2016 was said by local residents to have lasted up to 2 weeks, and up to 1 m deep].
- (xii) The upgrading of Kenh Kia river embankments will not protect land and properties against floods for 1 in 10 year events or greater, once the reformed banks are overtopped. This will occur when flows in Kenh Kia are large and unable to pass freely over the outlet weir and/or through sluice gates into the Nguoc Nay river. The discharge from Kenh Kia will be variable in accordance with the tidal cycles, whilst the rainfall/runoff surge from the upper Kenh Kia catchment will follow the peaking and slow decline of a normal catchment hydrograph. Thus, for a period, the incoming runoff has to be dissipated either by retention within the embankments, or through overspill into adjacent low lying areas, in proximity to the outlet sluice. This will compound the flooding over and above any localized flooding within the small drainage catchments from rainfall/runoff that has no immediate possibility for evacuation.
- (xiii) Relief of **drought** conditions can only be realized through improved water management and use within all of the Kenh Kia river catchment, thereby helping to ensure more water is available for pumping into the lower reach irrigation canals for a longer period through to the start of the autumn wet season.
- (xiv) Wet season **flood** risk is much more severe, with large runoff flow in the Kenh Kia from the upper catchment blocking the possibility for gravity drainage from the low agricultural areas. For major events, high discharge in Kenh Kia can overtop the embankments and compound any localized flooding. Both agricultural areas (at increased depth) and many private properties and government assets (roads, bridges, schools) are at risk from floods up to 1 m deep. Such events are less frequent, but incur much more significant losses.

291. Land use in project area:

- (i) Irrigation Command areas – up to 200 ha impacted by drought and 120 ha impacted by flood
- (ii) Drainage areas – the irrigated area plus further residential and grazing land east of the irrigated area.
- (iii) Area of crop irrigated dry season – 200 ha, but sometimes with restricted water availability.
- (iv) Area of irrigated crop wet season – 200 ha
- (v) Area of other perennial or seasonal crops – detail breakdown to be provided

292. Proposed structures to be upgraded include – 1. pump station, 3. new pump stations, 20 outlet sluices in each side of Kenh Kia river bank (40 No. in total), other structures.

B. Proposed investment

293. With a proposed investment US\$ 4.25 million the per hectare benefitted of 200ha is approximately \$21,000 / ha; and by drain length – 3.5 km Kenh Kia and 2.5 km small drains, aggregate \$ 700 / m. At these levels of costs the ability to achieve an economic return on the investment is considered unlikely.

C. Rationale

- (i) The project will improve irrigation service in the summer (drought) season, and mitigate flooding from intense rainfall and wet season catchment runoff. There is a Bill of Quantities and Costs Breakdown for the key works.

- (ii) There is no clear statement on how many irrigators, families etc. will benefit, and what proportion of them are women irrigators (farmers)?
- (iii) The likely risks and impacts associated with completing upgrades with more secure water supply reliability will be:
 - (a) without the project – no change, so annualized losses will change if not increase with climate change impacts.
 - (b) with project scenario – assumptions are made based on improved physical works, but no assessment is included for any potential water management improvements adopted upstream in the Kenh Kia River, nor for the impacts of climate change.
- (iv) How are the improvements specified/quantified? Description of the proposed works to be implemented under the project, with an associated summary BoQ and costings.

294. Social Benefits – limited information has been given to assess the likely social impacts, who will benefit and to what extent. The assumptions are that drought relief and flood mitigation will enable the existing land holders to better plan and produce crop from the same land.

295. Overall, there are 36,786 people in the affected 4 communes (Quang Thach, Quang Tien, Quang Luu and Quang Trach) and 2 wards (Quang Long and Quang Phong), with 1,446 poor people.

D. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	Yes		Decision No 952/QĐ-TTĐ dated on 23/06/2011 on approval of socio-economic development planning in Quang Binh province by 2020... Resolution No.02/2016/NQ-HĐND dated 05/01/2016 on the task of socio-economic development for 5 years (2016 - 2020)
2: Included in Sector Plan – if yes state page and section	Yes		Decision No. 1596 / QĐ-UBND dated 11/7/2011, Quang Binh Provincial People's Committee on approving the master plan for socio-economic development of Quang Trach district to 2020. Decision No. 277 / QĐ-UBND dated 27/01/2014, Quang Binh PPC approving the detailed plan of irrigation of the Roon River Basin and its vicinity up to 2020 with a vision to 2030. MOU of QB DPI, DOT, DOC, DONRE, DARD, Ba Don town PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon the PPTA's recommendations.
3: Proposed design concept document available for screening team – if yes state date of proposal	Yes		March 2017 (it is possible the original plans were prepared earlier than this)
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	Yes		Irrigation works grade V (QCVN 04-05: 2012)
5: Proposed design standard proposed – how does it incorporate the effect of climate change.	Yes		Details to be provided.
6: Is a concept or preliminary engineering design available	Yes		Details to be provided.
7: Is the preliminary design already approved by commune, district or PPC		No	

8: Is there a bill of quantities with the preliminary design	Yes		Summary details in available FS – further details requested due to complexity of components and relative benefits accruing from the investments.
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	Yes		Summary table in the FS – further details requested.
10: Are there significant structures required – if yes please identify	Yes		Main structures are 3.5 km of embankment, armored inner face (rip rap) and grassed outer slope, topped with 2.5 m wide concrete road, both sides (total 7 km).
11: What land is required (ha) and who owns land	Yes		Some limited land acquisition will be required to align and build embankments for the 45 m (bed width) channel, and some structural wall will be required for approximately 100 m close to established houses (near Ba Don and Highway 12A), drains can be upgraded within existing easement without impact on cultivated land or property, though some compensation may be required for tree/bamboo stands that have to be disturbed (not quantified).
12: is there approval to build the structure on proposed alignments	Yes		Works are keeping to the existing river and drain easements.

E. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition required if yes go to A.1		No	Follows existing alignment and scale
A.1 Land Acquisition	Agriculture Land		No	N/A
	Urban Public Land		No	Some alignment on public land corridors in front of properties with closed channel section – temporary disruption during construction
	Urban Private Land		No	N/A
A.2 Structures	Private houses		No	
	Private other		No	
	Public Structures		No	
A.3	Other Assets		No	
A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much		No	Details of what if any land acquisition may be required due to enlargement of drains and banks have not been detailed.
A.6	Is other land affected from the discharge of water	Yes		Peak wet season floods cannot be contained by the proposed works, so large flood event risks (greater than 1 in 10 years for rural catchments) remain.
A.6	Is this category B, C or uncertain		C	
B: Environmental Screening				

B.1 water source and network effect on forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		No	
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain	Is water evacuated into receiving bodies	Yes		Outflows will be evacuated to large tidal river via the upgraded Kenh Kia freshwater river section.
	Are their risks of water contamination from discharges	Yes		Agricultural and urban development drainage
	Is water use increased	Yes		In the dry season, but this has to come from savings achieved elsewhere in the upper reaches (not part of the project)
	Downstream impact of water discharge including increased amplitude of flood events due to faster flood evacuations		No	Aim is to lessen the impact of floods – mostly the low scale recurrent floods at the end of the spring season crop. Other constraints make it difficult to mitigate peak wet season flood risk.
B.3 Does the proposal include any IEE screening			No	To be confirmed
B.4 Did the field visit identify issues from EARF that need to be addressed			No	To be confirmed
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change	Yes		To be detailed, to extent the flows and/or storage of water source could be affected adversely. e.g. increased intensity of wet season storms – greater and faster runoff; reduced dry season rainfall, increased water shortage for dry season irrigation.
	Risk of contamination from human settlement or livestock	Yes		There is intensified urban development in the eastern side of the catchment. To be discussed and outlined where settlements are close to water source, in catchment and/or close to the drains flowing to the section of Kenh Kia to be upgraded (which also provides irrigation water)
	Risk of deforestation / loss of vegetation		No	
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain		C	If there is no contamination of the drainage water. If there is contamination (to be verified), then without relevant treatment of effluent at source, this could be Category A under ADB safeguards policy.

F. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	Quang Long, Quang Phuoc, Quang Phong
Is the population data available for each commune, township	Yes	Summary details provided.

Is the number of Poor households available	Yes	ditto
Is the number of near poor households available	No	Not available
Are Ethnic minorities identified and specified	No	Not available
Is land use specified	Yes	Rural, agriculture, mostly paddy rice; part changing to urban residential
Are the number of female headed households specified	No	Not available
Is the GAP adequately reflected	No	Not available
Who in communes benefits most: home owners or poor?		Land holders who are reliant on their farms for their livelihood, and home owners who currently experience floods due to flows in the lower Kenh Kia river.

G. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an investment cost per meter of upgraded drain	Yes		\$700/m based on the overall required investment for approximately 6000 m of drain (3.5 km of Kenh Kia river and 2.5 km of irrigated and residential area drains).
Is the asset owner identified	Yes		DARD and Commune(s)
Is the Cost of Maintenance identified		No	Not available
Are scheme benefits clearly identified by category of benefit		No	Not available
Is each benefit quantified		No	Not available
Is there an economic assessment – if yes what is EIRR		No	Not available
Is there a detailed worksheet for the EIRR		No	Not available

H. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	Yes		<ul style="list-style-type: none"> - Decision No. 1596 / QĐ-UBND dated 11/7/2011, Quang Binh Provincial People's Committee on approving the master plan for socio-economic development of Quang Trach district to 2020. - Decision No. 277 / QĐ-UBND dated 27/01/2014, Quang Binh PPC approving the detailed plan of irrigation of the Roon River Basin and its vicinity up to 2020 with a vision to 2030.
Is there a clear design standard that is justified	Yes		Irrigation works grade V (QCVN 04-05: 2012)
Are there outstanding approvals required	Yes		MOU of QB DPI, DOT, DOC, DONRE, DARD, Ba Don town PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon the PPTA's recommendations.
Is there a preliminary design and is it sufficient to understand the proposal	Yes		An overall layout plan with long and cross-sections was inspected during the field visit. A request was made for copy to be provided, together with sufficient detail to verify the design details against tidal water levels. This has still to be seen.
Is there a Feasibility study	Yes		Details to be confirmed, especially status and whether complete or part.
Is there sufficient data on the need and purpose of the investment		No	Overall system integrity is important to maximize benefits. It is not clear that a good assessment of flood return period and depth duration of these floods has been undertaken.
Is there sufficient data on water supply reliability?		No	Catchment hydrology and/or operational practice has not been documented, so it is not possible to confirm system performance to tail reach sections being upgraded (i.e. data on past and future water supplies to meet irrigation demand).
Is there a risk that the Subproject will be category A for resettlement and affected persons		No	Proposed works will largely fit within existing easements, though some minor land acquisition and/or property adjustments may be required.
Is there a risk that the Subproject will be category A for environment	Yes		Unless there is clear separation of urban drainage from this recyclable drainage water management system, and/or the residential drainage effluent is treated to an adequate standard, then there is a risk for Cat A classification when combined flows are recycled through irrigation into the food chain (rice, vegetables).
Does the Subproject have clear economic inclusiveness outcomes		No	The focus is on the particular works, but the form and scale of intended outcomes is not well documented.
Does the subproject contribute to a system or extended protection network	Yes		The works protect an existing irrigated area and by extension, will provide protection to newer residential as well as established village areas. The level of protection is limited to mainly mitigate spring flood impacts, and mitigate severity of dry season droughts (water shortage for cropland).
Is the project expected to achieve a 9% EIRR	Yes		Details to be confirmed.
Who will manage the assets identified			DARD with inputs from farmer groups or irrigation management company, district, commune etc?
Is the scheme an expansion of an existing municipal and or rural town supply – if yes,		No	

are they required to on lend from the PPC?			
---	--	--	--

Google Earth image of the Kenh Kia river section (light blue) for which improved irrigation pumps (green), irrigation areas (orange), and drainage upgrades (blue) are proposed.



I. Outstanding issues:

296. The outlined system involves upgrading the drainage system to mitigate flood impacts in the tail reach of Kenh Kia river (embanked as a channel), and to incorporate four pump stations to lift water from this river in the dry season (when flows and water levels are low (up to 250 m³/hr. per pump) into existing irrigation canals. The canals feed four separate small scale systems, which are to be upgraded by the District and/or the Communes.

297. Efficient and reliable irrigation is currently thwarted by reduced water availability from the catchment reservoirs during the later stages of the dry season (July-August) for the summer crop (mostly paddy rice). No information was provided on catchment water balance, and effectiveness for demand management using the upstream small reservoirs (2 No. – details to be provided)). No information was also given on the upstream irrigation command areas, or how much any of those areas may also suffer from summer water scarcity.

1. Recommendation 1.

298. Opportunities to improve upper catchment water use efficiency to release additional supply to tail reaches should be investigated and quantified. The impact of climate change should also be taken into account for future sustainability.

299. Investment in new pumps will not enable any additional land to be put under command. The marginal benefit will be more sustainable summer cropping. Production improvements should be quantified against the pump station investment (estimated US\$20,000 for pumps plus another \$50,000 to \$100,000 for each canal improvement, including the provision of an electricity connection, and the construction of all ancillary works (pump house, access road (dirt/gravel), annual operating costs etc.).

2. Flood risks occur twice per year.

300. In the spring, low level flooding can occur from short term surges in the Khen Kia River and/or local drainage runoff that is impeded. Losses can be substantial if this is of sufficient scale to damage the 'ready to harvest' winter-spring, long season crop (Jan-May). Aquaculture (XX ha) is located in low areas adjacent to the river. These flood events are small but frequent, and can potentially be mitigated by containing flow in the river channel (complete embankments, gated sluices/culverts for inflowing local drains and/or irrigation outlets) and managing local drainage flows into the river by timely sluice gate operations (to take advantage of low tides and low Khen Kia river channel water levels). However, if there is substantive local catchment rainfall, it may be difficult to avoid low level flooding (up to 0.5 m depth) for the 3 to 4 events that may occur each year.

301. For the large wet season (Sept-Nov) floods, passage through the Khen Kia channel, even when reshaped and enlarged, can be restricted by tidal fluctuations, and especially if there are coastal surges on cyclical high tides (King tides). In that case, if the flood peak flow (drainage runoff from the upper Khen Kia river catchment) coincides with such high tides, and then overspill into the low lying areas upstream of Ba Don would be unavoidable.

302. It is likely, based on information provided, that the reconstructed river embankments (from 2.5 m high at Ba Don to 3.36 m high upstream at Dong Duong) would be insufficient to contain the accumulating flow in the river section [it is assumed that at this stage, the upstream reservoirs are full and spilling with little to no attenuation]. When the Khen Kia flows are large, **the overspill will inundate not only the agricultural land, but also some of the established and newly developing residential, commercial and government properties and assets**. In this case, with depths to 1 m in residential properties (local commune member), the proposed works will provide no effective defence.

303. Agricultural land would flood to a depth of over 1 m depth, but losses may be limited as no cropping is generally practiced in the wet season. The new works will not improve the opportunities for reliable cropping through October-November. Thus, the benefits to accrue for protection against large events appear to be small.

J. Conclusion

304. The proposed works, though desirable for more reliable water management for irrigation, and the provision of added protection for low season spring floods, do not provide much if any improved protection against the highest flood risks. Thus the marginal increase, if any, in mitigation of flood damage and loss, and the limited potential for improved irrigated production in the dry season, suggests the return on the investment in this project is small. Further work and understanding of the project detail, including the broader Khen Kia catchment water balance, with full quantification of the costs and benefits that can be realized is needed.

1. Recommendation

305. This project is currently assessed as poorly planned and quantified. Though not mentioned explicitly, it appears the provision of drainage and flood relief is required more for the expanding residential areas to the east, and that protection would also facilitate land use change to residential closer to the Khen Kia river over time. The proposed construction works are feasible, and have no major technical barriers to be overcome.

306. However, allowing drainage effluent from nearby (and growing) residential areas to enter the Khen Kia river, through improved open drainage channels, from where it can be reused for irrigation, could invoke category A status under ADB's environmental safeguards policy. On that basis, this project is at best marginal, and **likely ineligible without appropriate environmental protection measures**.

Figure 1: Subproject location Map

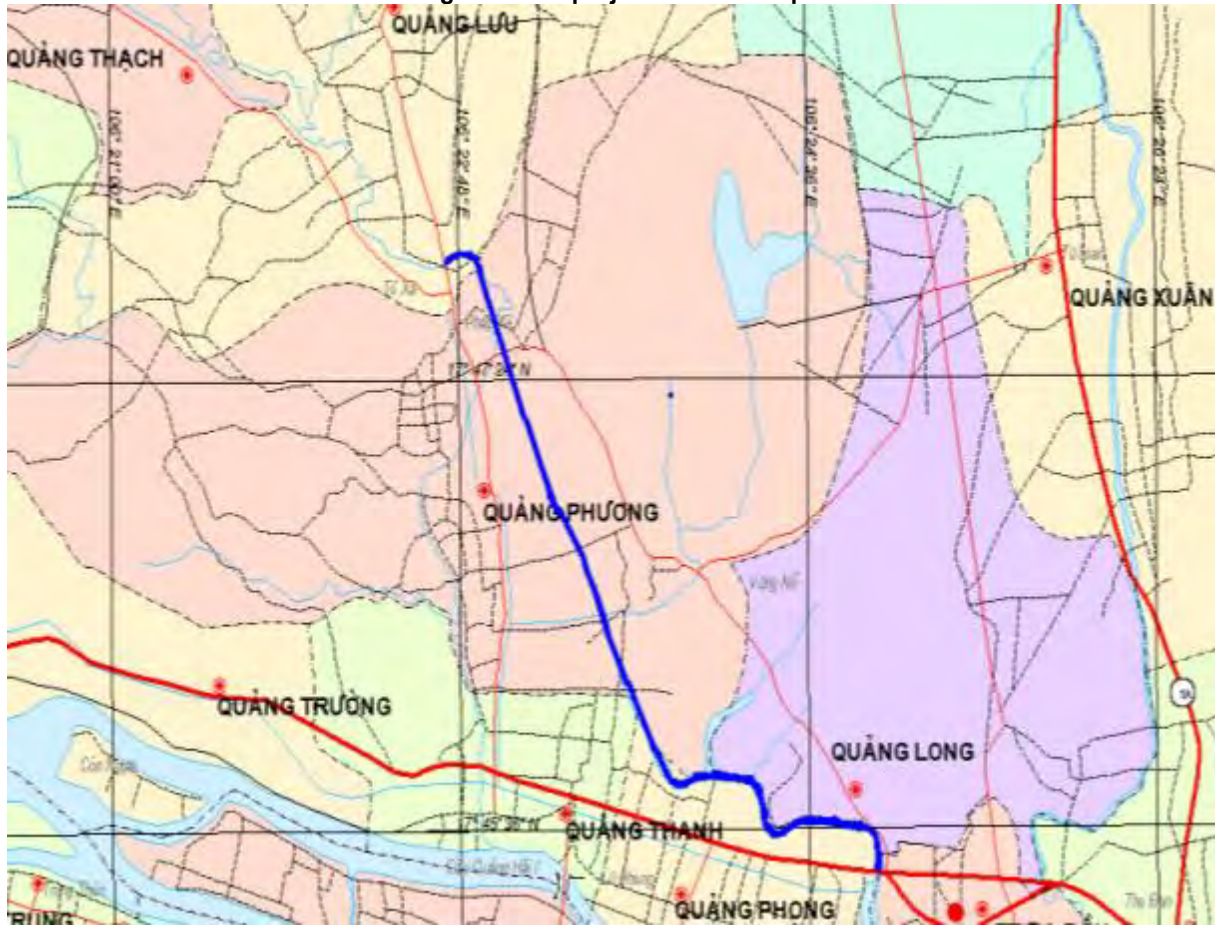


Figure 2: Status of dykes and embankments on the left bank



Figure 3: Culverts and Gated Culverts



Figure 4: Irrigation canal



Figure 5: Pumps



XXX. OUTPUT 2. SUBPROJECT 2: GIANG RIVER, GIANH TOWN – FISHING PORT REDEVELOPMENT

A. Description

307. The subproject is located in Bo Trach District within the Gianh commune on the lower reaches of the Giang River.

Issues	Proposal	Suggested Upgrade
Name of water way	Gianh River	
Works Summary	New works, replacing and reorganizing the existing port facilities.	Redevelopment and expansion of port landing piers, fish handling and processing facilities, and improved efficiency of port operations.
Is this part of a larger development	No	Utilizes same operational yards and space as existing operations
Purpose		
(i) fish catch handling and processing for rapid dispatch to market.	Existing port capacity and operations is constraining port efficiency and restricting opportunity to develop increased capacity for international marketing.	Port can only handle small (sub 300 CV) boats, whilst fishing operations are now using larger 600 CV boats. More boat berths are needed with greater draft, and improved off-boat fish handling and processing is needed to move fish to market more rapidly.
(ii) Operations Management	The port is currently operated by a DARD Management Board, but there performance is weak as witnessed by/ the state of operations at the port on 18/6/17.	Whole port operations needs to be revised with sufficient redevelopment to increase fish landed capacity from 36,000 tonnes/day (2014) to about 70,000 tonnes/day.
Constraints		
Maximum flood events	No significant impact	
Operations	Existing boat piers are too small Boat size is increasing (150 CV to 300 CV to 600 CV) Fuel is loaded at piers where fish are unloaded – hygiene is poor for marketing catch to international markets Set on river bank, in estuary, the port area is subject to sediment deposition.	Plan is to dredge area to adequate depth for large vessels (draft up to 5 m), and to place spoil on local land sites. Dredge spoil quality not verified, but appears to be contaminated in proximity to port facilities. Quality and thus use must be of concern. Need for recurrent dredging will be a substantial cost burden. Fuel loading at port adds to contamination risks. Capacity is hampered by poor operational control and packing of fish in ice on the pier, especially for smaller boats. Traffic to pier, on pier and around the port complex is uncontrolled, which adds to hygiene risk and reduces port operational efficiency.
Number of communes	1	
Population	Not given	

Issues	Proposal	Suggested Upgrade
Number of dwellings	Not given	
Area of Port (ha)	5	
Public infrastructure	Piers, packing and processing sheds, cool storage, ice making plant, admin office, other leased facilities	

B. Proposed works

- (i) New longer piers for increasing number and size of boats
- (ii) New processing and packing sheds with loading facilities
- (iii) Associated infrastructure – roads, pathways other

C. Investment

- (i) Proposed investment total: \$ 4.8 million
- (ii) Proposed investment \$/m of port berthing space: not available
- (iii) Proportion of cost that is pier to other ancillary facilities: not available

D. Rationale

308. Stated need for project is to increase overall port capacity and lower boat turnaround time. However the proposal does not consider long term needs or options to deliver the port enterprise to medium term vision

309. The port operation is well below par and could be considered failed. Management Company has stated 24 employees, but private fishing and fish processing operators use the facilities, and employ many people for fishing, landing, processing and dispatching fish product.

310. The likely risks:

- a. without project scenario – Yes – port capacity will remain restricted and larger boats will need to use alternative port facilities due to limited access
- b. with project scenario – Yes – port capacity can be increased, and larger boats can operate from the port after upgrade.

