SOCIAL AND ENVIRONMENTAL SAFEGUARDS

a. Social Safeguards Aspects

i. Sub Project Beneficiaries

The target beneficiaries of the proposed farm-to-market road are the populace of Barangay Langogan. In 2014, the estimated population is 2,111 (Male-1,165, Female-946) consist of 528 households. Farming is the major source of livelihood of the people in the area. There are three major crops planted, cashew, coconut and banana. During the cashew season, (February to June) farmers clean the surrounding areas of their trees so that it will produce more fruits. The nuts are harvested and dried under the sun. There are also farmers who process their nuts into roasted and fried cashew nuts to command a higher price for sale in Puerto Princesa and Roxas. Coconut and bananas are producing year round which contributes as other source of livelihood.

The public consultation was disseminated through posting of Notice of Meeting at the Purok Center in SitioMakandring. The Punong Barangay asked the assistance of the City ENRO to facilitate the said activity. The first Public Consultation was held on June 4, 2014 and it was attended by 77 people (please refer to Annex 9). The major issues that surfaced in the meeting are as follows:

- ✓ What are the possible assistance that the heirs of owner of the lot, which was traversed by the road, could avail from the City Government like the payment of land tax?

  The Acting City ENRO stressed that their Office will coordinate with the City Engineering Department to segregate the portion of their land, which was traversed by the road; and to the City Assessor's Office for the possibility of giving tax incentives.

- ✓ How many meters will be added to the existing width of the road? This was the concern of those who are occupying the right of way with the pre-condition that they will vacate the area once the project will use it.

  Punong Barangay Bebit stressed that the additional width was not yet determined because the team was still preparing their survey analysis and design. You will be informed once the team finished their works.

Another consultation with the Indigenous Communities was held last June 10, 2014 (please see Annex 1) which was also held in Purok Center in SitioMakandring. The following are the major issues that were raised in the meeting:

a. If the project can also include the road to Manggapin. If yes, when will it start?

PB Bebit said that, they will try to solve the problem one at a time and encourage the group to solve first the requirements for the concreting of the road from BukangLiwayway to MaKandring then Manggapin road will be resolved later. He also shared to the group their experience on the construction of school building.

b. What will happen if some land owners will not allow the road going to Manggapin to pass through their land?

Mr. Badenas, the former Punong Barangay, responded that if some land owners will not allow the road in their area, the team will discuss it with the concerned individuals to resolve the issue. He also shared the result of the public consultation conducted last June 4, 2014 where, the group agreed to resolve the issue by deducting taxes paid for the land that will be affected.

The barangay is classified as an agricultural area wherein cashew, coconut, cacao, coffee are its major crops produced. Majority of its residents derive income from agricultural products. An estimated volume of about 1,280 metric tons of crops are produced from the area.

ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)

The proposed road project is located outside of and will not traverse an ancestral domain but will benefit a total population of 190 Indigenous Peoples (79 Bataks and 111 Tagbanuas) present in the area. During the public consultation held last June 10, 2014, fifty – five (55) adult indigenous peoples composed of Tagbanua and Batak tribes attended in the meeting. Only 28% of the total number of IPs attended since according to them their spouses were on their economic activities, some are taking care of their children left at home. The IPs expressed their full support to the proposed project as reflected in the proceedings of the Public Consultations conducted, which is marked as Annex 1. Each tribe signified their positive support by issuing a "Certificate of Support" which is marked as Annex 2 and Annex 3 for SamahanngKatutubongTagbanuasaBgy. Langogan and SamahanngmgaKatutubongBataksa Barangay Langogan, respectively.

There were two major issues addressed on the said public consultation held last June 10, 2014 (please see Annex 1):

a. If the project can also include the road to Manggapin. If yes, when will it start?

PB Bebit said that, they will try to solve the problem one at a time and encourage the group to solve first the requirements for the concreting of the road from BukangLiwayway to Macandring then Manggapin road will be

resolved later. He also shared to the group their experience on the construction of school building.

b. What will happen if some land owners will not allow the road going to Manggapin to pass through their land?

Mr. Badenas, the former Punong Barangay, responded that if some land owners will not allow the road in their area, the team will discuss it with the concerned individuals to resolve the issue. He also shared the result of the public consultation conducted last June 4, 2014 where, the group agreed to resolve the issue by deducting taxes paid for the land that will be affected.

Another major concern that was given attention was the query on the motorcycle related incidents that might increase as per experience, vehicles increases its speed in concrete roads. The solution also came from the group that a strict enforcement of traffic laws should be implemented and observed in the area. The Barangay Tanod is the responsible unit in implementing the traffic laws.

iii. Site and Right-of-Way Acquisition

The proposed site is concreting the existing barangay road which is graveled at present. It has a total length of 8.0 kilometers. Based from the actual Traffic Count conducted in June 4, 2014 (busy day) and June 7, 2014 (non – busy day), which resulted to an average of 540 vehicles coming and out of the road, the road width should be 10.0 meters with a carriageway of 5.0 meters, 1.5 meters shoulders and 0.5 meter trapezoidal canal on both sides as a geometrical design specification required by PRDP. The existing road is only 8.0 meters; hence an additional of 2.0 meters on sides is necessary. The road is classified as agricultural area and is alienable and Disposable. Most of the property owners has Certificate of Original Titles as proof of ownership.

On June 10, 2014, the Survey Team conducted the survey for the geometrical design of the road. A total of 37 properties (as shown in the parcellary map generated by the City Assessor's Office, please see Annex 6) along the road will be affected due to widening. People in the community were already aware of it since during the Public Consultation on June 4, 2014 the SES representative requested the residents' support through execution of deed of donations or waiver of rights for the their affected areas. The response of the residents was very positive then, since the road already exists for 20 years though in not good condition, they are very willing to donate the portion of land affected for the improvement of the road going to their production areas and houses. The owners also specified that they will not claim any payment regarding the area that will be taken from their property. This favors the Article III, Section 9 of the 1987 Philippine Constitution, the Bill of Rights, stating that private property shall not be taken for public use without just

compensation. The people affected were aware of this right, and so to avoid any disputes in the future, their statement were documented as written in the minutes of public consultation held last June 4, 2010, attached herewith as Annex 9.

To formally show their willingness to donate portion of their lands to the project, they signed in the Entitlement Survey of Displaced Person or Form 1 hereto attached as Annex 7. The Affidavit of Relinquishment was carefully explained in Filipino and without any hesitation, the persons with affected area instantaneously signed in the Affidavit of Relinquishment of Rights as also attached in Annex 7. The table below shows the list of persons affected by the project and the areas covered by the road widening and concreting.

Table 4.4
Persons Affected by the Project

No.	Name of Head of Household	Total Landholding of Hhold in Sq. M.	Land to be Acquired by Type in Sq. M.	REMARKS
1	Oliveros, Feliberto /Bgy. Langogan through PB CamiloBebit	1,500	662.80	donated
2	Bgy. Langogan	49,868	381.76	donated
3	Badenas, Sixto	60,878	4,159.76	donated
4	Venturillo, Domingo	65,382	2,488.32	donated
5	Cacal, Marilou	15,450	497.20	donated
6	Talamisa, Paterno	19,586	905.12	donated
7	ManalonPrudencio	37,756	356.80	donated
8	Zamora, Rogelio	31,149	718.88	donated
9	Sumandal, Maximo	79,719	1,890.96	donated
10	Sumandal, Alfredo	20,336	1,136.96	donated
11	Palay, Generoso	27,700	1,160.00	donated
12	Palay, Domingo	31,166	1,172.96	donated
13	Palay, Roman	22,592	1,342.48	donated
14	Abaniel, Felimon	34,405	902.24	donated
15	Palay, Ramon	3,153	452.16	donated
16	Makandring Elementary School	10,835	230.96	donated
17	Padon, Hernando Sr.	2,756	556.32	donated
18	Palay, Vicente	6,077	1,676.32	donated
19	Alcantara, Anastacio	10,311	1,678.16	donated
20	Alcantara, Amado	15,609	1,270.40	donated
21	Atilano, TiburcioJr	73,564	2,293.12	donated
22	Manlavi, Benjamin	120,350	4,990.00	donated
23	Ilustrisimo, Leoncio	44,232	1,954.16	donated