311. Social Benefits – with improved employment opportunities, and increased fish product flow through the port, local full and part time employees will have increased opportunities to make a living, and/or develop and/or strengthen a business.

E. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	Yes		Decision No 952/QĐ-TTg dated on 23/06/2011 on approval of socio-economic development planning in Quang Binh province by 2020... Resolution No.02/2016/NQ-HĐND dated 05/01/2016 on the task of socio-economic development for 5 years (2016 - 2020)
2: Included in Sector Plan – if yes state page and section	Yes		Master plan of the fishing port system and storm shelter for fishing ships up to 2020 with vision to 2030 was approved by the Government in Decision No. 1976 / QĐ-TTg dated

			<p>12/11/2015 with the Basic content related to planning development of fishing port system in Quang Binh.</p> <p>Decision No. 1596 / QĐ-UBND dated 11/7/2011, Quang Binh Provincial People's Committee on approving the master plan for socio-economic development of Quang Trach district to 2020.</p> <p>Decision No. 277 / QĐ-UBND dated 27/01/2014, Quang Binh PPC approving the detailed plan of irrigation of the Roon River Basin and its vicinity up to 2020 with a vision to 2030.</p> <p>Decision No.2032/QĐ-UBND dated 30/08/2012 on approving the master plan of Ba Don town.</p> <p>MOU of QB DPI, DOT, DOC, DONRE, DARD, Ba Don town PC No. 1147/UBND-KTTH dated 28/06/2017 agreed upon the PPTA's recommendations.</p>
3: Proposed design concept document available for screening team – if yes state date of proposal	Yes		April 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	Yes		<p>Gianh River fishing port is planned to be a fishing port type I in the master plan of fishing port system until 2020 and orientation to 2030 was approved by the Prime Minister in Decision No. 1776 / QĐ-TTg dated 12/11/2915.</p> <ul style="list-style-type: none"> - Category, type of works of Gianh fishing port under Circular 03/2016 / TT-BXD: - According to the capacity scale: grade IV inland waterway port works; - By structural scale: Inland waterway port class III. - 30 years
5: Proposed design standard proposed – how does it incorporate the effect of climate change.		No	<p>The subproject is proposed to be developed to the fishing port type I.</p> <ul style="list-style-type: none"> - Category, type of works of Gianh fishing port under Circular 03/2016 / TT-BXD: - According to the capacity scale: grade IV inland waterway port works; - By structural scale: Inland waterway port class III. <p>But indicated CC not considered.</p>
6: Is a concept or preliminary engineering design available	Yes		Design – for the piers, processing sheds, roads, drainage and control works.
7: Is the preliminary design already approved by commune, district or PPC		No	Not clear – but as overall design does not fully address operational needs and priorities, and many issues remain unresolved, any approval has limited value.
8: Is there a bill of quantities with the preliminary design	Yes		The FS that contains a bill of quantities with the preliminary design.
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	Yes		Details to be reviewed, but as overall design fails to meet some critical objectives, this is not a true reflection of the likely overall costs.
10: Are there significant structures required – if yes please identify	Yes		Piers, fueling points, roads, sheds, water treatment, waste management, communications.
11: What land is required (ha) and who owns land		No	DARD already owns the site.
12: is there approval to build the structure on proposed alignments		No	This has to be clarified, though if all works within the existing site, no land acquisition is applicable.

F. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition required (if yes go to a.1)		No	Development will be wholly within the existing port and associated facilities site.
A.1 Land Acquisition	Agriculture Land		No	
	Urban Public Land		No	
	Urban Private Land		No	
A.2 Structures	Private houses	Yes		Minor
	Private other	Yes		Minor
	Public Structures	Yes		Existing facilities will be replaced by new structures
A.3	Other Assets		No	
A.4	Resettlement – if yes number of households identified	Yes		A draft land acquisition and compensation budget of US\$ 44,843. However, details of what if any land acquisition may be required due to enlargement of drains and banks has not been detailed. The safeguards budgets are inadequate, as existing business operators will be affected.
A.5	Is there a Land Acquisition and compensation budget – if yes how much		No	But as there are private operators on the site, then some compensation settlements may be required.
A.6	Is this category B, C or uncertain	C		As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for minor Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
B: Environmental Screening				
B.1 water source and network effect on forests - are there any of the following along the alignment or within close proximity – if yes is the risk significant	Production forest land		No	
	Protection forest land		No	
	Protected areas		No	
B.2 Water, rivers lakes and flood plain	Are in-stream value affected, will minimum in stream flows be adhered to how significant are they		No	Not applicable
B.3 Does the proposal include any IEE screening			No	But EIA would be required if final development includes dredging.
B.4 Did the field visit identify issues from EARF that need to be addressed		Yes		The field visit identified an issue from EARF that need to be addressed: Dredging, Fuel handling, wastewater and solid waste management

B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change		No	Not available
	Risk from contamination from human settlement or livestock		No	Not available
	Risk of deforestation / loss of vegetation		No	Not available
B.6 What is the ADB environmental category	based on provided data , B, C, or uncertain	A		Whilst a substantive volume of dredging is required, as per the current design, and where the quality of the dredged material is likely to be contaminated by prior port operations.

G. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	06 communes of Bo Trach district are Bac Trach, Thanh Trach, Hai Trach, Duc Trach, Trung Trach, Nhan Trach, 03 wards of Ba Don town: Quang Tho, Quang Phuc, Quang Thuan and two communes in the south of Quang Trach district. Quang Hung and Quang Xuan.
Is the population data available for each commune, township	Yes	The total population of these localities is about 92,200 people, of which about 35% are fishermen, so the direct beneficiaries of the project are more than 32,200 people, or about 8,000 households. The number of poor households is about 9.4%, equivalent to about 750 households. The number of near-poor households is about 5%, equivalent to 400 households.
Is the number of Poor households available	Yes	As above
Is the number of near poor households available	Yes	As above
Are Ethnic minorities identified and specified	No	
Is land use specified	Yes	It is a designated and operating fishing port facility.
Are the number of female headed households specified	No	Not available
Is the GAP adequately reflected	No	Not available
Who in communes benefits most home owners or poor?		Not clear, but day laborers currently obtain work.

H. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is the asset owner identified	Yes		DARD – Port MPU
IS the Cost of Maintenance identified		No	
Are scheme benefits clearly identified by category of benefit	Yes		The FS showed detailed scheme benefits clearly identified by category of benefit
Is each benefit quantified	Yes		Details presented in the FS
Is there an economic assessment – if yes what is EIRR		No	Not available

Is there a detailed worksheet for the EIRR		No	Not available
--	--	----	---------------

I. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	Yes		<ul style="list-style-type: none"> Master plan of the fishing port system and storm shelter for fishing ships up to 2020 with vision to 2030 was approved by the Government in Decision No. 1976 / QĐ-TTg dated 12/11/2015 with the Basic content related to planning development of fishing port system in Quang Binh. Decision No. 1596 / QĐ-UBND dated 11/7/2011, Quang Binh Provincial People's Committee on approving the master plan for socio-economic development of Quang Trach district to 2020. Decision No. 277 / QĐ-UBND dated 27/01/2014, Quang Binh PPC approving the detailed plan of irrigation of the Roon River Basin and its vicinity up to 2020 with a vision to 2030. Decision No.2032/QĐ-UBND dated 30/08/2012 on approving the master plan of Ba Don town.
Is there a clear design standard that is justified		No	It has to be clarified that proposed design is in compliance with standards, for which it is not when it comes to fuel handling.
Are there outstanding approvals required	Yes		The overall design needs a complete re-assessment, to be based on a long term Master Plan which has still to be prepared.
Is there a preliminary design	Yes		But the approach adopted is weak, and other options need to be considered to mitigate dredging risk, fuel handling and overall fish catch handling and processing operations through to loading and dispatch.
Is there a Feasibility study	Yes		But limited to the one design that is seen as non-compliant for immediate action.
Is there sufficient data on the need and purpose of the project		No	Further data will be required to facilitate the development of a more acceptable design in accordance with an agreed port development and operations Master Plan (to be prepared)
Is there sufficient data on risks and water levels	Yes		
Is there a risk that the Subproject will be category A for resettlement and affected persons		??	There is no information on the affected persons – there are affected business no household resettlement will be required
Is there a risk that the Subproject will be category A for environment	Yes		<p>The port area needs to be dredged under the current design configuration.</p> <p>Options need to be considered to mitigate and/or negate any need for dredging.</p> <p>Major issue over delivering fuel across the jetty, and food safety standards for marketing of fish</p>
Does the Subproject have clear economic inclusiveness outcomes	Yes		The fishing community and its many employees will benefit from improved port efficiency and the potential to satisfy export markets.
Is the project expected to achieve a 9% EIRR		No	Not available
Is the party who will manage the assets identified	Yes		Currently proposed to be the existing DARD Management Board

J. Notes:

312. The proposal as presented to the PPTA is definitely ineligible. It represents a significant project formulation failure. However, a better formulation may provide a very significant economic benefit if it addresses the many issues raised during screening relating to dredging, fuel conveyance, site layouts, food safety, and most importantly operational and management capability

313. The improvement of the port is seen as a significant long term benefit to the region and province, as the area depends heavily on fishing for the livelihoods of many coastal people. The proposed design does not however provide assurance, through the available design, that cost effective development and future operations would be sustainable. It is reasoned that before any major rework of a prior ADB project is prepared, a complete development and operational Master Plan should be prepared. Quang Binh DPI have agreed to this, and will commence preparations immediately.

314. A number of concept options have been suggested to DPI for their consideration and eventual modifications to the design of the port. These have included:

- (i) Repositioning/aligning the proposed piers to better meet boat size, draft and turnaround requirements, without resorting to substantive initial and periodic future dredging;
- (ii) Providing fuel supplies to boats from an on-land tank, placed away from fish operations with easy access from the main road for fuel deliveries, that feeds by pipeline to one or more floating pumped fuel outlet booms at distance away from the piers where fish are landed;
- (iii) Ensuring no heavy transport has access to the seaward side of the processing facilities, nor would be allowed onto the piers;
- (iv) All fish should be landed through management company controlled small scale (1 to 4 tonne max) utilities (tractor/trailers) for haul from boat to processing facilities;
- (v) Management company should consider improving fish crate handling facilities (small cranes, standard cases and pallets) to move fish from boats to processing sheds;
- (vi) Processing facilities to be provided with clean treated water from the municipal treatment works;
- (vii) Management company should make arrangement to effectively collect and dispose of solid waste from the site on a daily basis;
- (viii) Improved drainage and effective treatment and disposal should be installed to catch and remove wastewater and stormwater from the site;
- (ix) Designs should be structured in phases to gradually scale up the facilities to handle more boats and catch through to 2050 (to be detailed in the Master Plan).
- (x) Piers to be considered for placement and alignment to suit a mix of fishing boats up to 600 CV (larger?) by clever use of pier position and alignment relative to the natural shoaling of the river bed and its flow dynamic (to mitigate sedimentation and possible future dredging needs).
- (xi) Road traffic coming to the port should be directed through a one way system – IN to a parking area, prior to loading at the back of the processing sheds and OUT through a separate gate;
- (xii) The ice production plant should be moved to the inlet side of the processing sheds, with suitable conveyance facilities to deliver fresh shave ice to each processing and package line;
- (xiii) Processing and packing lines could be developed in stages to grow with increasing catch over time, and aligned from the pier to the land with outlet to haulage loading points.

K. Site visit Photos

Figure 1: Existing status of the wharf has been degraded and damaged



Figure 3: Existing status of the waterfront in front of the wharf is deposited and there is no signal buoy



Figure 4: Current state of embankment (left), embankment (right)



Figure 5: PMU management building and port gate



Figure 6: Existing status of the road system: waterlogged, degraded



Unusable groundwater well



Broken sediment filter



Degraded water tank of 160 m³



Water tower 25 m³



Broken manholes



blocked sewer drain



Premise seafood and discharge into the river



Sewage treatment plant 30 m³/ day-night

IV. QUANG TRI PROVINCE

EXECUTIVE SUMMARY

L. Output 1 Transport Connectivity - Additional Subproject Screening

1. Summary of Findings

315. Five additional subprojects are included in the long list, four in output 1 and one in output 2. Detailed findings of individual subproject screenings are presented in sections III to VI below. As proposed and presented to the PPTA the **additional road subprojects are most probably eligible for ADB financing.** The major caveats are the lack of detailed data on the scale of social resettlement, the need clarify the classification on extent of impacted forest areas, and significant clarifications on the scope of works and the required approvals. There is less certainty over their feasibility and the technical design standards need to be confirmed based on traffic projections.

316. A number of formulation options and clarifications are identified and have been discussed with the DPI/PMU and their consultants. These formulation changes are being developed currently however the resultant subproject design will not have been screened by the PPTA. The PPTA consultants worked closely with the District and Provincial staff to discuss these issues regarding the use of existing alignments rather than the proposed new alignments, and the need for certainty over start and end points, and the need for better information on the safeguards concerns and all parties are in agreement however these agreements need ratification. The **PPTA concludes that the proposed subprojects are eligible but that their feasibility needs to be confirmed.**

317. A summary of the assessed criteria is presented in the following table. For some criteria there is inadequate data available at the time of screening. The detailed actions are recorded in the appended subproject reports as are any agreements that have been reached. On one road subproject a significant change is the inclusion of road lighting into the Cua Tung - Cua Viet service and tourism area infrastructure, this raises a number of issues regarding social impact, costs and sustainability and some reformulation has been advised.

318. Whilst the PPTA and Government representatives have agreement on the eligibility and the proposed design categories of the road subprojects, no traffic count data was sighted and no traffic forecasts were available to assess the accuracy of the proposed technical design standards that have mostly been taken from planning documents. Traffic projections should be prepared prior to any FS work to ensure that the correct design standards are being applied.

Table 20: Output One Screening Results

Subproject Name	Eligibility						Safeguard Compliance		GAP	Feasibility and Viability indicators				Sustainability	Eligibility	
	C1	C2	C3	C4	C5	C6	C7	C8		C9	C10	C11	C12			C13
1. Cua Tung - Cua Viet service and tourism area infrastructure	✓	✓	✓	✓	?	?	?	?	?	?	✓	?	?	?	X	Yes
2. Hung Vuong road connecting to East-West Economic Corridor	✓	✓	✓	?	✓	✓	✓	?	?	?	✓	?	?	?	?	Yes

3. Connecting road from Cua Viet port to Eastern communes of Trieu Phong - Hai Lang districts and South-East Economic Zone	✓	✓	✓	✓	?	✓	✓	✓		✓	?	?	?	✓	Yes
4. Khe Van road (Huong Hiep commune, Dakrong district) to Huong Linh commune, Huong Hoa district	✓	✓	✓	?	?	✓	✓	?		✓	?	?	?	✓	Yes

M. Output 2 Productive Infrastructure

1. Summary of Subproject Screening

Table 21: Summary of Findings

Sub Project	Scale	Planned Work	Total Cost (US\$)	Unit Cost (US\$)	Eligibility	Feasibility	Recommendation
Trieu Phong and Hai Lang Drainage	<p>Overall drainage area 4,700 ha Flood protection area 300 ha</p> <p>New double crop area 51 ha</p> <p>Trieu Phong Drains (Rehab) - 12,500 m</p> <p>Ca Ho Drain (Rehab) - 3,626 m</p> <p>Vinh Ding Main Drains (Rehab/dr edge) - 16,300 m</p>	<p>Improvement of drainage capacity to alleviate annual flooding and increase crop outcomes (winter and summer - mostly rice) in 3 areas (total 1,073 ha) within a total irrigated area of 4,700 ha; Protect pockets of seriously flooded area (300 ha) and recover badly flooded area (51 ha); improve capacity and flow characteristics of two main outfall drains for 3,640 ha (16,300 m) impacted by sediment by dredging and disposal of spoil; construct new bridges (14 No. - varying size), repair old bridges (10 No. - ditto), construct new culverts (46 No. - varying size) and install new sluice gates (4 pairs).</p>	8,280,000	<p>Overall Command = US\$1,755 / ha Overall per m of drain = US\$ 272 / m</p>	Not eligible as due to scale of dredging and disposal of materials Environmental Category A.	<p>Technical design is weak and maybe ineffective</p> <p>Costs per various components in terms of benefit areas and/or m length will vary substantially due to scale and nature of required work.</p> <p>Most investment will be required for Vinh Dinh main drains (dredging and structures).</p> <p>Investment return is more effective for Trieu Phong and Ca Ho drains where the flood damage/loss is most direct, for 1,073 ha.</p>	<p>The overall project needs substantial change to scope and costs to be viable when such small areas are identified for flood alleviation.</p> <p>Dredging for Vinh Dinh channels makes this ineligible - Category A environment - under current investment scope.</p>

319. One additional subproject, the Trieu Phong and Hai Lang Drainage subproject is proposed with a detailed screening in section VII below. The screening results indicate the subproject as proposed to the ADB is ineligible for funding. Some questions remain over the technical effectiveness of the proposed drainage works, however the wider dredging programs fall into ADB **environmental safeguards category A**. As presented, the subproject is considered ineligible for BIIG2 investment from ADB.

320. From a review of the expected impact of the proposed works the subproject as presented is also **unlikely to be feasible with considerable risk of technical design inadequacy**. Further the **economic feasibility is highly unlikely**. These conclusions are briefly elaborated in the detailed screening section.

321. DPI understands this assessment and has undertaken to review and reformulate the project through a process of more detailed problem assessment, alternative solutions identification and quantification, and the reformulation of a project scope that better and more cost effectively addresses the problem(s). The DPI view, shared by the PPTA consultants, is for the focus to be on “improving producers efficiency in either their existing crops or through the diversification into higher value crops” rather than simply supply driven engineering.

322. The proposed subproject districts have had considerable ODA investment into infrastructure and there is a need to ensure the economic benefit of these investments is incentivized through producers having the choice and capacity to increase the value of total output.

Table 22: Output 2 Subproject Screening Findings

Subproject Name	Eligibility						Safeguard Compliance		GAP	Feasibility and Viability indicators				Sustainability	Eligibility
	C 1	C 2	C 3	C 4	C 5	C 6	C 7	C 8		C 9	C 10	C 11	C 12		
Trieu Phong and Hai Lang Drainage	✓	✓	✓	✓	?	?	✓	X	?	x	X	?	X	?	NO

XXXI. APPROACH AND METHODOLOGY

A. Introduction

323. The subproject screening was undertaken by the PPTA during June 2017 based on the longlist of five subprojects proposed by the DPI/PMU. The longlist was modified and confirmed during loan fact finding. The proposed subprojects once screened will form the basis of the Government Investment proposal (IP) report.

324. The screening process is presented below. However, it was far more than a simple eligibility screening with a need to review both eligibility and likely feasibility. In doing so significant issues arose in terms of eligibility and also the likelihood of the proposed subprojects being feasible. As part of the PPTA review process additional input was provided to Quang Tri PMU to review current and alternative formulation of each subproject that would reduce the risk of ineligibility and or a lack of feasibility.

325. Significant weaknesses in road subprojects relate to (i) proposed new alignments that are yet to be approved or marked on the ground with often unclear justification for the proposed road design category, (ii) the inconsistent data sets relating to length of roads, costs and date of costings with the possibility of cost estimates being out of date and or inaccurate. For the **road's subprojects** no significant safeguard classification issues were identified however some subprojects need to be carefully designed to ensure that resettlement is minimized. Most roads have traffic counts although these were mostly not provided to the PPTA and it is unclear if the projected traffic is realistic or not. As such the economic feasibility of the proposed roads is not easily assessable. **Productive infrastructure for business development improved** subprojects involves 1 proposal for flood protection and one irrigation scheme. The quality of these subprojects is lower than the road subprojects with weaknesses in rationale, design and commensurate risks in terms of safeguards and economic viability. During debriefing and consultation phases these issues have been discussed in depth with the PMU who have started to make suggested changes or look at alternative options for the formulation of these subprojects.

1. Documents Reviewed

326. The screening involved a review of documentation including sector plans, provincial plans and subproject documentation. Wherever available, local engineering consultants' concept and design documents were reviewed. Consultation meetings were held with sector and DPI representatives and the PMU staff as well as field visits made to each subproject site with the participation of District and Commune staff.

2. Field Surveys

327. During the screening each field site was visited. For output 1, road alignments were inspected from end to end, maps reviewed and visual assessments, with field visits for social and environmental safeguard purposes however this is caveated as the center line is often yet to be surveyed and marked. Based on the visual assessment the likelihood of severely affected households was assessed by number of households to identify the likelihood of triggering a category A classification for involuntary resettlement.

328. Each visit involved DPI and local consultant staff and where possible DOT representatives. Meetings were held with district and commune officials. For many sites local PMU staff had not previously visited the site and the inspections provided an improved awareness of proposed subproject scope and issues.

329. For output 2 subprojects proposed sites were visited, often more than once, including the observation of all structures, potential beneficiary impact zones and related infrastructure. The field work involved local consultants and in most cases local staff of Districts and communes and the PMU

representatives. Overall the level of preparedness of the output 2 subproject is less advanced than for output 1 with as a result that there are far higher degrees of uncertainty about these proposals.

B. Screening criteria

1. Output One: Road Infrastructure

330. The eligibility criteria for subproject screening are presented in the following table

Table 23: Assessment Criteria for Output One Road Subprojects

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the FNCP Master Plan outcome theme of improved connectivity
	C3: aligned with the FNCP Master Plan outcome of economic inclusiveness
Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of Subproject scope and works program C6: Preliminary design drawings and supporting technical assessments available
Safeguard Compliance	
REMDF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with traffic count and network derived demand forecasts and the Provincial planning documents C11: New alignments have PPC approval and are marked on the ground
Financial Cost Estimates between \$8 and \$15 million	C12: Current cost estimate consistent with benchmarks for road categorization
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with traffic forecast
Sustainability	C14: Road category standard consistent with forecast Passenger Car Unit (PCU) at Project completion

2. Output 2: Productive infrastructure for business development improved

331. The eligibility criteria for subproject screening are presented in the following table

Theme	Criteria
Eligibility	
Provincial Planning alignment	C1: included in the provincial medium-term investment plan;
Subregion Planning Alignment	C2: aligned with the provincial SEDP and or sector Master Plan outcome theme of improved connectivity
	C3: aligned with the Provincial Master Plan outcome of economic inclusiveness

Provincial Inter-sector Investment Synergy	C4: complementary to other investments
Readiness	C5: Clear statement of subproject scope and works program C6: Preliminary design drawings and social survey to ascertain demand available
Safeguard Compliance	
REMF Compliance	C7: Social Safeguards – resettlement category B or C
EARF Compliance	C8: Environment safeguards – category B or C
Effective Gender Mainstreaming	C9: Women receive a proportional share of expected benefits
Feasibility and viability indicators exist	
Technical Feasibility	C10: Technical design standards are consistent with needs C11: Supports a clear rationale and beneficiary impact
Financial Cost Estimates between \$1 and \$5 million	C12: Current cost estimate consistent with benchmarks for cost
Benefits and beneficiaries defined	C13: Benefits are identified for the economic life of the proposed investment and consistent with demand estimate
Sustainability	C14: Cost per ha protected or irrigated is within affordability benchmarks

XXXII. SUBPROJECT 1: - CUA TUNG - CUA VIET SERVICE AND TOURISM AREA

A. Subproject description

332. Cua Tung – Cua Viet Service and Tourism Area Infrastructure subproject. Total length of 17.7km, with 2 key construction works programs being roads and road lighting systems. The proposed road sections pass Vinh Linh and Gio Linh districts through communes and towns, including Cua Tung town, Vinh Thach commune (Vinh Linh district); In Trung Giang commune, Gio Hai commune and Cua Viet town (Gio Linh district) with a total length of 15.641km and an electric lightning system of 2.653km. The subproject involves 3 sections being:

- (i) Road#1: Cua Tung – Vinh Moc coastal main road: the proposed road is 8.061km, located in Cua Tung town and Vinh Thach commune, Vinh Linh district.
- (ii) Road #2: Cua Tung – Cua Viet coastal main road (the provincial road.576b): the proposed road is 1.575km, located in Gio Hai commune and Cua Viet town, Gio Linh district.
- (iii) Road#3: Cua Tung- Cua Viet tourism- service ring road: the proposed road is 6,004km, located in Trung Giang commune, Gio Hai commune and Cua Viet town, Gio Linh district.