24	Badenas, Nelson	15,437	966.00	donated
25	Badenas, Sotero	74,493	2,002.40	donated
26	Caabay, Jose	5,720	1,861.44	donated
27	Marsonia, Ricardo	92,153	3,351.76	donated
28	Booc, Mario	28,667	1,472.32	donated
29	Majala, Nicanor	68,521	2,630.24	donated
30	Yongzon, Reynaldo	26,962	946.40	donated
31	Abaniel, Jose	66,232	1,285.60	donated
32	Borja, Agueda	19,077	1,105.04	donated
33	Fabrigas, Lauriano	32,111	1,503.12	donated
34	Padon, Jaime	32,942	1,347.04	donated
35	Fabrigas, Anselmo	94,084	2,501.44	donated
36	Abadiano, Juan	40,676	647.52	donated
37	Fabrigas, Anselmo	100,353	1,900.16	donated
Total		1,481,802	56,398.32	

iv. Damage to Standing Crops, Houses and/or Properties

A total of 53 coconut trees owned by six (6) coconut growers will be affected by the widening and concreting of the existing road. The owners are willing to cut the trees and has submitted application letter for permit to cut to the Philippine Coconut Authority (PCA) and were immediately issued with Permit to Cut (Annex 4). A total of ninety five, (please see Annex 10) assorted forest trees will be cut; a permit to cut will be secured from the DENR. Most of the sidecuts were located in higher elevation of the road with boulders, but to develop the area and avoid the possible soil erosion, the barangay plans to replant trees to avoid such natural destruction.

The City Government has an annual festival of the Feast of the Forest, barangays are tasked to participate in this yearly activity by planting trees in their barangay. Thus, the areas affected by the widening of roads are then one of the priority areas to be replanted by the barangay.

The timber of coconut trees will be sold as lumber as stated in the permit to cut issued by the Philippine Coconut Authority.

There are temporary houses and fences made of light materials that will be affected by the road right of way. However, since the area where the structures are erected is within the barangay owned property, these people are willing to voluntarily self-demolish the structures as soon as the project will commence. This is the information relayed by the Punong Barangay of the area that these people were allowed to erect structures along the road right of way but with the verbal agreement that they will voluntarily demolish their structures if the area will be needed for development as such in the case of this sub-project. There are also some

areas owned by individuals who have agreed to self-demolish once the project starts since they are supporting this major development in the community.

The Socio Economic Profile of household members whose properties were affected were gathered and attached herewith in Annex 8 (Form 3).

v. Physical Displacement of Persons

During the survey, temporary houses and other structures made of light materials within the road right of way will be affected by the project. However, the owners will voluntarily self-demolish the structures as soon as it is needed by the barangay for development and improvement. These people have farms within the influence area and will return to these farms to build their permanent houses as soon as the project will begin.

vi. Economic Displacement of Persons

The only livelihood sources that will be affected by the project are the fifty three (53) coconut trees that will be cut during the project construction, these number was distributed to six (6) farmers which will not cause any significant losses in their livelihood. Instead, according to them, it will be a blessing for them because it is their long cry to improve their road condition.

vii. Grievance Redress Mechanism

Measures have been and will be taken to ensure that all negative impacts of the subprojects will be mitigated or minimized. Nevertheless, it is anticipated that some grievances may still arise during project implementation. In this regard, the City Government has set up a Grievance Redress Mechanism to ensure that all grievances are properly addressed and that all stakeholders have an access to this feedback system. Grievance redress is included in the Environmental and Social Management Planor ESMP. The City Government has designated a Grievance Point Person (please see Annex 28) to be responsible in the initial screening of feedbacks and complaints as well as the organization of preliminary meeting with concerned parties to establish the critical path to resolution.

b. Environmental Safeguards Aspects

i. Natural Habitat

The proposed project site is not within the declared or proposed protected area of flora and fauna habitat because there is no identified important wildlife species present in the project site. The vegetation growing along the roadside are mostly fruit trees, coconut palms, second growth of miscellaneous forest tree species and shrubs. Moreover, the inventory of forest trees that would be affected by the mountain side cutting is presented in Annex 10. The surroundings of the proposed

road will not be much affected because all excavation will be used as filling materials/embankments to portion of roads that needs embankments.

No animals are housed or fed surrounding the proposed project. This is true because the road already exists and the residents are aware that there should be no stray animals wandering in the road.

ii. Physical/Cultural Resources

There are no physical cultural resources present within the proposed road and its road influence area, and even historical significance was ever recorded. The site is not a potential paleontological and archeological site,however in the even that there is an artifact/bone or any debris found during the project construction, the earth moving activities will be suspended and follows the Archeological/Paleontological Finds Procedure presented in Annex 29.

iii. Terrain, Soil Types and Rainfall

The terrain on the proposed project site varies from flat to steep (0-50% slope).

When it comes to soil type, the influence area is generally of sandy loam type. However, the soil type of the sub-project is clayey therefore, existing road pose risks to commuters due to its slippery property, especially during rainy season.

As to the rainfall, the area has short dry season and more months of heavy rainfall. It is dry from January to April and rainy throughout the rest of the year. The wettest month varies from September to December due to climate change.

Figure 11
10 year Annual Rainfall in Puerto Princesa City

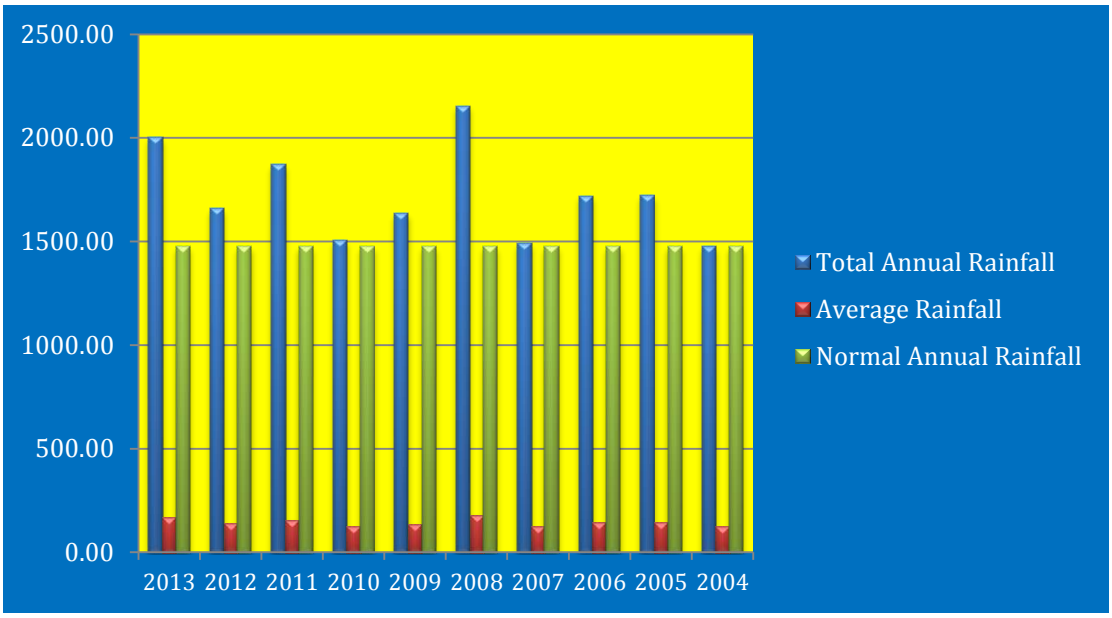

Figure 11 is the illustration of Annual Rainfall in Puerto Princesa City and the Normal Rainfall. The figure shows that the City including the area has sufficient rainfall in a year for agricultural crops.

iv. Hazard/Risk Assessment

During heavy rains, it is expected that storm water runoff will increase as a result of a wider span of cleared area for the ROW and the increase of runoff coefficient. Flooding on the road surface will be mitigated through the construction of drainage canal leading the runoff immediately outside of the roadway to the intercepting outlets.

To minimize and prevent soil erosion and landslide, measures such as construction of Trapezoidal Canal and RCCP Cross Drains & Box Culvert will be installed in the stations presented in the following tables:

Table 4.5
Schedule of Trapezoidal Canal

STATION		LENGTH	DESCRIPTION
BEG	END		
0+236.25	0+341.00	104.75	Trapezoidal Canal
0+407.46	0+514.76	565.00	Trapezoidal Canal
0+562.01	0+586.3	315.11	Trapezoidal Canal
1+275.63	1+400.26	124.63	Trapezoidal Canal
1+481.21	2+880.93	1,399.72	Trapezoidal Canal

2+922.03	3+606.50	684.47	Trapezoidal Canal
3+625.29	3+792.67	167.38	Trapezoidal Canal
4+468.07	4+501.53	33.46	Trapezoidal Canal
4+591.29	5+031.15	439.84	Trapezoidal Canal
5+062.48	5+517.12	454.64	Trapezoidal Canal
5+655.33	6+624.93	555.00	Trapezoidal Canal
7+167.00	7+526.33	359.33	Trapezoidal Canal
7+687.37	7+776.48	89.11	Trapezoidal Canal

A total of 13 stations will be installed with trapezoidal canal on the shoulders of the roads to provide spillways of run off during heavy rains.