B. Road Alignments:

1. Road 1: Cua Tung - Vinh Moc coastal road

333. The road goes coincides with Provincial Road 575 and Provincial Road 572 and the coastal road from Duc bridge to Vinh Moc tunnel.

- (i) Starting point (Km0 + 00) at the T-junction of Cua Tung bridge;
- (ii) End point at the T-junction of Vinh Moc tunnel.
- (iii) The length of the road is 8.061km

334. The road passes through Thach Bac street, Cua Tung town and An Duong village, Son Thuong, Vinh Moc and Vinh Thach communes. The road alignment goes along the coastal road from Duc bridge to Vinh Moc tunnel and passes through low hills along the coastline. Land use is horticultural and agricultural land, prawn farms/ponds, and rubber plantation.

2. Road 2: Cua Tung - Cua Viet Coastal road (PR576b)

335. The road intersects with road No. 576b at Km11 + 136.07 - Km12 + 771.84.

- (i) The starting point at km11 + 136.07 is connected to the end point another road section which is currently being upgraded and expanded under the "Gio Hai community tourism service area infrastructure project".
- (ii) End point at Km12 + 711.84 at the T-junction intersecting with Nguyen Luong Bang and connected to the road section of PR575b, located in Cua Viet Tourism service area, Cua Viet town, which has been upgraded with a cross section width of 24m.
- (iii) The length of the road is 1.58km.

336. The road passes through the coastal periphery, on the left is a coastal protection forest with Casuarinas, Melaleuca and Acacia trees, on the right is the forest land. The starting point (Km0+00): connects to the road to Truong Phap, Quang Phu commune (Quang Phu beach), Dong Hoi city.

3. Road 3: Ring Road - Cua Tung tourist area - Cua Viet

337. The road is the western belt road of Cua Tung - Cua Viet tourist area;

- (i) Starting point (Km0 + 00) at the intersection of Nguyen Luong Bang, Cua Viet town;
- (ii) End point (Km7 + 126.93) connected to the provincial road 576b.
 - a. The section from Km0 + 00 to Km2 + 900 goes along the existing road, (upgrading will require some realignment and adjustment to meet the approved road category and planning.
 - b. The section from Km2 + 900 to Km7 + 126.93 is a new road, going along the planned road. The two sides of the road are residential areas, garden land for planting Melaleuca trees, crops and forestry land.
- (iii) The length of the road is 7.13km.

338. The road alignment was approved under Decision No.79/2006 / QĐ-UBND dated January 23, 2006 approving the master plan for the construction of a tourist service area along the Cua Tung - Cua Viet coastal road to 2015, a vision to 2020. Decision No.1305 / QĐ-UBND dated 23/6/2015 on approving adjustments and supplements to the Transport Development Plan of Quang Tri Province up to 2020 with orientation to 2030.

C. The Existing Status:

1. Road 1: Cua Tung – Vinh Moc coastal main road:

339. The proposed road follows the existing roads; the provincial roads 574, 572 and the coastal road from the Duc bridge to the Vinh Moc tunnel.

- (i) Section from Km0 + 00 - Km0 + 241.77, the road follows the existing road with the width of about 10m - 11m, the asphalt road is 8m wide, which is quite good, this section passes through the crowded residential areas, located in An Hoa 1 street, Cua Tung town. The two sides of the road have a system of vertical drainage ditches built with a trapezoid opening width of 1.2m and concrete sluice width of 0.8 m and 1.2 m with the cover, on the street

- pavement is the electrical lighting system, Telephone pole, electricity was built, the earth pavement, the front areas of the local houses are made of concrete.
- (ii) Section from Km0 + 241.77 - Km0 + 506.71 the road goes along the PR574, the roadbed is about 10m - 11m, asphalt road is 8m, which is still quite good. This section passes through the crowded residential areas, located in An Hoa 2 street, Cua Tung town. The two sides of the road have a system of vertical drainage ditches built with a trapezoid opening width of 1.2m and concrete sluice width of 0.8 m and 0.9m with reinforced concrete slabs, on the street pavement is the electrical lighting system, Telephone pole, electricity was built, the earth pavement, the front areas of the local houses are made of concrete.
 - (iii) Section from Km0 + 506.71 - Km2 + 260: the road goes along PR574, the roadbed width of 9m, asphalt concrete road of is 8m wide, which is quite good, and along the right side is the electric light system. Both sides of the road are the crowded residential areas, the road passes through Cua Tung 1 beach with restaurants and hotels. This is a beautiful section of Cua Tung tourist area. However, the sidewalk system is not invested.
 - (iv) Section from Km2 + 260 to Km5 + 120: the road follows PR572 and the coastal road from Duc Bridge to Vinh Moc tunnel, the roadbed of 9m and the road surface is 5.5-5.0m. The road is damaged. Along the road is the crowded residential area, the road passes through Quang Hai, Thach Nam, Cua Tung, the left side of the road is the populated, cultivated land and historical sites; On the right side is the aquaculture land, rice fields, white sand beach and Vinh Linh tunnel (this is a relic located in the Vinh Linh tunnel system has been recognized as a special national monument), the electric light system is illuminated in the section Km3 + 163-Km4 + 150.
 - (v) Section from Km5 + 120 - Km8 + 061.7: the road goes along the coast line from Duc bridge to Vinh Moc tunnel, the roadbed of 9m wide, the asphalt surface of 6.0m wide and is damaged through Thach Bac street, Cua Tung town and An Duong, Son Thuong, Vinh Moc, Vinh Thach commune. The road passes through some low hills along the coastline, on the two sides of the road are agricultural land and prawn farms /ponds, rubber plantations. Some sections of the horizontal drain ditches along the route are reinforced with 1.2m wide.
 - (vi) The current status of works items such as: (1) Horizontal drainage works; There are 17 culverts and 01 small bridge. (2) Drainage along the surface of the existing road, the first section of Km0 - Km0 + 500 has two sides concrete drainages, the remaining sections are mainly natural drainage, no complete drainage system. (3) The existing protection works have some sections for retaining walls, high embankment sections, section 2 at the ends of the sluices are reinforced with cement concrete and slate roof. (4) the current traffic works are not synchronous along the road.

2. Road 2: Cua Tung - Cua Viet main road (PR576b):

340. The proposed road follows the existing PR576b with 1.58km in Gio Hai commune and Cua Viet town, Gio Linh district.

- (i) Section from Km11 + 136.07 - Km12 + 771.84 has its starting point at Gio Hai community beach; the end point intersecting with Nguyen Luong Bang street, Cua Viet town. The road section is the asphalt of 6m wide, the roadbed is 9m wide.
- (ii) Road signaling systems such as marker posts, signboards, Km piles, road markers ... are fully arranged to ensure traffic safety.
- (iii) The whole section of the road goes along Gio Hai - Cua Viet beach about 100-200m from the seashore, the two sides of the road is the planned land to expand the road, residential and commercial planning areas, Casuarina trees prevent sand and white sand beach along the coast. The right side of the road has fiber-optic cables running underground below the edge of the road about 5.5m.
- (iv) The current status of works items such as: (1) Horizontal drainage works; there are 10 drainages (2) Drainage along the existing road surface is mainly natural drainage, not complete drainage system. (3) The existing protection works are not available. (4) the current road safety works are still good (reusable).

3. Road#3: Cua Tung - Cua Viet tourism service ring road: the proposed road is 7.13 km long in Gio Hai commune and Cua Viet town, Gio Linh district.

- (i) Section from Km0 + 00 to Km2 + 900: the road goes along the existing road, (with some sections adjusted to meet the road category and the approved planning); asphalt road surface of 3,5m, roadbed width of 5m (under WB3 project), the section goes through the densely populated area of villages 4, 5 and 6 in Gio Hai commune. The road terrain is flat with horizontal slope less than 10%.
- (ii) Section from Km2 + 900 - Km3 + 148.48: the road is not formed. The proposed road follows the planned road, the section passing through the residential areas of Diem Ha hamlet and hamlet 7 of Gio Hai commune. The road terrain is flat with the horizontal slope less than 15%.
- (iii) Section from Km3 + 148.48 - Km4 + 259.17: the road is not formed. The proposed road follows the planned road, the section passing through the residential area of Hamlet 7 of Gio Hai commune. The route passes through several streams and small sand dunes. Terrain is flat with horizontal slope less than 15%.
- (iv) Section from Km4 + 259.17 - Km4 + 990.54: the road is not formed. The proposed road follows the planned road, the section passing through the hamlet 8 of Gio Hai commune. The two sides of the road are sandy hills, crops and Melaleuca. The road passes through several streams and small sand dunes. Terrain is relatively flat with horizontal slope less than 20%.
- (v) Section from Km4 + 990.54 Km7 + 126.93: the road is not formed. The proposed road follows the planned road, the end point intersects with provincial road 576b at Km7 + 126.93. The section passes through Giang Hai high luxury eco-resort planning zone and residential area of Ha Loi Trung village, Trung Giang commune. The two sides of the road are sandy hills, crops and Melaleuca. The route cuts through several streams and small sand dunes. Terrain is relatively flat horizontal slope less than 25%.
- (vi) The current status of works items such as: (1) Horizontal drainage works; There are 23 culverts, 01 combined spillway at Km4 + 990.54. (2) Drainage along the existing road surface is mainly natural drainage without complete drainage system. (3) The existing protection works are not available. (4) Traffic works are not available at present.

D. Proposed Road Categorization:

1. Road#1: Cua Tung – Vinh Moc coastal main road:

341. The road is proposed to be developed to the internal urban road standards (TCXDVN 104-2007) with the following main standards: Design speed: VKTK = 40Km / h; Minimum horizontal curve radius: $R_{\min} = 60\text{m}$; Maximum vertical slope: $I_{\max} = 7\%$; The frequency of road, culvert, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, axle road load of 10T. Asphalt concrete pavement A1, $E_{yc} = 110\text{MPa}$.

- (i) Section Km0+00 – Km0+839,14; Roadbed width: $B_{\text{nền}} = 14\text{m}$; Road surface width: $B_{\text{mặt}} = 8,0\text{m}$; Roadside width $B_{\text{bèpho}} = 2 \times 3,0 = 6,0\text{m}$.
- (ii) Section Km0+839,14 – Km3+222,3; Roadbed width: $B_{\text{nền}} = 16\text{m}$; Road surface width: $B_{\text{mặt}} = 8,0\text{m}$; Roadside width $B_{\text{bèpho}} = 2 \times 4,0 = 8,0\text{m}$.
- (iii) Section Km3+222,30 – Km8+061,70; Roadbed width: $B_{\text{nền}} = 9\text{m}$; Road surface width: $B_{\text{mặt}} = 8,0\text{m}$; Roadside width $B_{\text{bèpho}} = 2 \times 0,5 = 1,0\text{m}$.

2. Road#2: Cua Tung - Cua Viet main road (PR576b):

342. The proposed road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) with the following main standards: Design speed: VTK = 40Km/h; Minimum horizontal curve radius: $R_{\min} = 60\text{m}$; Maximum vertical slope: $I_{\max} = 7\%$; Roadbed width: $B_{\text{nền}} = 24\text{m}$; Road surface width: $B_{\text{mặt}} = 14,0\text{m}$; Roadside width hè phố = $2 \times 5,0 = 10,0\text{m}$. The frequency of road, culvert, small bridge design is 4%, medium bridge 1%; bridge load design HL93, culvert H30-XB80, road pavement load of 10T. Asphalt concrete pavement A1, $E_{\text{yc}} = 130\text{MPa}$.

3. Road#3: Cua Tung - Cua Viet tourism service ring road:

343. The road is proposed to be developed to the plain road standard category IV (TCVN 4054-2005), the main design standards are as follows: Design speed: VTK = 60Km/h; Minimum horizontal curve radius: $R_{\min} = 125\text{m}$; Maximum vertical slope: $I_{\max} = 6\%$; Roadbed width: $B_{\text{nền}} = 9,0\text{m}$; Road surface width: $B_{\text{mặt}} = 7,0\text{m}$; Roadside width: $B_{\text{hè}} = 2 \times 1,0 = 2,0\text{m}$; The frequency of road, culvert, small bridge design is 4%, medium bridge 1%; bridge load design HL93, culvert H30-XB80, road pavement load of 10T. Asphalt concrete pavement A1, $E_{\text{yc}} = 130\text{MPa}$.

E. Electric lighting system:

344. Cua Tung – Vinh Moc coastal main road (PR576b): ($L=8,062\text{km}$): the proposed electric lighting system is 2,653km long located in Gio Hai commune and Cua Viet town, Gio Linh district. Bulb lights are proposed to be installed along the road, 10m high lamp post, located at 0.7m from the edge of the pavement; use TECEO 2 144LEDS / 139W / 350mA / IP66 (SCHRÉDER) or equivalent lamp, the lamps are located on the right side of the road (mainland) to ensure good lighting, and lighting towards the sea.

345. High voltage lighting poles are located at Cua Viet beach area, Cua Viet town with 7 lamp posts. The length of the lighting arrangement is 0.45km, the distance from the provincial road 576b to the outer edge of the promenade road (50-90m). The Cua Viet beach area will have a 25m high headlamp in functional areas such as main festival area, stairs- up and down beach area, general lighting for the whole Cua Viet beach, to create a general point for the area, the position of the lamp post is from 50m to 90m away from PR576b to the east.

346. The electric lighting system is proposed to be developed to the category of the road lighting, works category III.

347. Lighting system in Cua Viet beach: high-voltage lighting light system of 1.3 km length with 25m-high pole. Poles are placed 50-90m far from PR.576b to the East.

F. Investment

- (i) Proposed investment \$ total: US\$ 5,560,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 355,475 /km.

G. Rationale

- (i) Cua Tung – Cua Viet Service and Tourism Area Infrastructure subproject is included in the master plan of Quang Tri tourism development up to 2020, with orientation to 2030. This is

- one of 5 major projects that will construct tourism facilities in Quang Tri province priority for the period up to 2020. The construction and completion of the tourism infrastructures to strengthen inter-regional connectivity and link the East-West Economic Corridor.
- (ii) The road subproject will contribute to the development of beach tourism resorts by improving accessibility to them. This will also contribute to the overall planning on construction of the approved South-East Economic Zone of Quang Tri, linking the economic zone and tourism service area in the future.
 - (iii) Construction of the Cua Tung – Cua Viet Service and Tourism Area Infrastructure subproject will create links between regions with potential advantages in tourism, linking service and tourism areas along the Cua Tung - Cua Viet coastal road with the general tourism system of Quang Tri province; Increase access to, improve service quality, exploit infrastructure available to attract tourists and investors, maximize the advantages of local tourism potential and fishing and catching seafood.
 - (iv) The subproject will contribute to promoting tourism development, land use planning of Vinh Linh and Gio Linh districts, shift economic structure towards trade and services, creating jobs for local people and the neighboring areas.
 - (v) The subproject will help to make an appropriate and effective use of coastal land funds on the basis of protection and development of the environmental landscape, the protection and enhancement of protection forests, the harmonious combination of economic development and environmental protection towards a sustainable development space.
 - (vi) Construction of this road will provide connectivity between of Vinh Linh, Gio Linh and through communes and towns, including Cua Tung town, Vinh Thach commune (Vinh Linh district); In Trung Giang commune, Gio Hai commune and Cua Viet town (Gio Linh district), rather than being intended for through traffic.
 - (vii) In addition to the socio-economic and tourism services development rationales, this subproject also contributes to the overall development of the road network in Quang Tri and the FNCP region alike.

H. Summary of subproject site visits findings and FS review and recommendations

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	<p>Road#1: Cua Tung - Vinh Moc coastal road: Starting point (Km0 + 00) at the T-junction of Cua Tung bridge;</p> <p>Road#2: Cua Tung - Cua Viet Coastal road (PR576b): Starting point at km11 + 136.07 is connected to the end point of the road section, (which is currently being upgraded and expanded under the "Gio Hai community tourism service area infrastructure project".</p> <p>Road#3: Ring Road - Cua Tung tourist area - Cua Viet: Starting point (Km0 + 00) at the intersection of Nguyen Luong Bang, Cua Viet town;</p>	Confirmed	Confirmed

End point	<p>Road#1: Cua Tung - Vinh Moc coastal road: the end point at the T-junction of Vinh Moc tunnel.</p> <p>Road#2: Cua Tung - Cua Viet Coastal road (PR576b): End point at Km12 + 711.84 at the T-junction intersecting with Nguyen Luong Bang and connected to the road section of PR575b, located in Cua Viet Tourism service area, Cua Viet town,</p> <p>Road#3: Ring Road - Cua Tung tourist area - Cua Viet: End point (Km7 + 126.93) connected to the provincial road 576b.</p>	Confirmed	Confirmed
Length	15,641km road and Electric lightning system of 2,653km	<p>Confirmed</p> <p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the total length of the proposed road sections including all the new alignment sections.</p> <p>(b) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>(c) Road#2: Cua Tung - Cua Viet main road (PR576b): Section from Km11 + 136.07 - Km12 + 771.84: the road pavement and shoulders to be upgraded and expanded will involve land acquisition of the protection (casuarinas, and eucalyptus) coastal forest land areas. Inquires DPI and consultants confirm the protection forest classification and propose mitigation measures approved by PPC and DARD and DONRE for the environmental impact assessment.</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): The PPTA' view is that the proposed electric lighting systems installed along Cua Tung -Cua Viet coastal road (PR.576b) and lighting system in Cua Viet beach: high-voltage lifting light system of 1.3 km length with 25m-high pole should be excluded from the road subproject scope due to (i) the existing electric lighting system is still in good condition but there is not enough fund to turn them on; (ii) failure of who will manage, operates and maintain the assets; (iii) requires the ongoing contract document of Gia Hai Tourism service project funded by the Central Government's tourism promotion program to identify what infrastructures and</p>	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.

		<p>facilities that the subproject is constructing to ensure the consistency of the same road scope and category and infrastructures and facilities.</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: the local consultant proposed to construct one combined spillway at Km4 + 990.54. The PPTA's view is that a new bridge be constructed to meet the road scope and category so that the vehicles and traffic flow may still operate during the flood season.</p> <p>(d) requires the approval / agreement of the Dong Hoi airport flight safety zone so that the road alignment section may not be affected.</p> <p>(e) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(f) the subproject involves some impacts on land acquisition of 5ha including (i) Road#1: Cua Tung – Vinh Moc coastal main road: The total area of land acquired is 4,633 m² of 71 HHs including 360 m² residential land and garden land of 14 households. The temporary housing area of the affected households is 1.761m² of 57 households, and 2.512m² public land acquired.</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): There are 6,560 m² of acquired land of 9 households, of which 7 HHs are affected by the agricultural land area of 6,390 m² (97.4%), the agricultural land area is mainly eucalyptus and willow, but this area is part of the planned land area for expansion of roads and households making full use of the trees on the land.</p> <p>The land and garden land areas acquired for the construction of this road is 170m² (accounting for 2.6%) of 02 households. The households' areas that will be acquired are mainly the old grade 4 houses within the planned road. No solid housing area is affected.</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: The total land area to be acquired is 38,892m² of 120 households (including 1 cultural house of village 4 in Gio Hai commune) including 2.114m² residential and garden land area of 65 households (including 01 house Cultural village 4, Gio Hai commune). The area of agricultural land affected is 36,778m² of 55 households mainly cultivated land area of crops, eucalyptus and willows, which does not bring</p>	
--	--	--	--

		<p>the main income for affected households, one small area of the aquaculture land.</p> <p>According to the survey results, about 200 households will be affected by the project, with no relocation or resettlement. Classify by type of affected land, there are 81 HHs affected land and garden land; 119 HHS affected agricultural land, roofs and temporary houses encroaching on roads (including public land managed by the People's Committee of Gio Hai commune).</p> <p>(g) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross-section drawings, total project investment budget.</p>	
Road category	<p>Road#1: Cua Tung – Vinh Moc coastal main road: the road is proposed to be developed to the internal urban road standards (TCXDVN 104-2007)</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): The proposed road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) with the following main standards:</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: the road is proposed to be developed to the plain road standard category IV (TCVN 4054-2005)</p> <p>The electric lighting system is proposed to be developed to the category of the road lighting, works category III.</p>	<p>Requires traffic count data to justify the proposed road design categories.</p> <p>Confirmed the road categories proposed</p>	Agreed
Proposed works	<p>Road#1: 17 culverts and 01 small bridge;</p> <p>Road#2: 10 drainages.</p> <p>Road#3: 23 culverts, 01 combined spillway, and drainage works, protection works, and traffic systems to be constructed</p>	Confirmed	Confirmed

I. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No. 321 / QD-TTg dated 02/03/2011 of the Prime Minister approving the master plan for socio-economic development of Quang Tri until 2020.

			<p>Decision No. 616/2009 / QD-UBND dated 10 April 2009 of the People's Committee of Quang Tri Province on approving the master plan for construction of Cua Tung town to 2020;</p> <p>Decision 79/2006 / QD-UBND dated 23 January 2006 of the People's Committee of Quang Tri Province on approving the master plan for the construction of tourist service area along Cua Tung - Cua Viet coastal road to 2015 By 2020;</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 1305 / QD-UBND dated 23/6/2015 of Quang Tri Provincial People's Committee approving the adjustment and supplement of Quang Tri transport development plan up to 2020, orientation to 2030;</p> <p>Document No. 516 / HðND-KTNS dated 27/12/2016 of Standing People's Council on changing the list of basic infrastructure projects for comprehensive development under the MOU with ADB;</p> <p>Decision No. 613 / QĐ-TTg dated 08/5/2017 of the Prime Minister approving "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB);</p> <p>Notice of Conclusion No. 58 / TB-TB-UBND dated 09/5/2017 of the Chairman of Quang Tri People's Committee - Mr. Nguyen Duc Chinh at the meeting to hear the feasibility study report (TC) of Infrastructure Project ""Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB)- Component of Quang Tri Province on 09/5/2017;</p> <p>Decision No. 05 / QD-SKH dated 10/01/2017 of the Department of Planning and Investment approving the task of cost estimation survey, designing step by step setting up sub-project investment sub-project. Cua Tung - Cua Viet under the TA project "Basic infrastructure for comprehensive development of Nghe An, Ha Tinh, Quang Binh and Quang Tri";</p> <p>Decision No. 46 / QD-SKH-TD dated 08/03/2017 of the Department of Planning and Investment on the approval of adjustments and supplements of TORs and cost estimates of survey, Infrastructure of Cua Tung - Cua Viet tourist service area under the TA project "Basic infrastructure for comprehensive development of Nghe An, Ha Tinh, Quang Binh and Quang Tri" (BIIG2);</p> <p>Decision No. 28 / QD-SKH dated 14/02/2017 of the Department of Planning and Investment approving the results of selection of contractor tender package: survey, design step of making the sub-project feasibility study report Infrastructure of Cau Tung - Cua Viet tourist service area under the project "Infrastructure for comprehensive development of Nghe An, Ha Tinh, Quang Binh and Quang Tri";</p> <p>Contract No. 14/2017 / HD-TV dated 14/02/2017 between BIIG2 Technical Infrastructure Management Board Quang Tri and Nguyen Tam Joint Stock Company and Truong Hai Corporation for Surveying, Designing Stepping up the Sub-project Feasibility Study Report Cang Tung - Cua Viet tourist service infrastructure under the TA project "Basic infrastructure for comprehensive development of Nghe An, Ha Tinh and Quang Binh provinces And Quang Tri ".</p>
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		Road#1: Cua Tung – Vinh Moc coastal main road: the road is proposed to be developed to the internal urban road standards (TCXDVN 104-2007)

			<p>Road#2: Cua Tung - Cua Viet main road (PR576b): The proposed road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) with the following main standards:</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: the road is proposed to be developed to the plain road standard category IV (TCVN 4054-2005)</p> <p>The electric lighting system is proposed to be developed to the category of the road lighting, works category III. 20 years projected economic life of the subproject</p>
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		<p>The proposed designed standard is derived from the provincial transport master plan for towns.</p> <p>The current road standard on each end point requires asphalt concrete. The current and planned category is a secondary urban road towards 2030.</p>
6: is the date of traffic forecast or base traffic forecast after 2015	✓		<p>Requires traffic count data to justify the proposed secondary urban road design categories.</p> <p>Traffic count carried out in 2017</p>
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		not provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		<p>There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings.</p> <p>The proposed design standard is</p> <p>Road#1: Cua Tung – Vinh Moc coastal main road: the road is proposed to be developed to the internal urban road standards (TCXDVN 104-2007)</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): The proposed road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) with the following main standards:</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: the road is proposed to be developed to the plain road standard category IV (TCVN 4054-2005)</p> <p>The electric lighting system is proposed to be developed to the category of the road lighting, works category III.</p>
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		Not provided

12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		Not provided
13: Are there significant structures required – if yes please identify	✓		Not Provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not provided
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

J. Safeguard compliance

Table 24:

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		<p>Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts on land acquisition of 5ha including (i) Road#1: Cua Tung – Vinh Moc coastal main road: The total area of land acquired is 4,633 m2 of 71 HHs including 360 m2 residential land and garden land of 14 households. The temporary housing area of the affected households is 1.761m2 of 57 households, and 2.512m2 public land acquired.</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): There are 6,560 m2 of acquired land of 9 households, of which 7 HHs are affected by the agricultural land area of 6,390 m2 (97.4%), the agricultural land area is mainly eucalyptus and willow, but this area is part of the planned land area for expansion of roads and households making full use of the trees on the land.</p> <p>The land and garden land areas acquired for the construction of this road is 170m2 (accounting for 2.6%) of 02 households. The households' areas that will be acquired are mainly the old grade 4 houses within the planned road. No solid housing area is affected.</p>

				<p>Road#3: Cua Tung - Cua Viet tourism service ring road: The total land area to be acquired is 38,892m² of 120 households (including 1 cultural house of village 4 in Gio Hai commune) including 2.114m² residential and garden land area of 65 households (including 01 house Cultural village 4, Gio Hai commune). The area of agricultural land affected is 36,778m² of 55 households mainly cultivated land area of crops, eucalyptus and willows, which does not bring the main income for affected households, one small area of the aquaculture land.</p> <p>According to the survey results, about 200 households will be affected by the project, with no relocation or resettlement. Classify by type of affected land, there are 81 HHS affected land and garden land; 119 HHS affected agricultural land, roofs and temporary houses encroaching on roads (including public land managed by the People's Committee of Gio Hai commune).</p>
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		<p>Estimated costs of Land Acquisition and compensation budget: VND 5,996,963,000 equivalent to USD 268.561</p>
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		<p>Road#2: Cua Tung - Cua Viet main road (PR576b): There are 6,560 m² of acquired land of 9 households, of which 7 HHs are affected by the agricultural land area of 6,390 m² (97.4%), the agricultural land area is mainly eucalyptus and willow, but this area is part of the planned land area for expansion of roads and households making full use of the trees on the land.</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: The total land area to be acquired is 38,892m² of 120 households (including 1 cultural house of village 4 in Gio Hai commune) including 2.114m² residential and garden land area of 65 households (including 01 house Cultural village 4, Gio Hai commune). The area of agricultural land affected is 36,778m² of 55 households mainly cultivated land area of crops, eucalyptus and willows, which does not bring the main income for affected households, one small area of the aquaculture land.</p>

	Protection forest land	✓		Road#1: Cua Tung – Vinh Moc coastal main road involves the protection coastal forest land.
	Protected areas		x	No
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues form EARF that need to be addressed		✓		The field visit identified an issue from EARF that need to be addressed: Protection forest area.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

K. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes <ul style="list-style-type: none"> 2 districts of Vinh Linh, Gio Linh and through communes and towns, including Cua Tung town, Vinh Thach commune (Vinh Linh district); In Trung Giang commune, Gio Hai commune and Cua Viet town (Gio Linh district)
Is the population data available	Not yet	Not provided
Is the number of Poor households available	Not yet	Not provided
Is the number of near poor households available	Not yet	Not provided
Are Ethnic minorities identified and specified	Not yet	Not provided
Is land use specified	Not yet	Not provided
Are the number of female headed households specified	Not yet	Not provided
Is the GAP adequately reflected	Not yet	Not provided

L. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Not provided
Is there a detailed worksheet for the EIRR		x	Not provided

Is it linked to the traffic forecast		x	Not provided
--------------------------------------	--	---	--------------

M. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		<p>Requires traffic count data to justify the proposed road design categories. The road is proposed to be developed to</p> <p>Road#1: Cua Tung – Vinh Moc coastal main road: the road is proposed to be developed to the internal urban road standards (TCXDVN 104-2007)</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): The proposed road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) with the following main standards:</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: the road is proposed to be developed to the plain road standard category IV (TCVN 4054-2005)</p> <p>The electric lighting system is proposed to be developed to the category of the road lighting, works category III.</p>
Are there outstanding approvals required	✓		<p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>PMU reconfirms the total length of the proposed road sections including all the new alignment sections.</p> <p>The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): Section from Km11 + 136.07 - Km12 + 771.84: the road pavement and shoulders to be upgraded and expanded will involve land acquisition of the protection (casuarinas, and eucalyptus) coastal forest land areas. Inquires DPI and consultants confirm the protection forest classification and propose mitigation measures approved by PPC and DARD and DONRE for the environmental impact assessment.</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): The PPTA' view is that the proposed electric lighting systems installed along Cua Tung – Cua Viet coastal road (PR.576b) and lighting system in Cua Viet beach: high-voltage lifting light system of 1.3 km length with 25m-high pole should be excluded from the road subproject scope due to the existing electric lighting system is still in good condition but there is not enough fund to turn them on;</p> <p>failure of who will manage, operates and maintain the assets;</p> <p>requires the ongoing contract document of Gia Hai Tourism service project funded by the Central Government's tourism promotion program to identify what infrastructures and facilities that the subproject is constructing to ensure the consistency of the same road scope and category and infrastructures and facilities.</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: the local consultant proposed to construct one combined spillway at Km4 + 990.54. The PPTA's view is that a new bridge be constructed to meet the road scope and category so that the vehicles and traffic flow may still operate during the flood season.</p>

		<p>requires the approval / agreement of the Dong Hoi airport flight safety zone so that the road alignment section may not be affected.</p> <p>Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>the subproject involves some impacts on land acquisition of 5ha including (i) Road#1: Cua Tung – Vinh Moc coastal main road: The total area of land acquired is 4,633 m2 of 71 HHs including 360 m2 residential land and garden land of 14 households. The temporary housing area of the affected households is 1.761m2 of 57 households, and 2.512m2 public land acquired.</p> <p>Road#2: Cua Tung - Cua Viet main road (PR576b): There are 6,560 m2 of acquired land of 9 households, of which 7 HHs are affected by the agricultural land area of 6,390 m2 (97.4%), the agricultural land area is mainly eucalyptus and willow, but this area is part of the planned land area for expansion of roads and households making full use of the trees on the land.</p> <p>The land and garden land areas acquired for the construction of this road is 170m2 (accounting for 2.6%) of 02 households. The households' areas that will be acquired are mainly the old grade 4 houses within the planned road. No solid housing area is affected.</p> <p>Road#3: Cua Tung - Cua Viet tourism service ring road: The total land area to be acquired is 38,892m2 of 120 households (including 1 cultural house of village 4 in Gio Hai commune) including 2.114m2 residential and garden land area of 65 households (including 01 house Cultural village 4, Gio Hai commune). The area of agricultural land affected is 36,778m2 of 55 households mainly cultivated land area of crops, eucalyptus and willows, which does not bring the main income for affected households, one small area of the aquaculture land.</p> <p>According to the survey results, about 200 households will be affected by the project, with no relocation or resettlement. Classify by type of affected land, there are 81 HHs affected land and garden land; 119 HHS affected agricultural land, roofs and temporary houses encroaching on roads (including public land managed by the People's Committee of Gio Hai commune).</p> <p>Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>
Is there a preliminary design	✓	There is already a preliminary design
Is there a Feasibility study	✓	There is a Feasibility study
Is the Subproject category A for resettlement and affected persons	?	<p>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement.</p> <p>However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.</p> <p>Substantial land acquisition costs incurred</p>
Is the Subproject category A for environment	?	<p>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environmental safeguard - protection forest issues need to be clarified probable category b</p>
Does the Subproject have clear economic inclusiveness outcomes	✓	As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes

Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>Cua Tung – Cua Viet Service and Tourism Area Infrastructure subproject is in the master plan of Quang Tri tourism development up to 2020, with orientation to 2030. This is one of 5 major projects that will construct tourism facilities in Quang Tri province priority for the period up to 2020. The construction and completion of the tourism infrastructures to strengthen inter-regional connectivity and link the East-West Economic Corridor.</p> <p>The road subproject will contribute to the development of beach tourism resorts by improving accessibility to them. This will also contribute to the overall planning on construction of the approved South-East Economic Zone of Quang Tri, linking the economic zone and tourism service area in the future.</p> <p>Construction of the Cua Tung – Cua Viet Service and Tourism Area Infrastructure subproject will create links between regions with potential advantages in tourism, linking service and tourism areas along the Cua Tung - Cua Viet coastal road. This will impact on general tourism in Quang Tri province, improving service quality, maximize the advantages of local tourism and also favor the fishing and seafood industry.</p> <p>The subproject will contribute to promoting tourism development, land use planning of Vinh Linh and Gio Linh districts, shift economic structure towards trade and services, creating jobs for local people and the neighboring areas.</p> <p>Construction of this road will provide connectivity between of Vinh Linh, Gio Linh and through communes and towns, including Cua Tung town, Vinh Thach commune (Vinh Linh district); In Trung Giang commune, Gio Hai commune and Cua Viet town (Gio Linh district), rather than being intended for through traffic.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided



Section 1 at Km0+600



Section 1 at Km0+850



Section 1 at Km1+800



Section 1 at Km2+00



Section 1 at Km2+500



Section 1 at Km3+160 (Duc bridge)



Section 1 at Km3+160 (Duc bridge)



Section 1 at Km3+200 (Duc bridge)



Section 1: T-junction of Duc bridge at Km3+240



Section 1 at Km3+500



Section 1 at Km4+500



Section 1 at Km4+500



Section 1 at Km6+00



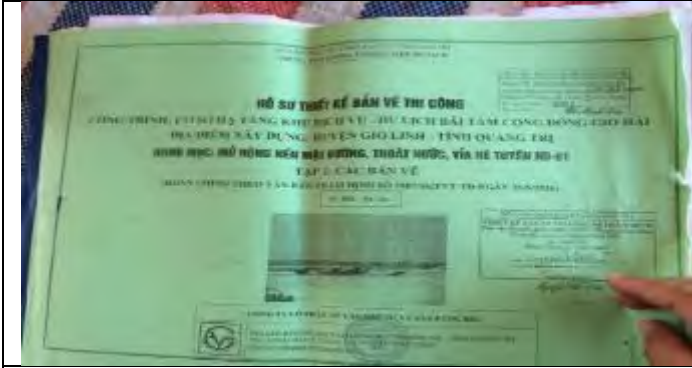
Section 1: end point at Km8+061



Section 1: end point at Km8+061



Section 1: end point intersects with district road
Road#2: Cua Tung - Cua Viet main road (PR576b)



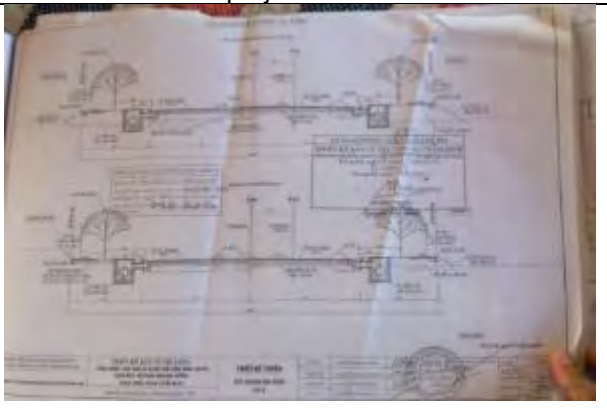
Gia Hai Tourism Service project contract



The existing ongoing construction works subproject connected to the proposed road subproject Road#1:



Gia Hai Tourism Service project ongoing construction works



Gia Hai Tourism Service project cross section drawing



Gio Hai Tourism master plan



Section 2: starting point at Km11+174.69



<p>Section 2: square culvert at Km11+177.67</p> 	<p>Section 2: Starting point at Km11+174.69</p> 
<p>Section 2 at Km11+291</p> 	<p>Section 2 at Km11+291</p> 
<p>Section 2 at Km11+590</p> 	<p>Section 2 at Km12+200</p> 
<p>Section 2 at Km12+678.78, DT.576b</p>	<p>Section 2: end point at Km12+678.78, PR576b</p>
<p>Road#3: Cua Tung - Cua Viet tourism service ring road</p>	
<p>Section 3: starting point at (km0+00)</p> 	<p>Section 3 at Km0+500</p> 



Section 3 at Km0+800



Section 3 at Km1+0.00



Section 3 at Km1+300



Section 3 at Km1+605



Section 3 at Km1+605



Section 3 at Km1+960



Section 3 at Km2+050



Section 3 at Km2+200



Section 3 at Km2+950



Section 3 at Km3+050



Section 3 at Km3+320



Section 3 at Km3+320



Section 3 at Km3+680



Section 3 at Km3+680



Section 3 at Km4+260



Section 3 at Km4+260 (existing culverts)





My Chung bridge on PR576b



My Chung bridge on PR576b

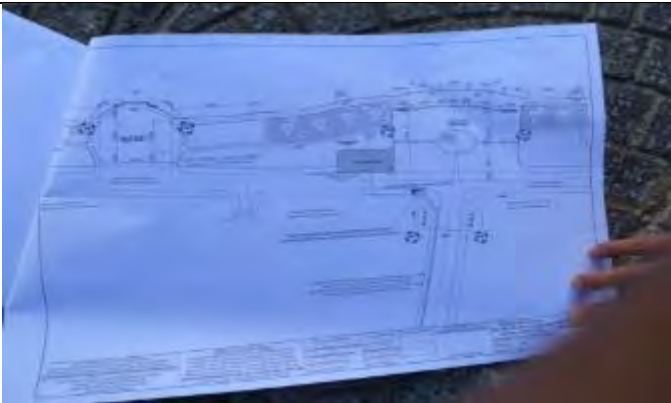


My Chung bridge structure on PR576b



My Chung bridge Pier on PR576b

Cua Viet tourism service – electric lighting system installation



Electric lighting poles site layout planning and drawings



The current status of Cua Viet Beach square



The current status of Cua Viet Beach square



The current status of Cua Viet Beach



The current status of Cua Viet Beach square



The current status of Cua Viet Beach square



The current status of Cua Viet Beach square



Starting point of Cua Viet town

XXXIII. SUBPROJECT 2: HUNG VUONG ROAD CONNECTING TO EAST-WEST ECONOMIC CORRIDOR AND QUANG TRI SOUTHEAST ECONOMIC ZONE

A. Subproject description

348. The Hung Vuong Road Connecting to East-West Economic Corridor and Quang Tri Southeast Economic Zone subproject has a total length of 4.72km.

349. The road subproject will construct and upgrade two roads linking the East-West Economic Corridor and the Southeast Economic Zone, Quang Tri Province. The two roads are located in Trieu Ai Commune, Trieu Phong District, Quang Tri Province with a total length of 4.72 km.

- (i) Road#1: Hung Vuong extended road: Length of 2.16 km; starting point at (km0 + 00) intersects with road#2; end point at km2 + 154.82 intersects with PR579 at km2 + 00.
- (ii) Road# 2: DR33: length of 2.56 km; starting point at (km0 + 00) intersects with NH1A at Km762 + 500; end point at Km2 + 563.03 intersects with Hung Vuong road connected to the East West Economic Corridor and Quang Nam South East Economic Zone.

B. Road Alignment

1. Road 1: Hung Vuong extended road

350. The road is new, no existing road has been formed. The proposed road passes through the low hills of Trieu Ai Commune. The proposed road is developed to the main secondary urban road category II according to TCXDVN standard 104-2007.

- (i) The first section is 1km long following the planned road at Nam Phuong Vinh Phuoc urban area;
- (ii) The second section of the road is 1.16km long, followed by a straight alignment, connecting to PR579 at Km2 + 00.
- (iii) The total length is 2.16 km.

2. Road# 2

351. The provincial People's Committee approved the planned alignment. The proposed road is developed to the plain road category IV (TCVN 4054-2005)

- (i) The starting section of 1.85km follows the existing road.
- (ii) Only 0.71km of the end section will be upgraded and extended through the hilly area of Trieu Ai commune.
- (iii) Length of 2.56 km.

352. The road alignment was approved according to traffic planning in Trieu Phong district transport master plan under Decision No. 666/QĐ-UBND dated June 20, 2012 and Decision No. 543/QĐ-UBND dated March 10, 2009 approving the detailed plan of Nam Song Vinh Phuoc urban area construction, in Trieu Ai commune, Trieu Phong district, Quang Tri province.

C. The Existing Status:

1. Road#1: Hung Vuong extended road:

353. The road is not formed, a new proposed road as planned is connected from the end point of Hung Vuong road to PR579 (Km0 + 00 - Km2 + 160) in Trieu Ai commune, Trieu Phong district, Quang Tri. (i) Starting section from Km0 + 00 - Km1 + 150, the topography of the two sides of the road is the horticultural garden planted with industrial plants such as acacias and eucalyptus. (ii) Section from Km1 + 150 to Km1 + 700 passes through sparsely populated areas and paddy fields and crops. The length of the road is 2.16 km.

2. Road#2: DR33: the existing road

- (i) The section from Km0 + 00-Km1 + 850 follows the existing road, road base width of from 5.5 to 6.5m; gravel road surface width of 3-3,5m. The road surface is severely damaged. It is impossible to access or travel through the road. The terrain on the two sides is residential area and gardens to plant industrial plants such as acacia trees.
- (ii) Section from Km1 + 850 - Km2 + 560 (0.71 km) follows the new alignment as planned at Nam Phuong Vinh Phuoc urban area. The proposal is to develop the road to category IV plain, in accordance with Vietnam standard TCVN 4054-2005.

354. Overview of proposed works: the road subproject will construct 1 RC pre-stressed beam bridge L=33m at km1+269.91 and 13 culverts of all types (road#1 has 7 culverts and road#2 has 6 culverts), and drainage works, protection works, and traffic systems.

- (i) 7 new culverts will be constructed on road#1 (at km0 + 459.70 km1 + 192.01 km1 + 432 km1 + 436.74 km1 + 440.74 km1 + 591.03 km1 + 988,05), with round culverts diameter from 1.5m to 2.0m and 01 aperture box b_{xh} = (4x3) m through irrigation ditch at km1 + 229.39;
- (ii) 6 new culverts will be constructed on road#2 at (km0 + 235.61 km0 + 285.77 km1 + 070.81 km1 + 541.61 km2 + 026.64 km2 + 448.74 with sluice box apertures b_{xh} = (1x1) and b_{xh} = (2.5x2). The existing box culverts b_{xh} = (1.0x1.5) will be upgraded on the road due to extended road base at km0 + 142.34.

D. Proposed Road Categorization:

1. Road#1: Hung Vuong extended road:

355. The road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) with the main design standards are as follows: Design speed: $V_{tk} = 60\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 125\text{m}$; Maximum vertical slope: $I_{max} = 6\%$; Roadbed width: $B_{roadbed} = 32,0\text{m}$; Road surface width: $B_{surface} = 2 \times 9 = 18,0\text{m}$; Roadside width: $B_{margin} = 2 \times 6,0 = 12,0\text{m}$; $B_{hard\ strip} = 2,0\text{m}$. The frequency of road, culvert, small bridge design is 4%, medium bridge 1%; Load design HL93 bridge, H30-XB80 drain, axle road load of 10T. Asphalt concrete pavement A1, $E_{yc} = 130\text{MPa}$.

2. Road#2: DR33:

356. The road is proposed to be developed to the plain road category IV (TCVN 4054-2005) with the main design standards are as follows: Design speed: $V_{tk} = 60\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 125\text{m}$; Maximum vertical slope: $I_{max} = 7\%$; Roadbed width: $B_{roadbed} = 9,0\text{m}$; Road surface width: $B_{surface} = 7,0\text{m}$; Roadside width: $B_{margin} = 2 \times 1,0 = 2,0\text{m}$; $B_{hard\ strip} = 2 \times 0,5 = 1,0\text{m}$. Asphalt concrete pavement A1, Eyc = 110MPa.

E. Proposed Investment

- (i) Proposed investment \$ total: US\$ 5,170,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 1,210,772/km.