Table 4.6
Schedule of RCCP Cross Drains & Box Culverts

Station	Description	Units	Quantity
0+026.92	Existing Box Culvert 8.00m. x 8.00 m.		
0+236.25	Proposed 36" RCCP with Headwall & Catch Basin	LN.M	10.00
0+407.46	Proposed 36" RCCP with Headwall & Catch Basin	LN.M	10.00
0+562.01	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
0+779.50	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
1+006.26	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
1+099.33	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
1+185.42	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
1+323.55	Proposed 36" RCCP with Headwall & Catch Basin	LN.M	10.00
1+672.80	Proposed 36" RCCP with Headwall & Catch Basin	LN.M	10.00

Continuation Table 4.6

2+163.30	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
2+409.42	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
2+898.18	Existing 2-48" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
3+567.00	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
3+606.38	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
3+625.29	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
3+865.60	Existing Box Culvert, 4.80m. X 6.00 m.		
4+459.94	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00

4+507.32	Existing Box Culvert, 4.00m. X 6.00 m.		
4+801.34	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
4+871.84	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
4+968.56	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
5+032.42	Proposed 36" RCCP with Headwall & Catch Basin		
5+292.62	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
5+342.57	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
5+483.92	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
5+517.12	Existing 2-36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
5+655.33	Proposed 36" RCCP with Headwall & Catch Basin	LN.M	10.00
5+729.34	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
5+926.92	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
6+068.87	Existing 2-36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
6+214.93	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
6+454.87	Existing 2-36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
6+800.45	Existing Box Culvert, 7.00m. x 8.00 m.		
6+911.03	Existing 36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
7+015.47	Existing 24" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00
7+252.97	Existing 2-36" RCCP/Proposed Headwall & Catch Basin	LN.M	10.00

To prevent soil erosion during heavy rains, the road has 29 existing RCCPs and 4 box culverts with headwall and catch basin, however, these existing structures cannot prevent the soil from erosion, hence, a total of 6 additional 36 inches RCCPs will be installed in the stations as stated in the above table.

v. Status of DA – IPM Program (KASAKALIKASAN) in the Road Influence Area

The Road Influence Area is an agricultural area, a total of 607.04 hectares is cultivated and planted with different crops such as cashew, coconut, banana, cacao, vegetable and upland rice. The City Agriculture Office has designated agricultural technician to provide extension services to the farmers to practice appropriate technology on farming and thereby increase their production and income. From 2011 to present a total of 135 farmers were trained on Organic Fertilizer Production and Technology, Good Agricultural Practices on Cacao and Organic Farming Practice. The farmers were trained on organic farming to educate them on the beneficial effects of organic materials used in farming, the farmers were able to adopt the technology and some are engaged in organic production.

vi. Status of Environmental Clearances

The project will require one (1) batching plant for cement mixing. The contractor has a Department of Public Works and Highways (DPWH) accreditation.

The project is a construction of an eight kilometer road, therefore will need an Environmental Compliance Certificate as required by the Department of Natural Resources.

The SES team has secured permits and clearances from different agencies concerned. As to the source of quarry materials, the DPWH has issued a certification that there are rivers approved as source of quarry materials. In this case, the project will source out materials from Maoyon River, approximately 31 kilometers from the project.

As of July 28, 2014, the City Government of Puerto Princesa as a proponent of the concreting of the project was issued an ECC or Environmental Compliance Certificate shown in Annex 19.

Annex 11 Barangay Resolution No. 32, Series of 2014, A Resolution Endorsing the Proposed Concreting of Farm – to – Market Road From National Highway to SitioMakandring, Bgy. Langogan, Puerto Princesa City

Annex 12 Certification of No Objection to the Proposed Project issued by the City Zoning Officer, Engr. Rex G. Bundac of the Office of the City Planning and Development Coordinator

Annex 13 Certification Issued by the Provincial Officer of the NCIP – Palawan Provincial Office, Engr. Roldan V. Parangue, that the Certification is Not a Precondition Requirement as the Road is Already Existing Prior to the Enactment of the Indigenous People Right Act.