F. Rationale

- (i) To promote the prominent advantages of Quang Tri Province, on September 16, 2015, the Prime Minister signed the Decision No. 42/2015 / QD-TTg to establish the South East Economic Zone of Quang Tri Province with total area of 237.9 km² in 17 communes and towns along the coastal districts of Hai Lang, Trieu Phong and Gio Linh, which has 77,000 inhabitants. At present, the province has completed the master plan of the central area with a total area of 11,469 hectares and is appealing the investment capital for My Thuy seaport project, infrastructure system, power center and offshore gas production projects.
- (ii) Connecting Infrastructure with the Southeast Economic Zone of Quang Tri was signed by the Prime Minister on Decision No. 42/2015 / QD-TTg dated 16 September 2015; Decision No. 1936 / QD-TTg dated 11/10/2016 of the Prime Minister on approving the master plan for construction of Quang Nam South East Economic Zone in Quang Tri Province up to 2035 with a vision to 2050.
- (iii) The road subproject will create an uninterrupted traffic network in the area connecting Cua Viet port to the eastern communes of Trieu Phong - Hai Lang district and the center of the Southeast economic zone, Quang Tri province and areas inside and outside of the economic zone as well as transport goods and equipment from the Cua Viet port to the South East Economic Zone, My Thuy Port, factories and export processing zones in the economic sector.
- (iv) This road subproject will be a major route on the East-West Economic Corridor to the southeastern economic zone of the province. It will connect the existing road connecting Hung Vuong Street to Highway 1A as well as to Provincial Road 579. Therefore, this route will provide access to Lao Bao Special Economic - Commercial Area, Cua Viet, My Thuy. This connection will link the raw material production areas to the processing plants. The route plays an important role in socio-economic development.
- (v) Currently, goods transported from Lao Bao Trade Economic Zone to My Thuy port and raw materials to industrial zones such as Ai Tu industrial zone, Trieu Phong district, Dien Sanh industrial zone, Hai Lang district. They pass through Highway 1. After completion, the road subproject will create a full connectivity between production areas such as Lao Bao Trade Economic Zone and industrial parks such as Nam Dong Ha Industrial Park, Ai Tu Industrial Park, Dien Sanh Industrial Park. The road also helps to significantly shorten the transportation distance of raw materials to processing plants.
- (vi) The road subproject after construction will improve traffic services for 4,200 people in Trieu Ai Commune, Trieu Phong District by linking Trieu Ai Commune to the center of Trieu

Phong District and Dong Ha City. The subproject helps to minimize costs and improve the reliability of the connections involved in trade, services, industry and agriculture. The number of indirect beneficiaries is about 15,500 people, including people traveling from the districts of Hai Lang, Quang Tri, Trieu Phong, Dong Ha and people from Dong Ha to the south of Quang Tri Province.

- (vii) Construction of this road will provide connectivity between the East-West Economic Corridor to the southeastern economic zone of the province, rather than being intended for through traffic.
- (viii) In addition to the socio-economic and EZ and trade transportation development rationales, this subproject also contributes to the overall development of the road network in Quang Tri and the FNCP region alike.

G. Summary of subproject site visits findings and FS review and recommendations

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	Road#1: Hung Vuong extended road: Starting point at (km0 + 00) intersects with road#2; Road# 2: DR33: Starting point at (km0 + 00) intersects with NH1A at Km762 + 500	Confirmed	Confirmed
End point	Road#1: Hung Vuong extended road: End point at km2 + 154.82 intersects with PR579 at km2 + 00. Road# 2: DR33: End point at Km2 + 563.03 intersects with Hung Vuong road connected to the East West Economic Corridor and Quang Nam South East Economic Zone.	Confirmed	Confirmed
Length	4.72km	Confirmed Requires clarification and confirmation: (i) Based on the PPTA's subproject site visit findings and IP and FS review, (a) The subproject's proposed investment is US\$ 5,170,000 or US\$ 1,210,772/km. The PPTA view is that this is a high cost road that will be hard to justify. (b) Requires the total length of the proposed road sections including all the new alignment sections.	DPI confirmed approval of the new alignment and total length of the proposed road subproject and will reply to the consultant with the official approval.

		<p>(c) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>(d) Requires the calculation of the road#2 as only 0.71km of the end section or road#2 will be upgraded and extended through the hilly area of Trieu Ai commune. The planned alignment was approved by the provincial People's Committee. The starting section follows the existing road. Only 0.71km of the end section will be upgraded and extended through the hilly area of Trieu Ai commune. The planned alignment was approved by the provincial People's Committee.</p> <p>(e) requires to increase modulus $E_{yc} \geq 155\text{MPa}$ for road # 1; and $E_{yc} \geq 130\text{ MPa}$ for road#2 so as to comply with the proposed road categories and scales.</p> <p>(f) Road#1: Hung Vuong extended road: PPTA's recommendation is that adjustment of the end road alignment section to avoid resettlement / reallocation of 3 big tombs, and a cult temple at km1+900, and 4 households.</p> <p>(g) Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(h) the subproject will affect the land, properties and vegetation of 29 households with 170 people in the villages of Kien My, Ha Xa, Tan Pho and Ai Tu in Ai Tu commune, Trieu Phong district. Of the 29 affected households, 6 households with heavily affected houses and production land.</p> <p>the subproject will acquire 127,913.80m² of different land types, including 2,101.80m² of residential land, 26,261.20m² of annual tree land, 80,234.5 m² of perennial land, aquaculture land 905.40m² land, 1,148.50m² land, public land 17.262,40m². The subproject also affects some auxiliary structures and works of households / organizations such as roofs, gates, fences, Yards, concrete sewers, power poles, wires. About 10 HHs will be reallocated.</p> <p>(i) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>	
Road category	Road#1: Hung Vuong extended road: The road is proposed to be	Requires traffic count data to justify the proposed road design categories.	Agreed

	<p>developed to the main secondary urban road standards (TCXDVN 104-2007)</p> <p>Road#2: DR33: the road is proposed to be developed to the plain road category IV (TCVN 4054-2005)</p>	Confirmed the road categories proposed	
Proposed works	the road subproject will construct 1 RC pre-stressed beam bridge L=33m at km1+269.91 and 13 culverts of all types (road#1 has 7 culverts and road#2 has 6 culverts) and drainage works, protection works, and traffic systems	Confirmed	Confirmed

H. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>Decision No. 321 / QĐ-TTg dated 02/03/2011 of the Prime Minister approving the master plan for socio-economic development of Quang Tri until 2020.</p> <p>Decision No. 42/2015 / QĐ-TTg to establish the South East Economic Zone of Quang Tri Province with total area of 237.9 km² in 17 communes and towns along the coastal districts of Hai Lang, Trieu Phong and Gio Linh.</p> <p>Decision No. 42/2015 / QĐ-TTg dated 16 September 2015; Decision No. 1936 / QĐ-TTg dated 11/10/2016 of the Prime Minister on approving the master plan for construction of Quang Nam South East Economic Zone in Quang Tri Province up to 2035 with a vision to 2050.</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 1305 / QĐ-UBND dated 23/6/2015 of Quang Tri Provincial People's Committee approving the adjustment and supplement of Quang Tri transport development plan up to 2020, orientation to 2030;</p> <p>Document No. 516 / HĐND-KTNS dated 27/12/2016 of Standing People's Council on changing the list of Basic Infrastructure for Inclusive Growth Project under the MOU with ADB;</p> <p>Decision No. 613 / QĐ-TTg dated 08/5/2017 of the Prime Minister approving "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project funded by the Asian Development Bank (ADB);</p>
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		<p>Road#1: Hung Vuong extended road: The road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007)</p> <p>Road#2: DR33: the road is proposed to be developed to the plain road category IV (TCVN 4054-2005)</p> <p>20 years projected economic life of the subproject</p>

5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport master plan for towns. The current road standard on each end point is asphalt concrete road and the network connection now and planned is main secondary urban road category II and plain road standards category IV towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data to justify the proposed secondary urban and plain road design categories. Traffic count carried out in 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The proposed design standard is Road#1: Hung Vuong extended road: The road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) Road#2: DR33: the road is proposed to be developed to the plain road category IV (TCVN 4054-2005)
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		To be provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		To be provided
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

I. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Substantial
	Urban Public Land	✓		Extent
	Urban Private Land	✓		Extent

A.2 Structures	Private houses	✓		Extent
	Private other	✓		Extent
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject reallocate / resettle 10 households.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget: 249,958.00 USD
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		The road subproject involves substantial production forest land acquisition.
	Protection forest land		x	The road subproject involves no protection forest land acquisition.
	Protected areas		x	The road subproject involves no protected areas.
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		The field visit identified an issue from EARF that need to be addressed: Production forest area.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

J. Social Considerations

criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes <ul style="list-style-type: none"> • Trieu Ai commune in Trieu Phong district
Is the population data available	Not yet	Not provided
Is the number of Poor households available	Not yet	Not provided

Is the number of near poor households available	Not yet	Not provided
Are Ethnic minorities identified and specified	Not yet	Not provided
Is land use specified	Not yet	Not provided
Are the number of female headed households specified	Not yet	Not provided
Is the GAP adequately reflected	Not yet	Not provided

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR	✓		Not provided
Is there a detailed worksheet for the EIRR	✓		Not provided
Is it linked to the traffic forecast	✓		Not provided

L. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed road design categories. The road is proposed to be developed to Road#1: Hung Vuong extended road: The road is proposed to be developed to the main secondary urban road standards (TCXDVN 104-2007) Road#2: DR33: the road is proposed to be developed to the plain road category IV (TCVN 4054-2005)
Are there outstanding approvals required	✓		Requires clarification and confirmation: <ul style="list-style-type: none"> The subproject's proposed investment is US\$ 5.170.000 or US\$ 1,210,772/km. The PPTA view is that this is a high cost road that will be hard to justify. Requires the total length of the proposed road sections including all the new alignment sections. The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project. Requires the calculation of the road#2 as only 0.71km of the end section or road#2 will be upgraded and extended through the hilly area of Trieu Ai commune. The planned alignment was approved by the provincial People's Committee. The starting section follows the existing road. Only 0.71km of the end section will be upgraded and extended through the hilly area of Trieu Ai commune. The planned alignment was approved by the provincial People's Committee. requires to increase modulus $E_{yc} \geq 155\text{MPa}$ for road # 1; and $E_{yc} \geq 130\text{MPa}$ for road#2 so as to comply with the proposed road categories and scales. Road#1: Hung Vuong extended road: PPTA's recommendation is that adjustment of the end road alignment section to avoid

			<p>resettlement / reallocation of 3 big tombs, and a cult temple at km1+900, and 4 households.</p> <ul style="list-style-type: none"> Road safety measures and traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation. the subproject will affect the land, properties and vegetation of 29 households with 170 people in the villages of Kien My, Ha Xa, Tan Pho and Ai Tu in Ai Tu commune, Trieu Phong district. Of the 29 affected households, 6 households with heavily affected houses and production land. the subproject will acquire 127,913.80m2 of different land types, including 2,101.80m2 of residential land, 26,261.20m2 of annual tree land, 80,234.5 m2 of perennial land, aquaculture land 905.40m2 land, 1,148.50m2 land, public land 17.262,40m2. The subproject also affects some auxiliary structures and works of households / organizations such as roofs, gates, fences, Yards, concrete sewers, power poles, wires. About 10 HHs will be reallocated.
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		X	<p>As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement.</p> <p>However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.</p>
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>To promote the prominent advantages of Quang Tri Province, on September 16, 2015, the Prime Minister signed the Decision No. 42/2015 / QD-TTg to establish the South East Economic Zone of Quang Tri Province with total area of 237.9 km2 in 17 communes and towns along the coastal districts of Hai Lang, Trieu Phong and Gio Linh, which has 77,000 inhabitants. At present, the province has completed the master plan of the central area with a total area of 11,469 hectares and is appealing the investment capital for My Thuy seaport project, infrastructure system, power center and offshore gas production projects.</p> <p>Connecting Infrastructure with the Southeast Economic Zone of Quang Tri was signed by the Prime Minister on Decision No. 42/2015 / QD-TTg dated 16 September 2015; Decision No. 1936 / QD-TTg dated 11/10/2016 of the Prime Minister on approving the master plan for construction of Quang Nam South East Economic Zone in Quang Tri Province up to 2035 with a vision to 2050.</p> <p>The road subproject will create an uninterrupted traffic network in the area connecting Cua Viet port to the eastern communes of Trieu Phong - Hai Lang district and the center of the Southeast economic zone, Quang Tri province and areas inside and outside of the economic zone as well as transport goods and equipment from the Cua Viet port to the South East Economic Zone, My Thuy Port, factories and export processing zones in the economic sector.</p>

		<p>This road subproject will be a major route on the East-West Economic Corridor to the southeastern economic zone of the province. The existing road connecting Hung Vuong Street to Highway 1A as well as to Provincial Road 579. Therefore, this route will provide access to Lao Bao Special Economic - Commercial Area, Cua Viet, My Thuy. This connection will link the raw material production areas to the processing plants. The route plays an important role in socio-economic development.</p> <p>Currently, goods transported from Lao Bao Trade Economic Zone to My Thuy port and raw materials to industrial zones such as Ai Tu industrial zone, Trieu Phong district, Dien Sanh industrial zone, Hai Lang district. They pass through Highway 1. After completion, the road subproject will create a full connectivity between production areas such as Lao Bao Trade Economic Zone and industrial parks such as Nam Dong Ha Industrial Park, Ai Tu Industrial Park, Dien Sanh Industrial Park. The road also helps to significantly shorten the transportation distance of raw materials to processing plants.</p> <p>The road subproject after construction will improve traffic services for 4,200 people in Trieu Ai Commune, Trieu Phong District by linking Trieu Ai Commune to the center of Trieu Phong District and Dong Ha City. The subproject helps to minimize costs and improve the reliability of the connections involved in trade, services, industry and agriculture. The number of indirect beneficiaries is about 15,500 people, including people traveling from the districts of Hai Lang, Quang Tri, Trieu Phong, Dong Ha and people from Dong Ha to the south of Quang Tri Province.</p> <p>Construction of this road will provide connectivity between the East-West Economic Corridor to the southeastern economic zone of the province, rather than being intended for through traffic.</p>
Is the project expected to achieve a 9% EIRR	✓	The project expected to achieve a 9.38% EIRR

M. Road Map



N. Road Chainage Photos



Section 1: starting point at Km0+00 connected to the existing Hung Vuong extended urban road



Km0+00 connected to the existing Hung Vuong extended urban road



Km0+250



Existing road at Km0+350



Km0+550



Km0+600



Km0+650



Km0+700



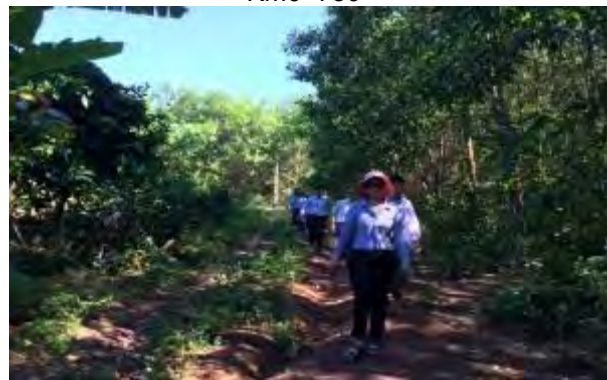
Km0+700



Km0+750



Km0+750



Km0+780



Km0+800



Km0+800



Km0+850



Km1+00



Km1+229



Km1+270



Khe Su bridge at Km1+270



Km1+270



Existing bridge at Km1+270



Km1+400



Km1+500



Km1+600



Km1+750



Km1+800



Km1+850



Km1+900



Km1+900



End point at Km2+160 connected to PR579



End point at Km2+160 connected to PR579



End point at Km2+160 connected to PR579

XXXIV. CONNECTING ROAD FROM CUA VIET PORT TO EASTERN COMMUNES OF TRIEU PHONG - HAI LANG DISTRICTS AND SOUTH-EAST ECONOMIC ZONE

A. Description:

357. The subproject road connects from Cua Viet port to Eastern communes of Trieu Phong - Hai Lang districts and South-East Economic Zone subproject. Total length of 36.04km. The proposed road subproject includes 1 key road and 3 branches with the total length of 36.04 km as below. The road alignment was approved according to Hai Lang District Transport master plan under Decision No. QĐ1137/QĐ-UBND, dated 06/10/2010.

358. The proposed road sections pass 2 districts of Trieu Phong – Hai Lang and through communes including Trieu Son (Trieu Phong district); Hai Duong, Hai Ba, Hai Que communes (Hai Lang district)

1. Main road of Trieu Phong - Hai Lang inter-district road length of 16.25 km.

- (i) Starting point (Km0 + 00) at Cho Can market crossroads, in Trieu Son commune, Trieu Phong district;
- (ii) End point (Km16 + 249,41) at the junction with Highway 49C at Km23 + 800 in Hai Duong commune, Hai Lang district. 16.25km length.
- (iii) Length of 16.25 km

2. Branch 1 (Hải Ba commune): include 6 sections of the branch in Hai Ba commune..

- (i) Section 1: branch 1 (PR583 section): Length of 5,71km; starting point (Km0+00) connects to NH49C at Km11+100 in Hải Ba commune; End point at (Km5+706,15) intersects with the coastal road in Hai An commune, Hai Lang district.
- (ii) Section 2 branch 1(Phú Hải hamlet, Hải Ba commune): length of 0,43km; Starting point at (Km0+00) intersects with PR583 at Km0+210 in Hải Ba commune; End point (Km0+430,88) in Hai Ba commune, Hai Lang district.
- (iii) Section 3 branch 1(village 3, Phương Lang hamlet, Hải Ba commune): length of 0.44km; starting point at Km0+00 connecting to the main road at Km5+370, in Hai Ba commune; end point at Km0+445,58 connecting to NH49C at Km13+210 in Hai Ba commune, Hai Lang district.
- (iv) Section 4 branch 1(village 3, Phương Lang hamlet, Hai Ba commune): Length of 1.07km; Starting point at Km0+00 connecting to the main road at Km5+570 in Hai Ba commune; End point at Km1+068,02 intersecting with sand preventing dike road in Hai Ba commune, Hai Lang district.
- (v) Section 5 branch 1 (Đình village, Cổ Lũy hamlet, Hai Ba commune): length of 1.03km; starting point at Km0+00 intersecting with the main road at Km6+000 in Hai Ba commune; End point at Km1+029,57 intersecting with sand prevention dyke road in Hai Ba commune, Hai Lang district.
- (vi) Section 6 branch 1(Trong village, Cổ Lũy hamlet, Hai Ba commune): length of 0.975km; Starting point at Km0+00 intersecting with the main road at Km7+250 in Hai Ba commune; End point at Km0+975,02 intersecting with sand prevention dyke road in Hai Ba commune, Hai Lang district.
- (vii) Total length of 9,66km

3. Branch 2 (Hải Quế commune): including 2 branch sections in Hai Que commune.

- (i) Section 1 branch 2 (Kim Long hamlet, Hai Que commune): length of 1.83km; starting point at Km0+00 intersecting with NH49C at Km17+300 in Hai Que commune; end point at Km1+832,14 intersecting with sand prevention dyke road in Hai Que commune, Hai Lang district.

- (ii) Section 2 branch 2 (Kim Long village, Hải Quế commune): length of 1.176km; starting point at Km0+00 intersecting with the main road at Km10+460, in Hai Que commune; End point at Km1+175,98 intersecting with sand prevention dyke road in Hai Que commune, Hai Lang district.
- (iii) Total length of 3.01km.

4. Branch 3 (Hải Dương commune): including 6 branch sections in Hai Duong commune.

- (i) Section 1 branch 3 (Nhất Tây village, Kim Giao hamlet, Hải Dương commune): length of 1.01km; Starting point at Km0+00 intersecting with the main road at Km11+960, in Hai Duong commune; End point at Km1+013,03 intersecting with sand prevention dyke road in Hai Duong commune, Hai Lang district.
- (ii) Section 2 branch 3 (Diên Khánh village, Hải Dương commune): Length of 1.19km; Starting point at Km0+00 intersecting with the main road at Km13+370, in Hải Dương commune; End point at Km1+185,12 intersecting with sand prevention dyke road in Hai Duong commune, Hai Lang district.
- (iii) Section 3 branch 3 (Xuân Viên village, Hải Dương commune): length of 1.27km; Starting point at Km0+00 intersecting with the main road at Km15+330, in Hai Duong commune; End point at Km1+266,41 intersecting with sand prevention dyke road in Hai Duong commune, Hai Lang district.
- (iv) Section 4 branch 3 (Trẹ Tây village, Diên Khánh hamlet, Hải Dương commune): Length of 1.22km; End point at Km0+00 intersecting with the main road at Km12+620 in Hai Duong commune; End point at Km1+220,50 intersecting with sand prevention dyke road in Hai Duong commune, Hai Lang district.
- (v) Section 5 branch 3 (Đông Dương village, Hải Dương commune): length of 1.48km; Starting point at Km0+00 intersecting with NH49C at Km21+200 in Hải Dương commune; End point at Km1+481,95 intersecting with sand prevention dyke road in Hai Duong commune, Hai Lang district.
- (vi) Section 6 branch 3 (An Nhơn village, Hải Dương commune): length of 0.95km; Starting point at Km0+00 intersecting with NH49C at Km22+100 in Hai Duong commune; End point at Km0+950,93 intersecting with sand prevention dyke road in Hai Duong, Hai Lang district.
- (vii) Total length of 7.12km

B. Road Alignments:

359. Trieu Phong - Hai Lang Main road goes along the planning road of DR41 and DR61 specifically; Starting point at Cho Can market crossroad, the road follows DR41 to Km3 + 320 intersection of PR583, this section passes Trieu Son commune, Trieu Phong district; Section from PR583, the road follows Ba - Que - Duong inter-commune road (as planned is DR61). The end point of the main road connects to NH49C at Km23 + 200, passing through Hai Ba, Hai Que and Hai Duong communes of Hai Lang district. The total length of main road is 16.25 km.

1. Section 1, branch 1 (PR583):

360. The road goes along the existing route of PR583; The starting point at Phuong Lan crossroad, Hai Ba commune, Hai Lang district. End point connects to the coastal road in Hai An commune, Hai Lang district. The total length of the main road is 5.8 km.

2. Branches:

361. the branches are connected from the Provincial Road 583 and the main road alignment follows the existing inter-village roads, which are included in the new rural development planning; Hai Ba commune has 5 roads, Hai Que commune has two roads, Hai Duong commune has 6 roads. Total length of branches is 13.95 km.

C. Existing Status

- (i) The main road (i) from Km0 + 00 to Km3 + 300 with the length of 3.3 km belongs to DR41 (Km8 + 200 to Km11 + 500). The current status of the road is road category VI; the roadbed width of 6.5m, the road surface of 3.5m, and the asphalted road surface is now damaged, such as outcrops, potholes and cracks ... to affect the vehicles Traffic on the route. (ii) Section from Km3 + 300 to Km16 + 250 with the length of 12.95 km belonging to DR61 (The existing road is Ba - Que - Duong inter-commune road); the roadbed width of 5.0m, the road surface is 3.0m, the asphalted road surface is now severely damaged with cracks, many peeled road surface sections, potholes...
- (ii) Branch 1 follows Provincial Road 583 from Km0 + 00 to Km5 + 800 with 5.8km long, belonging to PR583. The current status of the road is road category VI, the road surface is 6.5m, the road surface is 3.5m, the asphalted road surface is now damaged with cracks, many peeled road surface sections, potholes...
- (iii) Branches (13 sections) of the total length of the 13.95km are inter-village, inter-commune road, and feeder roads leading to agricultural production areas. The current status of the branch roads are from 2.5 - 5.0m, the road surface 2.5-3.0m, the cement concrete and earth roads are now damaged with cracks, many peeled road surface sections, potholes...
- (iv) Overview of proposed works: the road subproject will construct 1 small bridge and 281 drainages of all types and drainage works, protection works, and traffic systems.

D. Proposed Road Categorization:

- (i) Main road (i) from Km0 + 00 to Km3 + 300, DR41; (ii) Section from Km3 + 300 to Km16 + 250, DR61 (iii), Section 3, Branch 1; Section 1 branch 2; Section 5, Branch 3; Section 6, Branch 3 are proposed to be developed to the plain road standards category VI (TCVN 4054-2005). The main design standards are as follows: Design speed: $V_{tk} = 30\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 30\text{m}$; Maximum vertical slope: $I_{max} = 9\%$; Roadbed width $B_{nen} = 6.5\text{ m}$; Road surface width: $B_{mat} = 3.5\text{m}$; Roadside width = $2 \times 1,5 = 3\text{m}$; Reinforced shoulders width: $B_{l\grave{e}gc} = 2 \times 1.0 = 2\text{m}$. Asphalt concrete pavement A1, $E_{yc} = 110\text{MPa}$.
- (ii) Section 1, branch 1: the proposed road follows DR583: The road is proposed to be developed to the plain road standards category IV (TCVN 4054-2005). The main design standards are as follows: Design speed: $V_{tk} = 60\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 125\text{m}$; Maximum vertical slope: $I_{max} = 6\%$; Roadbed width $B_{nen} = 9.0\text{m}$; Road surface width: $B_{mat} = 7.0\text{m}$; Roadside width = $2 \times 1,0 = 2\text{m}$; Reinforcement shoulders width $B_{l\grave{e}gc} = 2 \times 0.5 = 1\text{m}$. Asphalt concrete pavement A1, $E_{yc} = 130\text{MPa}$.
- (iii) The remaining branches (9 branches) are proposed to be developed to the plain rural road category A (TCVN 10380: 2014). The main design standards are as follows: Design speed:

Vtk = 30Km/h; Minimum horizontal curve radius: Rmin = 30m; Maximum vertical slope: I_{max} = 9%; Roadbed width B_{nền} = 5,0m; Road surface width: B_{mặt} = 3.5m; Roadside width: B_{lề} = 2x0.75 = 1.5m; Asphalt concrete pavement A1, E_{yc} = 110MPa.

E. Investment

- (i) Proposed investment \$ total: US\$ 5,965,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 165,510/km.

F. Rationale

- (i) Connecting Infrastructure with the Southeast Economic Zone of Quang Tri was signed by the Prime Minister on Decision No. 42/2015 / QD-TTg dated 16 September 2015; Decision No. 1936 / QD-TTg dated 11/10/2016 of the Prime Minister on approving the master plan for construction of Quang Nam South East Economic Zone in Quang Tri Province up to 2035 with a vision to 2050.
- (ii) The road subproject will create an uninterrupted traffic network in the area connecting Cua Viet port to the eastern communes of Trieu Phong - Hai Lang district and the center of the Southeast economic zone, Quang Tri province and areas inside and outside of the economic zone as well as transport goods and equipment from the Cua Viet port to the South East Economic Zone, My Thuy Port, factories and export processing zones in the economic sector.
- (iii) The subproject will reduce heavy traffic flow of NH49C and the number of intersections with NH49C, which will minimize traffic accidents. This is an important road for the rescue; evacuate people in the event of natural calamities and storms occurring in the area.
- (iv) The subproject will benefit directly 21,503 people, including people in Trieu Son, Hai Ba, Hai Que, Hai Duong. In addition, indirect beneficiaries of the project are people from Hai Xuan, Hai Quy, Hai Vinh, Hai Thanh - Hai Lang districts and Trieu Trung and Trieu Tai communes - Trieu Phong district.
- (v) Construction of this road will provide connectivity between 2 districts of Trieu Phong – Hai Lang and through communes including Trieu Son (Trieu Phong district); Hai Duong, Hai Ba, Hai Que communes (Hai Lang district), rather than being intended for through traffic.

G. Summary of subproject site visits findings and FS review and recommendations

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	at (Km0 + 00) at Cho Can market crossroads, in Trieu Son commune, Trieu Phong district;	Confirmed	Confirmed
End point	at (Km16 + 249,41) at the junction with Highway 49C at Km23 + 800 in Hai Duong commune, Hai Lang district. 16.25km length.	Confirmed	Confirmed
Length	36.04km	Confirmed Requires clarification and confirmation:	DPI confirmed approval of the new alignment and total

		<p>(i) Based on the PPTA's subproject site visit findings and IP and FS review,</p> <p>(a) PMU reconfirms the consistency of the total budget of US\$ 5,965,000 in the IP and the FS of US\$ 6,788,938. PPTA's view is that the proposed budget underestimates the real cost for the road subproject: US\$ 165,510/km (22.1km road category plain road and 13.93km plain rural road category A).</p> <p>(b) Requires the total length of the proposed road sections including all the new alignment sections.</p> <p>(c) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>(d) Requires the update on the current status of PR583 section (500m section is being upgraded and constructed under the government's road maintenance fund program</p> <p>(e) Main road: Some sections need to be adjusted to fit the road category scale.</p> <p>(f) Branch sections; PPTA's recommendation is that cement concrete should be used to fit the plain rural road A category.</p> <p>(g) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets.... When the road is put into operation.</p> <p>(h) The subproject involves some impacts on land acquisition of 32.9ha including agricultural land and garden land areas. No HHs will be reallocated.</p> <p>(i) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>	<p>length of the proposed road subproject including the new alignment and will reply to the consultant with an official approval.</p>
Road category	<p>Main road (i) from Km0 + 00 to Km3 + 300, DR41; (ii) Section from Km3 + 300 to Km16 + 250, DR61 (iii), Section 3, Branch 1; Section 1 branch 2; Section 5, Branch 3; Section 6, Branch 3 are proposed to be developed to the plain road standards category VI (TCVN 4054-2005).</p> <p>Section 1, branch 1: the proposed road follows DR583: The proposal</p>	<p>Requires traffic count data to justify the proposed road design categories.</p> <p>Confirmed the road categories proposed</p>	Agreed

	<p>is to develop the road to category IV plain (TCVN 4054-2005).</p> <p>The remaining branches (9 branches) will be developed to the plain rural road category A (TCVN 10380: 2014) according to the proposal.</p>		
Proposed works	the road subproject will construct 1 small bridge and 281 drainages of all types and drainage works, protection works, and traffic systems	Confirmed	Confirmed

H. Eligibility

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		<p>Decision No. 321 / QD-TTg dated 02/03/2011 of the Prime Minister approving the master plan for socio-economic development of Quang Tri until 2020.</p> <p>Decision 79/2006 / QD-UBND dated 23 January 2006 of the People's Committee of Quang Tri Province on approving the master plan for the construction of tourist service area along Cua Tung - Cua Viet coastal road to 2015 By 2020;</p>
2: Included in DoT Master Plan – if yes state page and section	✓		<p>Decision No. 1305 / QD-UBND dated 23/6/2015 of Quang Tri Provincial People's Committee approving the adjustment and supplement of Quang Tri transport development plan up to 2020, orientation to 2030;</p> <p>Document No. 516 / HĐND-KTNS dated 27/12/2016 of Standing People's Council on changing the list of Basic Infrastructure for Inclusive Growth Project under the MOU with ADB;</p> <p>Decision No. 613 / QĐ-TTg dated 08/5/2017 of the Prime Minister approving "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB);</p> <p>Notice of Conclusion No. 58 / TB-TB-UBND dated 09/5/2017 of the Chairman of Quang Tri People's Committee - Mr. Nguyen Duc Chinh at the meeting to hear the feasibility study report (TC) of Infrastructure Project ""Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB)-Component of Quang Tri Province on 09/5/2017;</p> <p>Decision No. 243 / QD-SKH dated 30/11/2016 of the Department of Planning and Investment of Quang Tri province Approving the task and estimation of survey and design of the subproject feasibility study report: "Connecting road from Cua Viet port to Eastern communes of Trieu Phong - Hai Lang districts and South-East Economic Zone subproject"</p> <p>Decision No. 335 / QD-SKH dated 28/12/2016 of the Department of Planning and Investment of Quang Tri province on the results of selection of contractors bidding packages: survey, design step of preparing the feasibility study report Project: "Connecting road from Cua Viet port to Eastern communes of Trieu Phong - Hai Lang districts and South-East Economic Zone subproject" under "Basic</p>

			Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB);
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		<p>Main road (i) from Km0 + 00 to Km3 + 300, DR41; (ii) Section from Km3 + 300 to Km16 + 250, DR61 (iii), Section 3, Branch 1; Section 1 branch 2; Section 5, Branch 3; Section 6, Branch 3 are proposed to be developed to the plain road standards category VI (TCVN 4054-2005).</p> <p>Section 1, branch 1: the proposed road follows DR583: The proposal is to develop the road to the plain road standards Category IV (TCVN 4054-2005).</p> <p>The remaining branches (9 branches) to be developed to the plain rural road category A (TCVN 10380: 2014) according to the proposal.</p> <p>20 years projected economic life of the subproject</p>
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		<p>The proposed designed standard is derived from the provincial transport master plan for towns.</p> <p>The current road standard on each end point is asphalt concrete. The current and planned category is plain road standards Category IV towards 2030.</p>
6: is the date of traffic forecast or base traffic forecast after 2015	✓		<p>Requires traffic count data to justify the proposed secondary urban road design categories.</p> <p>Traffic count carried out in 2017</p>
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		<p>There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings.</p> <p>The proposed design standard is Main road (i) from Km0 + 00 to Km3 + 300, DR41; (ii) Section from Km3 + 300 to Km16 + 250, DR61 (iii), Section 3, Branch 1; Section 1 branch 2; Section 5, Branch 3; Section 6, Branch 3 are proposed to be developed to the plain road standards category VI (TCVN 4054-2005).</p> <p>Section 1, branch 1: the proposed road follows DR583: The road is to be developed to the plain road standards category IV (TCVN 4054-2005).</p> <p>The remaining branches (9 branches) are proposed to be developed to the plain rural road category A (TCVN 10380: 2014).</p>
9: Is the Preliminary design already approved by DoT		x	Not yet

10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		To be provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		To be provided
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

I. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Extent
	Urban Public Land	✓		Extent
	Urban Private Land	✓		minor
A.2 Structures	Private houses	✓		Minor
	Private other	✓		minor
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject involves some impacts on land acquisition of 32.9ha including agricultural land and garden land areas. No HHs will be reallocated.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		Estimated costs of Land Acquisition and compensation budget: USD 503,911
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		x	The road subproject involves no production forest land acquisition.
	Protection forest land		x	The road subproject involves no protection forest land acquisition.
	Protected areas		x	The road subproject involves no protected areas.
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No

B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		The field visit identified an issue from EARF that need to be addressed: Protection forest area.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes Trieu Son (Trieu Phong district); Hai Duong, Hai Ba, Hai Que communes (Hai Lang district).
Is the population data available	Not yet	To be provided
Is the number of Poor households available	Not yet	As presented above
Is the number of near poor households available	Not yet	As presented above
Are Ethnic minorities identified and specified	Not yet	As presented above
Is land use specified	Not yet	As presented above
Are the number of female headed households specified	Not yet	As presented above
Is the GAP adequately reflected	Not yet	As presented above

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR		x	Requires FS to assess the EIRR of the subproject.
Is there a detailed worksheet for the EIRR		x	As presented above
Is it linked to the traffic forecast		x	As presented above

L. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed road design categories. The road is proposed to be developed to Main road (i) from Km0 + 00 to Km3 + 300, DR41; (ii) Section from Km3 + 300 to Km16 + 250, DR61 (iii), Section 3, Branch 1; Section 1 branch 2; Section 5, Branch 3; Section 6, Branch 3 are proposed to be developed to the plain road standards category VI (TCVN 4054-2005).

			<p>Section 1, branch 1: the proposed road follows DR583: The road is proposed to be developed to the plain road standards category IV (TCVN 4054-2005).</p> <p>The remaining branches (9 branches) are proposed to be developed to the plain rural road category A (TCVN 10380: 2014).</p>
Are there outstanding approvals required	✓		<p>Requires clarification and confirmation:</p> <p>(i) Based on the PPTA's subproject site visit findings and IP and FS review, (a) PMU reconfirms the consistency of the total budget of US\$ 5,965,000 in the IP and the FS of US\$ 6,788,938. PPTA's view is that the proposed budget underestimates the real cost for the road subproject: US\$ 165,510/km (22.1km road category plain road and 13.93km plain rural road category A).</p> <p>(b) Requires the total length of the proposed road sections including all the new alignment sections.</p> <p>(c) The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>(d) Requires the update on the current status of PR583 section (500m section is being upgraded and constructed under the government's road maintenance fund program</p> <p>(e) Main road: Some sections need to be adjusted to fit the road category scale. (f) Branch sections; PPTA's recommendation is that cement concrete should be used to fit the plain rural road A category.</p> <p>(g) Road safety measures, traffic safety signs and traffic calming measures should be installed and implemented through the residential areas, and schools, clinics and markets. When the road is put into operation.</p> <p>(h) The subproject involves some impacts on land acquisition of 32.9ha including agricultural land and garden land areas. No HHs will be reallocated.</p> <p>(i) Design dossier, FS, BOQ, cost estimated budget, map of alignment, representative cross- section drawings, total project investment budget.</p>
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		X	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		x	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment.
Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>Connecting Infrastructure with the Southeast Economic Zone of Quang Tri was signed by the Prime Minister on Decision No. 42/2015 / QD-TTg dated 16 September 2015; Decision No. 1936 / QD-TTg dated 11/10/2016 of the Prime</p>

			<p>Minister on approving the master plan for construction of Quang Nam South East Economic Zone in Quang Tri Province up to 2035 with a vision to 2050.</p> <p>The road subproject will create an uninterrupted traffic network in the area connecting Cua Viet port to the eastern communes of Trieu Phong - Hai Lang district and the center of the Southeast economic zone, Quang Tri province and areas inside and outside of the economic zone as well as transport goods and equipment from the Cua Viet port to the South East Economic Zone, My Thuy Port, factories and export processing zones in the economic sector.</p> <p>The subproject will reduce heavy traffic flow of NH49C and the number of intersections with NH49C, which will minimize traffic accidents. This is an important road for the rescue; evacuate people in the event of natural calamities and storms occurring in the area.</p> <p>The subproject will benefit directly 21,503 people, including people in Trieu Son, Hai Ba, Hai Que, Hai Duong. In addition, indirect beneficiaries of the project are people from Hai Xuan, Hai Quy, Hai Vinh, Hai Thanh - Hai Lang districts and Trieu Trung and Trieu Tai communes - Trieu Phong district.</p> <p>Construction of this road will provide connectivity between 2 districts of Trieu Phong – Hai Lang and through communes including Trieu Son (Trieu Phong district); Hai Duong, Hai Ba, Hai Que communes (Hai Lang district), rather than being intended for through traffic.</p> <p>In addition to the socio-economic and economic zone services development rationales, this subproject also contributes to the overall development of the road network in Quang Tri and the FNCP region alike.</p>
Is the project expected to achieve a 9% EIRR		x	To be provided

N. Road Chainage Photos

 A street scene at the starting point of the road chainage. On the left, there are buildings and people walking. On the right, a white car is parked near a small structure. The road is paved and leads into the distance.	 A long, straight stretch of paved road extending into the distance. The road is flanked by green fields and trees under a clear blue sky.
<p>Starting point Km0+00</p>	<p>Km0+500</p>
 A view of a concrete bridge with a metal railing. The road is paved and leads across the bridge. There are trees and a utility pole in the background.	 A view of a concrete bridge with a metal railing, similar to the previous photo. The road is paved and leads across the bridge. There are trees and a utility pole in the background.
<p>Existing bridge Km1+032</p>	<p>Existing bridge Km1+032</p>
 A view of a concrete bridge with a metal railing, similar to the previous photos. The road is paved and leads across the bridge. There are trees and a utility pole in the background.	 A view of a paved road with a large, deep pothole in the center. The road is flanked by trees and a fence on the right.
<p>Existing bridge Km1+032</p>	<p>Existing road surface damaged with potholes Km1+500</p>



Existing road surface cracked Km1+500



Km1+900



Km2+096



Km3+100



New alignment section Km3+200



New alignment section Km3+300



Km3+320 intersects with PR583



Km3+400



Km4+00



Km4+550



Km4+850



Phuong Lang bridge Km5+020



Phuong Lang bridge Km5+020



Km5+500



Km5+750



New alignment section Km5+940



Km6+110



New alignment section drawing Km5+920 – Km6+300



Km7+550



Existing bridge Km6+900



Existing bridge Km6+900

Km7+830



Km7+900



Co Luy bridge Km8+003



Co Luy bridge Km8+003



Km8+250



Km9+0.00



Km9+100 from PR582



Km9+100 from PR582



Km9+500



Km11+310



Km11+310



Km11+611



Km11+611



Km11+611



Km11+900



Box culvert Km12+170



Box culvert Km12+170





Km0+500



Existing bridge Km1+458



Existing bridge Km1+458



Km2+500



Km4+00



culvert Km4+500



culvert Km4+500



End point Km5+800, entry to coastal road

Other road branches	
	
Starting point of section 2: branch 1	End point of section 2: branch 1
	
Starting point section 4: branch 1	End point of section 4: branch 1
	
Starting point of section 3: branch 1	End point of section 3: branch 1
	
Starting point of section 5: branch 1	Km0+200



Km0+500



End point of section 5: branch 1



Starting point of section 6: branch 1



End point of Section 6: branch 1



Starting point of section 1: branch 2



End point of section 1: branch 2



Starting point of section 2: branch 2



End point of section 2: branch 2



Starting point of section 1: branch 3



End point of section 1: branch 3



Starting point of section 2: branch 3



End point of section 2: branch 3



Starting point of section 3: branch 3



End point of section 3: branch 3



Starting point of section 4: branch 3



Km0+200



Km0+350



End point of section 4: branch 3



Starting point of section 5: branch 3



Km0+200



Km0+300



End point of section 5: branch 3



Starting point of section 6: branch 3



Km0+300



Km0+800



End point of section 6: branch 3

XXXV. SUBPROJECT 3: KHE VAN ROAD (HUONG HIEP COMMUNE, DAKRONG DISTRICT) TO HUONG LINH COMMUNE, HUONG HOA DISTRICT

A. Description

362. The Khe Van road (Huong Hiep commune, Dakrong district) to Huong Linh commune, Huong Hoa district, Quang Tri province subproject was approved according to Dakrong district transport master plan at 358/ QĐ-UBND, dated 10/02/2015.

- (i) Starting point (Km0+00) intersects with NH9 at Km31+608 in Khe Van hamlet, Hường Hiệp commune, Đắkrông district, Quang Tri province.
- (ii) End point (Km11+820) connects to B14 road (central road in Hông Coc resettlement area), Hường Linh commune, Hường Hóa district, Quang Tri province.
- (iii) Length of the road is 11.82km.

B. Road Alignment:

363. The proposed alignment follows the existing road, however road alignment needs significant modifications to meet the appropriate technical design standards.

364. The Starting point intersects with NH9 at Km31 + 608, the road follows the existing road to the end point of the road and connects to the B14 road (the central road in Hoong Coc resettlement area). The road passes through Huong Hiep commune, Dakrong district and Huong Linh commune, Huong Hoa district, Quang Tri province.

C. Existing Status:

365. Khe Van road (Huong Hiep commune, Dakrong district) to Huong Linh commune, Huong Hoa district, Quang Tri province (Km0 + 00 to Km11 + 820). The current status of the road is the newly opened road for construction traffic service of Huong Linh wind power project.

366. The road from Khe Van bridge, Huong Hiep commune, Dakrong district to Huong Linh commune, Huong Hoa district has the starting point connected to NH9 (Km31 + 600) and the end point in Huong Linh commune centre. The road goes through hamlets: Khe Van, Kreng, Ploang, and Coc. Mostly Pako and Van Kieu ethnic minorities in Huong Hiep commune (Dakrong district), and Huong Linh commune (Huong Hoa district) live along the both sides of the road.

367. The road is a rural mountainous road for construction traffic service, the roadbed width of 6-7m, the road surface width of 3.5m, macadam and gravel road surface, the vertical steep slope. It is extremely difficult to access and travel through the road in the rainy season.

368. Overview of proposed works: the road subproject will construct 1 small bridge at km6+337.33 and 69 culverts of all types, and drainage works, protection works, and traffic systems.

D. Proposed Road Categorization:

369. The road is proposed to be developed to the mountainous road standards category VI (TCVN 4054-2005) with the main design standards are as follows: Design speed: $V_{tk} = 20\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 15\text{m}$; Maximum vertical slope: $i_{max} = 11\%$; Roadbed width: $B_{roadbed} = 6,0\text{m}$; Road surface width: $B_{surface} = 3,5\text{m}$; Roadside width: $B_{margin} = 2 \times 1,25 = 2,5\text{m}$; $B_{hard\ strip} = 2 \times 0,75 = 1,5\text{m}$. Asphalt concrete pavement A1, $E_{yc} = 100\text{MPa}$.

E. Proposed investment

- (i) Proposed investment \$ total: US\$ 6,200,000 in the IP.
- (ii) Proposed investment \$ /km: US\$ 524,534/km.

F. Rationale

- (i) Khe Van Road, (Huong Hiep commune, Dakrong district to Huong Linh commune, Huong Hoa district, Quang Tri province) is located in the area with incomplete connectivity. This road, when built, will help to connect the project area to Huong Hiep commune, Dakrong district via NH9, then connect to the Western branch of HCM Trail to Dong Ha city.
- (ii) The economy of Dakrong and Huong Hoa districts is predominated by agriculture (rice, corn, cassava and vegetables) and forestry (acacia, casuarinas, and eucalyptus). The areas served by this road are also dependent upon agriculture livestock breeding. There is potential for forestry development and expanding production of industrial and agricultural crops and livestock and sustainable eco-tourism and resorts development, but not yet exploited and developed effectively and efficiently.
- (iii) Currently, there are Huong Linh 1 & 2 wind power plants projects operated in Huong Hoa district with VND1.4-trillion (US\$65.7 million) invested by Tan Hoan Cau Corporation with a total capacity of 30MW which has already joined the national grid on 1/5/2017. This will be Viet Nam's fifth wind power plant, after the three plants in the central Binh Thuan Province and another in the Mekong Delta Bac Lieu Province.
- (iv) The plant in Quang Tri Province will have 15 wind turbines with a capacity of producing 2MW each on an area of about 12ha. Upon its completion, the project will address electricity shortages, promote local economic development, and create jobs for local workers. Besides, World Vision, the Netherlands Development Organization funded a US\$2.2 million project which will be carried out over five years and benefit 1,200 impoverished households, mostly Pako and Van Kieu ethnic minorities in Huong Tan, Huong Phung, Huong Linh, Huong Son, Huong Viet and Huong Lap communes. The project will set up 50 farming production groups in the above communes.
- (v) Their members will be trained in sustainable farming and processing as well as cost-saving techniques through community-based saving and credit funds. They will establish connectivity chains between local authorities and enterprises, markets and farmers to spur consumption. The project will help with planning and market analysis before production.
- (vi) Khe Van road is a key road connecting the villages, hamlets to the center of Dakrong district, which has not been invested. Access to Khe Van road is extremely inaccessible in the rainy seasons due to the muddy road.

- (vii) Poor road conditions have hindered the development of these sectors, where EM farmers face the danger of both low prices and in some instances unsold products. This subproject therefore has a significant social need.
- (viii) Upgrading this road will provide connectivity between hamlets Khe Van, Kreng, Ploang, and Coc. Mostly Pako and Van Kieu ethnic minorities in Huong Hiep commune (Dakrong district), and Huong Linh commune (Huong Hoa district), rather than being intended for through traffic.
- (ix) It would provide reliable accessibility for residents in the vicinity, to reduce transport costs on products (and so increase earnings from agriculture) and improving access to healthcare, education and employment opportunities.
- (x) In addition to the social (poverty alleviation) and EZ and eco-tourism and resorts development rationales,

G. Summary of subproject site visits findings and FS review and recommendations

370. Section Km6 + 500 - Km10 + 200 follow the existing trail with a very steep vertical slope of 15% to 28%. The road alignment has tortuous paths and the winding curve. adjustment of the road alignment aims to reduce the steep vertical slope, ensuring the geometry in terms of scale and standards, limiting the volume of excavation and embankments.

Subproject road name	Proposed by DPI	PPTA findings and recommendations	Conclusion
Start point	at (Km0+00) intersects with NH9 at Km31+608 in Khe Van hamlet, Hường Hiệp commune, Đắkrông district, Quang Tri province.	Confirmed	Confirmed
End point	At (Km11+820) connects to B14 road (central road in Hồng Coc resettlement area), Hường Linh commune, Hường Hóa district, Quang Tri province.	Confirmed	Confirmed
Length	11.82km	<p>Requires clarification and confirmation: Based on the PPTA's subproject site visit findings and IP and FS review, Requires the total length of the proposed road sections including all the new alignment sections.</p> <p>The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project.</p> <p>Requires the consistency of the proposed road category IV in the FS while the road category VI in the approved IP.</p> <p>PPTA recommendation is that the end point of the proposed road be extended (300m) to connect the T-junction of the central road in Hồng Coc resettlement area.</p> <p>the subproject involves some impacts on land acquisition of production forest areas, garden</p>	DPI confirmed and will reply to the consultant with the official approval of the new alignment and total length of the proposed road subproject including the new alignment.

		lands, residential land, and the rest is public land. No HHs will be resettled.	
Road category	The road is proposed to be developed to the mountainous road standards category VI (TCVN 4054-2005) with the main design standards are as follows: Design speed: $V_{tk} = 20\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 15\text{m}$; Maximum vertical slope: $i_{max} = 11\%$; Roadbed width: $B_{roadbed} = 6,0\text{m}$; Road surface width: $B_{surface} = 3,5\text{m}$; Roadside width: $B_{margin} = 2 \times 1,25 = 2,5\text{m}$; $B_{hard\ strip} = 2 \times 0,75 = 1,5\text{m}$. Asphalt concrete pavement A1, Eyc = 100MPa.	Requires traffic count data to justify the proposed road design categories. Confirmed the mountainous road category VI as proposed	Agreed
Proposed works	The road subproject will construct 1 small bridge at km6+337.33 and 69 culverts of all types, and drainage works, protection works, and traffic systems.	Confirmed	Confirmed

H. Eligibility

Table 25:

Criteria	Status		Risk of non-compliance and explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	✓		Decision No. 321 / QĐ-TTg dated 02/03/2011 of the Prime Minister approving the master plan for socio-economic development of Quang Tri until 2020. Decision No. 42/2015 / QĐ-TTg dated 16 September 2015; Decision No. 1936 / QĐ-TTg dated 11/10/2016 of the Prime Minister on approving the master plan for construction of Quang Nam South East Economic Zone in Quang Tri Province up to 2035 with a vision to 2050.
2: Included in DoT Master Plan – if yes state page and section	✓		Decision No. 1305 / QĐ-UBND dated 23/6/2015 of Quang Tri Provincial People's Committee approving the adjustment and supplement of Quang Tri transport development plan up to 2020, orientation to 2030; Document No. 516 / HĐND-KTNS dated 27/12/2016 of Standing People's Council on changing the list of Basic Infrastructure for Inclusive Growth Project under the MOU with ADB; Decision No. 613 / QĐ-TTg dated 08/5/2017 of the Prime Minister approving "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project funded by the Asian Development Bank (ADB);
3: Proposed design concept exists – if yes state date of proposal	✓		April 2017
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	✓		The road is proposed to be developed to the mountainous road standards category VI (TCVN 4054-2005) with the main design standards are as follows: Design speed: $V_{tk} = 20\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 15\text{m}$; Maximum vertical slope: $i_{max} = 11\%$; Roadbed width: $B_{roadbed} = 6,0\text{m}$; Road surface width: $B_{surface} =$

			3,5m; Roadside width: $B_{margin} = 2 \times 1,25 = 2,5m$; $B_{hard\ strip} = 2 \times 0,75 = 1,5m$. Asphalt concrete pavement A1, $E_{yc} = 100MPa$. 20 years projected economic life of the subproject
5: Proposed design standard derived from (i) plan, (ii) traffic forecast, (iii) traffic forecast plus network efficiency (iv) what is the current road standard on each end point or network connection now and planned	✓		The proposed designed standard is derived from the provincial transport master plan for towns. The current road standard on each end point is asphalt concrete road and the network connection now and planned is mountainous road standards Category IV towards 2030.
6: is the date of traffic forecast or base traffic forecast after 2015	✓		Requires traffic count data to justify the proposed mountainous road design category. Traffic count carried out in 2017
7: Is traffic forecast consistent with Road Categorization – if yes – at project start, at the economic life of the subproject	✓		To be provided
8: Is there a preliminary design document with supporting engineering field surveys and drawings – if yes what is the date of these, what design standard is used.	✓		There is a preliminary design document prepared by the local consultant in 2017, but it is a draft with supporting engineering field surveys and drawings. The road is proposed to be developed to the mountainous road standards category VI (TCVN 4054-2005) with the main design standards are as follows: Design speed: $V_{tk} = 20Km/h$; Minimum horizontal curve radius: $R_{min} = 15m$; Maximum vertical slope: $i_{max} = 11\%$; Roadbed width: $B_{roadbed} = 6,0m$; Road surface width: $B_{surface} = 3,5m$; Roadside width: $B_{margin} = 2 \times 1,25 = 2,5m$; $B_{hard\ strip} = 2 \times 0,75 = 1,5m$. Asphalt concrete pavement A1, $E_{yc} = 100MPa$.
9: Is the Preliminary design already approved by DoT		x	Not yet
10: Is the preliminary design already approved by PPC		x	Not yet
11: Is there a bill of quantities with the preliminary design	✓		To be provided
12: Is there a cost estimate – if yes is there a supporting bill of quantity and what is the date for the costing	✓		To be provided
13: Are there significant structures required – if yes please identify	✓		To be provided
14: Are there significant cut and fill requirements – if yes please provide an estimate of the extent	✓		Not yet
15: is the current Right of Way sufficient for the proposed or required road design	✓		Based on the PPTA's site visit and measures of the road base, the current Right of Way is sufficient for the proposed or required road design

I. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition			Extent – minor, substantial
A.1 Land Acquisition	Agriculture Land	✓		Substantial
	Urban Public Land	✓		Extent

	Urban Private Land	✓		Extent
A.2 Structures	Private houses	✓		Extent
	Private other	✓		Extent
	Public Structures	✓		extent
A.3	Other Assets	✓		minor
A.4	Resettlement – if yes number of households identified	✓		Based on the PPTA's site visit findings and interview with the local officials and local people, the subproject will not reallocate / resettle any households.
A.5	Is there a Land Acquisition and compensation budget – if yes how much	✓		To be provided
B: Environmental Screening				
B.1 Forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land	✓		The road subproject involves substantial production forest land acquisition.
	Protection forest land		x	The road subproject involves no protection forest land acquisition.
	Protected areas		x	The road subproject involves no protected areas.
B.2 Water, rivers lakes and flood plain	Are there any areas affected by the existing or proposed alignments? If yes how significant are they		x	No
B.3 Does the proposal include any IEE screening			x	The proposed road subproject doesn't include any IEE screening
B.4 Did the field visit identify issues from EARF that need to be addressed		✓		The field visit identified an issue from EARF that need to be addressed: Production forest area.
B.5 New Alignments	Risk of land slips		x	N/A
	Risk of Large cuts		x	No
	Water course disruption		x	N/A
	Flood Plain Disruption		x	As presented above

J. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
Are communes identified and named	Yes	If yes please list communes hamlets Khe Van, Kreng, Ploang, and Coc. Mostly Pako and Van Kieu ethnic minorities in Huong Hiep commune (Dakrong district), and Huong Linh commune (Huong Hoa district)
Is the population data available	Not yet	Not Provided
Is the number of Poor households available	Not yet	Not Provided
Is the number of near poor households available	Not yet	Not Provided

Are Ethnic minorities identified and specified	Not yet	Not Provided
Is land use specified	Not yet	Not Provided
Are the number of female headed households specified	Not yet	Not Provided
Is the GAP adequately reflected	Not yet	Not Provided

K. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
Is there an economic assessment – if yes what is EIRR	✓		Not Provided
Is there a detailed worksheet for the EIRR	✓		Not Provided
Is it linked to the traffic forecast	✓		Not Provided

L. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	✓		The subproject is considered eligible by being part of the SEDP and Transport Master plan as well as FNCP Master Plan.
Is there a clear design standard that is justified	✓		Requires traffic count data to justify the proposed road design categories. The road is proposed to be developed to the mountainous road standards category VI (TCVN 4054-2005) with the main design standards are as follows: Design speed: $V_{tk} = 20\text{Km/h}$; Minimum horizontal curve radius: $R_{min} = 15\text{m}$; Maximum vertical slope: $i_{max} = 11\%$; Roadbed width: $B_{roadbed} = 6,0\text{m}$; Road surface width: $B_{surface} = 3,5\text{m}$; Roadside width: $B_{margin} = 2 \times 1,25 = 2,5\text{m}$; $B_{hard\ strip} = 2 \times 0,75 = 1,5\text{m}$. Asphalt concrete pavement A1, $E_{yc} = 100\text{MPa}$.
Are there outstanding approvals required	✓		Requires clarification and confirmation: Requires the total length of the proposed road sections including all the new alignment sections. The alignment and the scale of the detailed planning must be approved as the basis for the design and implementation of the project. Requires the consistency of the proposed road category IV in the FS while the road category VI in the approved IP. PPTA recommendation is that the end point of the proposed road be extended (300m) to connect the T-junction of the central road in Hồng Cóc resettlement area. the subproject involves some impacts on land acquisition of production forest areas, garden lands, residential land, and the rest is public land.
Is there a preliminary design	✓		There is already a preliminary design
Is there a Feasibility study	✓		There is a Feasibility study
Is the Subproject category A for resettlement and affected persons		X	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for substantial Resettlement. However, to confirm cat B or C for resettlement, it requires a full IOL and REMDP in the FS.
Is the Subproject category A for environment		??	As per the PPTA consultant's field visit to the subproject sites, the Subproject is classified under category B or C for environment. Production forest issues

Does the Subproject have clear economic inclusiveness outcomes	✓		As per the PPTA consultant's subproject field visit assessment, the Subproject has clear economic inclusiveness outcomes
Does the subproject have clear network connectivity benefits	✓		<p>As per the PPTA consultant's subproject field visit assessment, the Subproject has clear network connectivity benefits.</p> <p>Khe Van Road, (Huong Hiep commune, Dakrong district to Huong Linh commune, Huong Hoa district, Quang Tri province) is located in the area with incomplete connectivity. The road will help to connect to Huong Hiep commune, Dakrong district via NH9, then connect to the Western branch of HCM Trail to Dong Ha city. Upgrading this road will provide connectivity between hamlets Khe Van, Kreng, Ploang, and Coc. Mostly Pako and Van Kieu ethnic minorities in Huong Hiep commune (Dakrong district), and Huong Linh commune (Huong Hoa district),</p> <p>The economy of Dakrong and Huong Hoa districts is predominated by agriculture (rice, corn, cassava and vegetables) and forestry (acacia, casuarinas, and eucalyptus) and agriculture livestock breeding. There is potential for forestry development and expanding production of industrial and agricultural crops and livestock</p> <p>The development of eco-tourism and resorts development is planned.</p>
Is the project expected to achieve a 9% EIRR	✓		To be provided

M. Road Map



N. Road Chainage Photos





Km1+00



Km1+900



Km2+750



Km4+00



Km5+00



Km6+00



Km6+700



Km8+00



Km9+00



Km11+300



Huong Linh 2 wind power plant project



Wind power Turbines



Wind power plant at Km11+500



Km11+800



Km12+00



End point at Km12+00

XXXVI. OUTPUT 2: SUBPROJECT 1: DRAINAGE SYSTEMS FOR TRIEU PHONG AND HAI LANG DISTRICTS

A. Description

371. The subproject is located in Trieu Phong and Hai Lang Districts within the Trieu Phong District communes are Thuan, Trach, Trung and Tai Ba; Hai Lang District communes are Que, Vinh, Duong and Thanh.

372. The subproject proposes to invest in drainage system improvements to alleviate short term rain induced flooding for winter-spring and summer crops in two areas – Trieu Phong District (2 subsystems, drains T10-B (140 ha) and the North Main Drain with drains T2-B and T3-B (933 ha)); and Hai Lang District (2 subsystems, drains for Co Ha (up to 500 ha) and the main Cuu Vinh Dinh/Tan Vinh Dinh parallel drains, which are main evacuation drains for an overall area of 3,641 ha (which includes Co Ha system).

373. The improvement work is generally in the form of reshaping the drains (wider with improved side bank formations to contain the projected 1 in 10 year drainage runoff for the collective catchment area into the drains. Dimensions (bed width, depth) increase from top of alignment to outfall, depending on length, catchment and discharge.

374. All drains are indicated to follow the existing alignments, with some land acquisition and compensation payable due to local propensity to use all available land right up to the water's edge. In the case of the Vinh Dinh drains, these are bounded by new embankments (2005 – ADB NDRMP Emergency Repairs and 2006-2009 – WB4TL) of varying distance from the water's edge.

375. In many sections, land is cropped between these concrete encased dikes/roads and the existing, unimproved drainage channel. In nearly all cases, drainage flows in the existing drains are partly impeded by bank overgrowth (bamboo, cassava, other bushes, duck farms, fishing nets, debris entrapped at bridges and other structures) and closer to the major outfalls, with sediment deposition. Overall, the drains proposed for upgrading are largely devoid of substantive maintenance. The only areas where apparent maintenance has been implemented in recent time is the open paddy cropped areas, where there are intermittent signs of excavated new spoil on the banks (hand placed) each side of the drain.

376. The proposed works also include the construction of 14 No. bridges (4 x HL93, 8 by H5 and 2 x H13), 36 No. culverts (D60 (15) and D100 (31)), 4 No. sluice gated culverts, each with two gates, and repairs to 10 No. canal aqueducts.

B. Project Details

377. Project area: that is:

- (i) Total project area – irrigated and drained command area or drainage area – overall 4,713 ha, divided between Trieu Phong, Co Ha and Vinh Dinh drainage systems (detail breakdown requested).
- (ii) Area flooded each year – indicated areas susceptible to significant annual flooding are 300 ha of intermittent seasonal flooding, with 16 ha unusable in winter crop and 51 ha unusable for summer crop (detail breakdown requested).
- (iii) Duration of flooding – except where land is unusable, period of flooding can be from 2 to 15 days, depending on magnitude of the event. No specific details given for the particular impacts of a 1 in 10 year event (detail breakdown requested).
- (iv) Timing of flooding – the flood risk areas are affected variously by winter-spring (January to March); summer (July to September) and wet season (October to December) rainfall

events. The drainage systems outfall into large meandering rivers flowing to the coast, which are influenced by the tides. Sluice gates are operated to prevent salinity intrusion, and thus mitigate severe tidal impacts, but flows coming down river will backup behind the closed gates and thus water levels rise and impede the outflow in the short term, with reference to tidal cycles, thus extending the drainage period for large rainfall events. The winter-spring and summer crop rains incur limited area flooding of relatively short duration. The October-December floods are more substantial, and no cropping is done through these months.

- (v) Maximum flood events – ha – (detail breakdown requested).
- (vi) Frequency of floods – annually; drain design capacity is for a 1 in 10 year event

378. Land use in project area

- (i) Irrigation Command area – predominantly paddy rice; some summer vegetables. Other crops (e.g. Cassava) grown on non-paddy areas (i.e. drain banks)
- (ii) Area of crop irrigated winter-spring season – 16,36ha rice.
- (iii) Area of crop irrigated summer season – 51,32 ha rice.
- (iv) Area of irrigated crop wet season – no crops are grown due to annual extensive flooding for the region.
- (v) Increase in area of crop land from drainage improvement of flood evacuation – stated in FS to be 300 ha protected against flood and additional area that can be cropped of 16.4 ha in the winter-spring crop, and 51.2 ha in the summer crop.
- (vi) Major crops irrigated or produced – rice, vegetables, water lilies and cassava

379. Structures affected by flooding – existing structures are not adversely affected by minor flooding (bridges, culverts, gated outlets, pumping stations) but many are old and do not meet current design standards. It is proposed that several culverts, bridges and pumping stations be rehabilitated and/or replaced.

C. Investment

- (i) Proposed investment: \$ 6.40 million for construction, \$8.28 million total
- (ii) Proposed investment \$ 1,755 / ha of project area – insufficient detailed breakdown by area and particular drainage system are available to derive a meaningful value at this time.
- (iii) Investment \$ 272 / m of improved drain.

D. Rationale

- (i) Is there a clear statement of what is being protected, that is quantified – at this stage no clear outline (other than as presented above) is available. Discussions were undertaken with DPI and consultants, and it was agreed more detail would have to be provided on the purpose and scope of the project.
- (ii) As a result of the discussions, wherein it was agreed the quantum of proposed dredging would be ineligible, to be eligible this project will need to be reformulated.
- (iii) How many people will be protected – 40,053 (no breakdown of location and involvement in the project presented).
- (iv) Do we understand the likely risk of flooding and increased output both for:
 - a. without the project – current levels of damage and loss – physical and financial – have still to be provided for each relevant sub-system area, and aggregated to an overall project area.
 - b. with project scenario – ditto
- (v) Social Benefits – who will benefit most, how will poor or marginalized benefit, benefit to ethnic minorities, female headed households, young, elderly and females. No detailed breakdown has been provided.

E. Eligibility

Criteria	Status		Explanatory comments
	Yes	No	
1: Include in SEDP – if yes state page and section number	Yes		- Decision No. 321 / QĐ-TTg dated 02/03/2011 of the Prime Minister approving the master plan for socio-economic development of Quang Tri until 2020.
2: Included in Sector Plan – if yes state page and section	Yes		<ul style="list-style-type: none"> - Decision No. 2211 / QĐ-UBND dated 15/10/2014 of the People's Committee of Quang Tri Province, approving the development plan for Quang Tri agriculture till 2020; - Decision No. 1817 / QĐ-UBND dated 09/10/2013 of the People's Committee of Quang Tri Province approving the action plan for the implementation of the project of restructuring the agricultural sector towards enhancing added value and sustainable development. - Document No. 516 / HĐND-KTNS dated 27/12/2016 of Standing People's Council on changing the list of Basic Infrastructure for Inclusive Growth Project under the MOU with ADB; - Decision No. 613 / QĐ-TTg dated 08/5/2017 of the Prime Minister approving "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB);
3: Proposed design concept document available for screening team – if yes state date of proposal	Yes		Summary in English, but poorly presented. Vietnamese version may have more detail, but does not adequately address the question of problem, what is required, how this fits within an integrated water management plan, and what if any options have been considered. Needs to be revised and a more holistic approach taken.
4: Proposed design standard identified – if yes what standard, what is the projected economic life of the subproject	Yes		<ul style="list-style-type: none"> - According to Vietnam Construction Standards QCVN 04-05: 2012. Grade III works (Natural area of flood alleviation: 4,713.72ha > 2,000ha). Frequency design of flood alleviation p = 10%. - The road sections are proposed to be developed to the mountainous road standards category VI (TCVN 4054-2005) with the main design standards are as follows: Design speed: V_{tk} = 30Km/h. The frequency of road, culvert, small bridge design is 4%, medium bridge 1%; bridge load design HL93, culvert H30-XB80.
5: Proposed design standard proposed – how does it incorporate the effect of climate change.	Yes		No clear reference to CC given, and therefore unlikely to have been considered or included.
6: Is a concept or preliminary engineering design available	Yes		The focus is on standard engineering solutions to increase flow carrying capacity – reshaping drains with added width and flow containment banks.
7: Is the preliminary design already approved by commune, district or PPC		No	

8: Is there a bill of quantities with the preliminary design		No	Summary only
9: Is there a cost estimate – if yes is there a supporting bill of quantity and what is <u>the date for the costing</u>	Yes		Summary cost estimate table in FS, with overall major line items and totals.
10: Are there significant structures required – if yes please identify	Yes		A summary list of key structures to be rehabilitated or renewed, with 4 new Road Bridges, 50 Culverts (4 No. gated), and some small pump stations that would have to be moved/rearranged if source drains are widened.
11: What land is required (ha) and who owns land	Yes		Land occupied alongside the drains and farmed quite intensively. A total of 76.5 ha to be acquired permanently, and 96.8 ha acquired temporarily during construction.
12: is there approval to build the structure on proposed alignments	Yes		No new alignments are proposed under the current configuration, though some design revisions, if adopted, would necessitate some land acquisition along short sections of new alignment.

F. Safeguard compliance

Safeguard	Screening issue	Yes	No	Explanation and assessed risks
A: Resettlement	Land Acquisition required if yes go to a.1	Yes		Extent
A.1 Land Acquisition	Agriculture Land	Yes		76.5 ha of land adjacent to existing drainage lines
	Urban Public Land		No	
	Urban Private Land		No	
A.2 Structures	Private houses		No	Stated as no, though a few cases of houses in close proximity to drains might necessitate some partial acquisition – Minor
	Private other		No	Minor
	Public Structures		No	Minor
A.3	Other Assets			
A.4	Resettlement – if yes number of households identified		No	
A.5	Is there a Land Acquisition and compensation budget – if yes how much	Yes		3.9 billion VND = US\$ 87,165
A.6	IS other land effected from the discharge of water		No	
A.6	Is this category B, C or uncertain		C	
B: Environmental Screening				

B.1 water source and network effect on forests - are there any of the following along the alignment of within close proximity – if yes is the risk significant	Production forest land		No	
	Protection forest land		No	
	Protected areas		No	Drains are in proximity to some cemeteries.
B.2 Water, rivers lakes and flood plain	Is water evacuated into receiving bodies	Yes		Into existing waterways upstream of salinity intrusion sluice gates.
	Are their risks of water contamination from discharges	Yes		Possibly from agricultural herbicides and pesticides, fertilizers and human waste/drainage from communes
	Is water use increased		No	Irrigation area is unchanged
	Downstream impact of water discharge including increased amplitude of flood events due to faster flood evacuations		No	In the main, drainage discharge flows are small as compared to the receiving waterway, and both will be in flood at same time – so fluctuating receiving body water levels will adversely impact drainage system discharge.
B.3 Does the proposal include any IEE screening		Yes		Preliminary Assessment of Environmental Impact of Ecology and Environment Society was presented in a tabular format that was descriptive but lacking in particular detail.
B.4 Did the field visit identify issues from EARF that need to be addressed		Yes		The proposal is to implement some significant dredging to increase the capacity of waterways. It is likely the sludge in the drain section could be contaminated. No clear plan was outlined to check this and determine any details for safe disposal.
B.5 Water source catchment protection issues	Is the catchment of the water source at risk from climate change	Yes		Changing rainfall patterns and more extreme temperatures.
	Risk from contamination from human settlement or livestock	Yes		In terms of land wash-off and local commune drainage into the drains.
	Risk of deforestation / loss of vegetation	Yes		
B.6 What is the ADB environmental category	based on provided data, B, C, or uncertain		A	As it is proposed that up to 820,000 m ³ of dredged spoil may have to be disposed, then this automatically qualifies as category A.

G. Social Considerations

Criteria	Yes /No	Explanation and Assessed risk
----------	---------	-------------------------------

Are communes identified and named	Yes	Thuan, Trach, Trung, Tai and Ba in Trieu Phong District; Que, Vinh Duong and Thanh in Hai Lang District
Is the population data available for each commune, township	No	Not available
Is the number of Poor households available	No	Not available
Is the number of near poor households available	No	Not available
Are Ethnic minorities identified and specified	No	
Is land use specified	Yes	Agricultural – for rice and other crops, depending on season.
Are the number of female headed households specified	No	Not available
Is the GAP adequately reflected	No	
Who in communes benefits most - home owners or poor?	Poor	Benefits those irrigator families whose land is prone to flooding, who likely will be poorer than many of the other non-flood affected farmer families.

H. Economic Assessment

Criteria	Yes	No	Explanation and Assessed Risk
What is the cost per meter of drain			A breakdown has been requested as the scale and function of the different drainage works varies.
Is the asset owner identified	Yes		Department of Planning and Investment in Quang Tri Province (for The Project) but facilities operated by DARD (and or a management company / communes)
Is the Cost of Maintenance identified		No	Was discussed and more information to be provided – no formal budget and some local work done by communes.
Are scheme benefits clearly identified by category of benefit		No	Not provided
Is each benefit quantified		No	Not provided
Is there an economic assessment – if yes what is EIRR	Yes		13.15% - but this is poorly prepared and based on the information provided, the real EIRR is close to 1%
Is there a detailed worksheet for the EIRR	Yes		But it is not adequately prepared with questionable analysis.

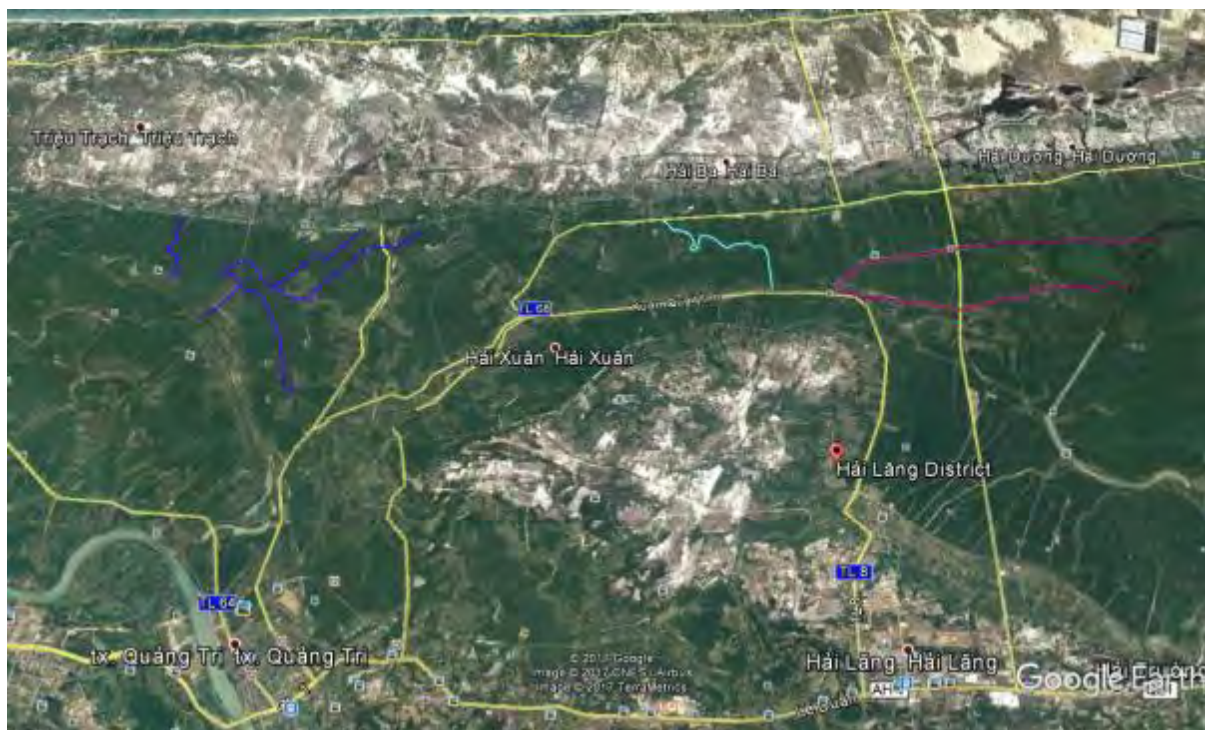
I. Summary

Recommendation	Yes	No	Explanation or outstanding gaps
Is the subproject eligible by being part of Provincial plans	Yes		<ul style="list-style-type: none"> - Document No. 516 / HĐND-KTNS dated 27/12/2016 of Standing People's Council on changing the list of Basic Infrastructure for Inclusive Growth Project under the MOU with ADB; - Decision No. 613 / QĐ-TTg dated 08/5/2017 of the Prime Minister approving "Basic Infrastructure for Inclusive Growth Project in Nghe An, Ha Tinh, Quang Binh, and Quang Tri Provinces "(Project) funded by the Asian Development Bank (ADB);

Is there a clear design standard that is justified	Yes		But overall solutions assume an unchanged layout
Are there outstanding approvals required	Yes		To be confirmed.
Is there a preliminary design is it sufficient to understand the proposal	Yes		Yes, but it is not well prepared or clear on the details area by area.
Is there a Feasibility study	Yes		Rushed and inadequate to meet ADB requirements
Is sufficient data on the need and purpose of the investment		No	Many of the reasons indicated for doing the project are poorly explained and quantified, leading to a misguided overall assessment and EIRR.
Is there sufficient data on risks and water levels - past and future water levels and flooding		No	Quite limited in the presented documents
Is there a risk that the Subproject will be category A for resettlement and affected persons		No	There is minimal likely impact on occupied land, though details and locations need more complete assessment and documentation.
Is there a risk that the Subproject will be category A for environment	Yes		Designs and quantities indicate a high quantity of dredging with no clear assessment and/or disposal plan.
Does the Subproject have clear economic inclusiveness outcomes	Yes		Having reviewed the FS and rationale and expected socio-economic outcome and SEDP for these 2 districts subproject, the Subproject has clear economic inclusiveness outcomes.
Does the subproject contribute to a system or extended protection network	Yes		The project has sub-components that are linked with a much larger overall flood protection and drainage scheme/network.
Is the project expected to achieve a 9% EIRR		No	Though stated as being 13.15% EIRR, the data presented and checked suggest an EIRR of about 1%.
Who will manage the assets identified	Yes		I&D works fall under the management of DARD and the associated District units.
Is the scheme an expansion of an existing municipal and or rural town supply – if yes, are they required to on lend from the PPC?		No	

J. Images of proposed site

380. Google maps image of the proposed works – dredging and widening for increased drain capacity (purple), Co Ha drain rehabilitation (light blue) and Trieu Phong main and tributary drain rehabilitation (blue) for improved hydraulic flow



K. Other issues

381. The scope of work as defined is to increase drain discharge capacity to more rapidly alleviate floods in limited flood prone areas within the project area – irrigated rice land with some limited other crops – cassava, vegetables (summer) and flowers (water lilies combined with fish).

382. There are three distinct areas for improvement, with four separate sub-systems. The northwest areas in Trieu Phong district are not impacted by works on the systems in Hai Lang district.

383. In Hai Lang, the two main Dinh Vinh drains (combined 16.2 Km, both embanked under ADB (15.5 km) and WB4 loans (49.5 km) post major cyclones/floods) have restricted capacity, in the upper reaches due to bank overgrowth, trapped debris and general farming activities that partly impede free discharge. In the lower reaches, especially at the outfalls into the main river to the southeast, sediment deposition, partly caused by the main river flows, obstructs and reduces outfall capacity. The requirement is to increase the discharge capacity to expedite the removal of flood waters. Dependent to some degree on the effectiveness of the Dinh Vinh drains, the Ca Ho drainage sub-scheme (3.6 km) experiences prolonged localized flooding (300 ha of the irrigated area for a 1 in 10 year rainfall event). The major outfall drain from this area is proposed for rehabilitation, increasing width and flow capacity.

384. In Trieu Phong, similar work to that proposed for Ca Ho is proposed for four drains – Main North Drain, T2-B, T3-B and separately, T10-B (overall about 12.5 Km). The need is to mitigate the duration of short term flooding of about 50 ha at planting time of the winter long season crop in January to March, and at growth/ripening stage in July to September of the summer short season crop.

385. No crops are planted in the October to December period as the land is fully inundated during the peak of the annual wet season.

386. The proposed works – widening earth drains and rehabilitating some associated structures (bridges and culverts) is not technically difficult and designs have been prepared. However, information on

the flow capacity and behavior of the planned upgraded drains is less clear, especially where outfalls are controlled by the receiving river levels. These are prone to fluctuation due to tidal influence and operation of sluice gates to mitigate against any salinity intrusion. The impacts of climate change have not been fully considered, but there is a risk that the effective cyclical period for effective drainage could be reduced in future years.

387. In all cases, the observed drains have sections where little significant maintenance has been undertaken in recent years. Conversely, there are other sections, notably through the 'open' irrigated rice areas, where some minimalist maintenance has been implemented to facilitate improved flow. Farmers are using the excavated material placed on the adjacent low level banks as high ground for cassava and vegetable production. All land right up to the drain edge is generally in use either for cropping, or contains stands of bamboo or other timber type growth, or is used for water access and duck ponds. Widening drains will have a disruptive impact requiring due allowance for compensation payments. In Trieu Phong, it was stated the government had up to 5% of the district land available to fulfill this compensation, but there would be some disruptive relocation and perhaps a disparity in the productive capacity of the replacement land.

388. In general, there could be a reasonable drain carrying capacity increase if more uniform and scheduled maintenance was undertaken on the drains in question. This would help alleviate some of the more regular low level flood impacts, but would be less effective in the case of major flood events, other than to potentially reduce the overall duration and average depth of the flooding that occurs. Realistically, any upgrading works will not prevent the localized flood events, but will reduce the overall impact in terms of duration and depth, giving farmers some increased surety that they can plant and complete their crops through to harvest.

389. It was observed in Trieu Phong and Ca Ho that some possibilities do exist to rationalize the proposed works. This would involve cutting out some loops in the drain network, and shortening the overall drainage path for some areas. In the process, this may negate any need to enlarge drains in the loop sections, as the overall conveyance capacity for those sections would be reduced. Whilst providing a better hydraulic solution (shorter drain, steeper effective gradient), the gains may be small in this very flat terrain, and such works and cost savings may be offset by an increase in land acquisition costs for new short linking sections of drain. Quang Tri DPI's consultants have now been requested to investigate such options.

390. There is no foreshortening option available for the Dinh Vinh drains (total 16.3 km). The major works component envisaged for these drains is however dredging of deposited sediments. The provided documentation indicated this would involve removal of up to 820,000 m³. The documentation indicated deposition of this material at two sites, but they were not specifically identified or marked on plans. The area required for spoil deposition is estimated at about 55 ha, meaning a landfill uniformly 1.5 m deep. The quality and environmental aspects of both dredging and spoil disposal was discussed, but is not covered in the documents. However, under ADB SPS, this would constitute Category A for environment, and thus ineligible. Quang Tri DPI are now asking their consultants to reconsider the planned scope of works with a view to minimizing if not fully eliminating any dredging requirement. Unfortunately, the constructed embankments on either side of these drains are hard faced (rock armoring and concrete roads) so no further placement of spoil on embankments is possible.

391. The areas to benefit from the drain improvements are not large – 300 ha to be provided with lower flood risk for the two seasonal rice crops, 76 ha of increased and/or recovered land to be cropped. The break down for these areas in terms of winter and summer season flood risk and damage has still to be provided. However, these areas provide insufficient gross benefit to fully justify the scale of the proposed investment. DPI have been requested to provide a breakdown of these potential benefits against the individual investments required for each drain sub-system, and/or part thereof. The view is that smaller scale works in the Trieu Phong area may be better suited to the overall benefits that may accrue from reduced frequent flooding of an identified 50 ha – 10 ha for drain T10-B, and 40 ha for the North Main Drain with T2-B and T3-B drains.

L. Conclusions

392. Though the specific works outlined are technically feasible, as currently configured and costed, **the probable environmental categorization is Category A** because of planned dredging in the Dinh Vinh drains. As presented, the subproject is considered ineligible for BIIG2 investment from ADB.

393. From a review of the expected impact of the proposed works, the subproject as presented is also **unlikely to be feasible with considerable risk of technical design inadequacy**. Further, the **economic feasibility is highly unlikely**. These conclusions are briefly elaborated below.

394. The only apparent benefit for the proposed dredging is an estimated decrease in drain water levels (for the same discharge) of up to 0.4 m. The outfall level is controlled by the receiving river levels, controlled by downstream sluice gates to minimize risk of saline intrusion. Thus, the outfall water levels are unlikely to change in any beneficial way. If the drains are enlarged, and the flow velocity can be lower, then the same discharge capacity can only be maintained if the channel flow cross-section can be increased. The drawback is that lower flow velocity could lead to increased sedimentation rates, leading to much more regular requirements for maintenance to retain overall discharge capacity year on year. If actual discharge capacity is not substantially increased, then alleviation of flood risk will be difficult, as the ability for flood water to drain away will remain restricted by the hydraulic performance characteristics of the drain.

395. The aim of the project is to better alleviate flood risk (shorter duration, less depth) over cropped land and urban (village) areas. To do this, evacuation of flood risk (expected to increase with climate change) has to be faster flow from the affected areas. As currently planned, there is limited benefit in refreshing and enlarging drains to operate at the same hydraulic gradient. More consideration needs to be given to shortening drainage lines, thereby securing improved hydraulic gradient to accelerate flow and drain areas more quickly.

396. Another major concern that makes this project weak economically (a revised simple EIRR suggests an EIRR closer to 1%) is that the improved area (with flood reduction) from the proposed works is stated to be very small. About 300 ha (within a total area of 4,700 ha) will be protected, whilst another 51 ha of abandoned land will be brought back under command.

397. Whilst the Feasibility Study claims potential for improved irrigated production, there are no details for any works on the irrigation system or its management, and no clear provisions to improve overall water supply. The only potential gains in crop production efficiency will arise as a result of mitigating adverse flood impacts on the stated 300 ha of 'at risk of flooding' land and in re-cultivating a further 51 ha in the summer crop and 16 ha of winter crop.

398. DPI understands this assessment and has undertaken to review and reformulate the project through a process of more detailed problem assessment, alternative solutions identification and quantification, and the reformulation of a project scope that better and more cost effectively addresses the problem(s). The DPI view shared by the PPTA consultants is for the focus to be on "improving producers efficiency in either their existing crops or through the diversification into higher value crops" rather than simply supply pushed engineering.

399. The proposed subproject districts have had considerable ODA investment into infrastructure and there is a need to ensure the economic benefit of these investments is incentivized through producers having the choice and capacity to increase the value of total output.

M. Recommendation

400. As currently configured and detailed, with extensive dredging, this project is ineligible.

401. The Screening results when discussed with DPI management were received with complete agreement that the subproject would as proposed be ineligible. The DPI director has requested a reformulation of the project and has instructed the staff and local consultants in this regard. Further, the PPC was notified of the situation as a result the PPC instructed DPI to take direct responsibility for the reformulation of the subproject.

402. Following discussions with DPI, further detailed consideration of this project will be undertaken and a revised submission, with adjusted scope to address the problems and provide potential options will be prepared as a matter of urgency.

403. **Recommendation #1:** The proposed project has outlined a large quantity (820,000 m³) for dredging in the Vinh Dinh drains, **which may be category A** for environment under ADB's safeguards policy. There is no firm plan for this work, in particular the safe and effective disposal of the spoil if it were excavated. For eligibility, it is suggested that the need for dredging should be minimized if not eliminated.

404. DPI were surprised at the volume, and have undertaken to review this and present a revised proposal for consideration. Inspection of Google maps for the particular drains in question does not visually depict the likely extent of required dredging, the volumes for which are derived primarily from the intention to widen more so than deepen the operational drainage channel to increase flow capacity.

405. The subproject is considered ineligible as presented to the PPTA. Until the planned dredging aspect is clarified, further evaluation for this component of the project (Hai Lang District) is put on hold.

406. For the Ca Ho subsystem, upstream of the Vinh Dinh channels, the requirements need to be reviewed and clarified in respect to the actual drainage catchment area and estimated flows. A cursory check suggests the broad catchment area with agricultural land, residential areas and sand dunes is approximately 500 ha.

407. The size of all required infrastructure in Ca Ho should relate to the effective drainage area.

408. **Recommendation #2:** For Trieu Phong, the existing drains are in need of maintenance to restore capacity and ensure effective flow and discharge at outfalls into the rivers (controlled sections with downstream sluice gates to mitigate ingress of salt water). It was observed by inspection of the plans that in some instances, there was opportunity to substantially shorten the drain flow paths, and thereby effectively increase hydraulic gradient and flow capacity. The drawback would be some additional land acquisition, but this could be offset against by minimizing the need to widen some of the existing drain cross-sections.

409. Analysis is needed to verify options, and to identify the most practical and cost effective approach for improving drainage evacuation capacity from the worst affected areas (indicated as being 50 ha – 10 ha on T10-B and 40 ha on T3-B drains).

410. DPI needs to more clearly identify which flood prone areas can be drained most effectively for the minimum amount of work and cost, and prioritize actions accordingly.

411. **Recommendation #3 :** the presented hydraulic analysis for all the drains suggests there will be little change in hydraulic capacity despite all the proposed work, and only for the large Vinh Dinh drains is the operating water level expected to fall significantly.

412. Given that the outfall river levels will influence drain top water levels for a given discharge, this appears to be an unusual design outcome. It is suggested that DPI and their consultants to review and as necessary amend the hydraulic and drain designs, to ensure logical outcomes and consistency. It is possible the identified need for dredging could be reduced.

Figure 1: Subproject location Map

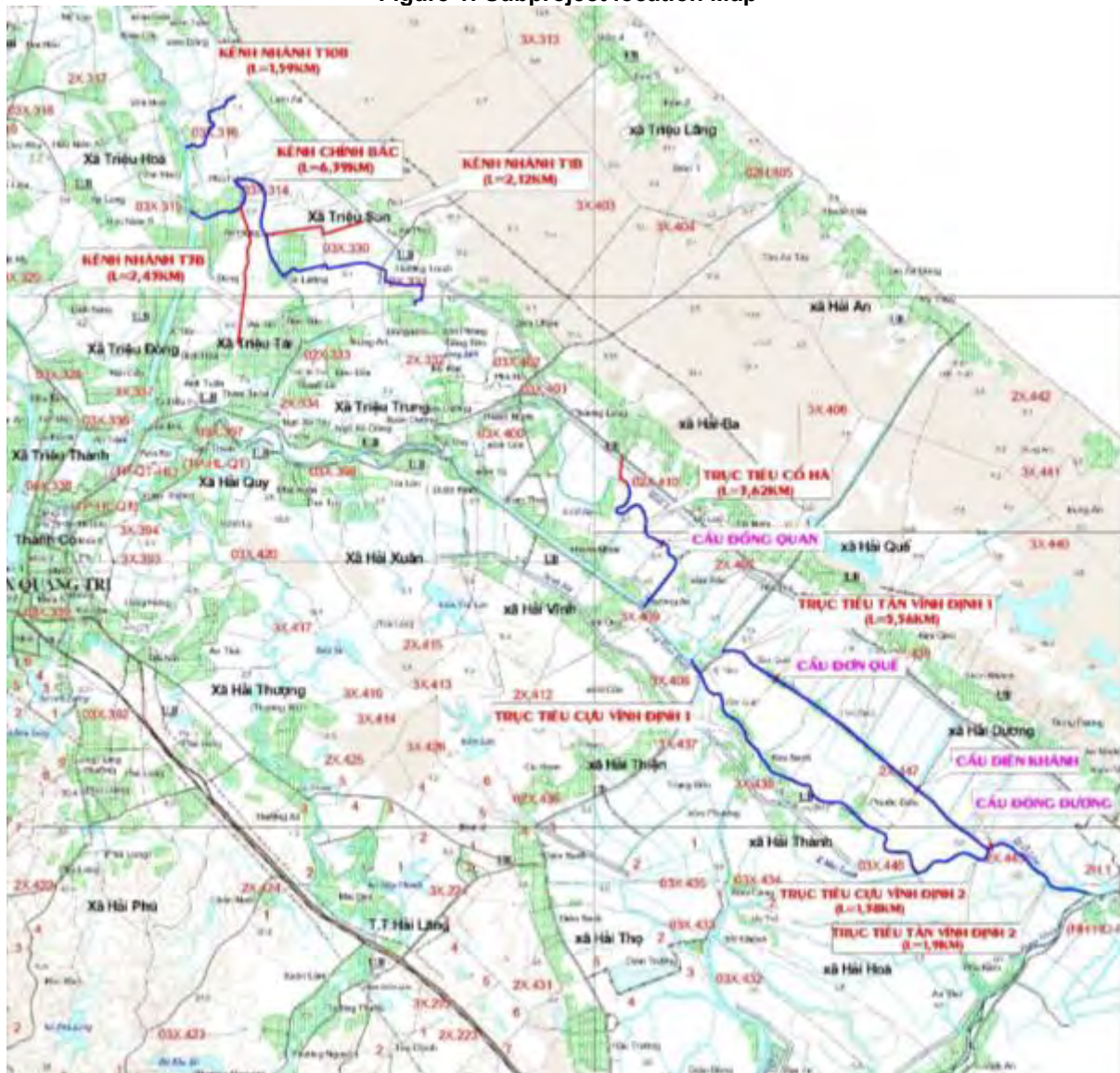


Figure 2: Dong Quan bridge



Figure 3: Don Que bridge



Figure 4: Dien Khanh bridge