Annex 14 Certification Issued by the OIC District Engineer of the DPWH, Office of the City Engineer, Palawan 3rd Engineering District Engr. Rommel P. Aguirre, that there are Rivers that are Approved as Source of Quarry Materials.

Annex 15 Materials Map 2014, DPWH – Palawan III District Engineering Office.

Annex 16 Certification from the Acting City ENRO, Mrs. Tutu B. Almonte, Stating that that there are Sufficient Legal Sources of Quarry Materials Adjacent to the Project Site.

Annex 17 City Resolution No. 567 – 2014 Endorsing to the PCSD the concreting of BukangLiwayway to Makandring, 8 km farm to market road project located in Bgy. Langogan, Puerto Princesa City.

vii. **Social and Environmental Impacts**

Despite the fact that some temporary structures and trees will be affected by the road widening along the road influence area, the project will not cause substantial damage to the environment whether on green field or previously developed sites.

A. Site and Design Consideration

1. The Road does not encroach into or traverse any declared protected area of natural habitat.

2. The site of the proposed subproject has no monument or physical structure of known cultural and historical significance that will be displaced or disfigured.

However, during road construction, the following social and environmental issues and mitigation measuresshould be observed and considered as shown in Table 4.7

Table 4.7
Social and Environmental Issues and Mitigation Measures/ Environmental and Social Management Plan

Issue (Potential Impact)	Assessment	Mitigation Measure	Schedule/ Duration of the Mitigation Measures	Instrument of Implementa-tion (POW, Contract, IDP, or O&M Plan)*	Responsible Unit
1. Temporary increase in sedimentation during construction	☑ Topography of the road alignment necessitate massive mountain side cuttings ☑ There are stations (listed in Road Section 2) wherein massive	☑ Earthmoving/ cutting of slopes to be done during dry months ☑ The excavation materials from side cuttings will be disposed at	15 days after NTP	DED/POW; Contract	Contractor/ Assigned Project Engr

	mountain side cuttings will be done. ☑ Cut materials will consist mainly of hard rocks and are unlikely to generate significant sediments	the side of the mountain to serve as additional slope protection and embankment (Station 5+032) ☑ Proper disposal at identified lower portions of the Barangay (refer to Road Section 2), and compaction of soils			
2. Potential contamination of surface and groundwater with oil/grease	☑ Waste oil and grease from equipment could contaminate surface water	☑ Proper handling and disposal of waste oil and grease	360 calendar days full duration of construction period	Contract (Contractor's Liability)	Contractor/ Assigned Project Engr
3. Potential hazards to workers: • contamination with human waste	☑ Construction workers would be temporarily housed in a bunk house ☑ Some workers would be locals and are expected to go home to their respective houses after works	☑ Set up adequate latrine/toilet facility at the bunk house	360 calendar days full duration of construction period	It will be stipulated in the contract that contractors will provide latrine, PPEs, andwith no cost to the LGU	Contractor/ Assigned Project Engr
• accidents due to side cuttings and slippery portions of the road	☑ Construction workers will be exposed to hazardous conditions	☑ Workers will be provided with Personal Protective Equipment like construction helmet and boots			Contractor/ Assigned Project Engr
4. Potential disruption of traffic flow	☑ The access road and/or segments to be rehabilitated need is vital to	☑ Keep the road open to traffic flow and minimize disruptions along	Duration of the construction period (360	It will be stipulated in the contract that contractors	Contractor/ Assigned Project Engr

	daily activities of the residents and farmers and need to be kept open to traffic during the 12 day mountain side cutting ☑ The construction will affect daily movement of residents and farmers especially on the 12 day mountain side cutting	the access road/ construction area; Provide adequate warning signs and traffic personnel when necessary; ☑ Undertake regular maintenance measures on the passable portions of the roads	calendar days)	will provide with no cost to the LGU	
5. Potential dust/mud nuisance, and air pollution during construction	☑ Roads could become powdery during dry days and muddy during rainy days of the construction period ☑ Access road and/or the construction/ rehabilitation works passes through a populated area	☑ Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas ☑ Set up speed limits for vehicles, especially within residential areas ☑ Control vehicle speed to lessen suspension of road dust ☑ Use covered vehicles to deliver materials that may generate	Duration of the constructi on period (360 calendar days)	Contract	Contractor/ Assigned Project Engr

		dust ☑ Install when applicable, the appropriate air pollution control device/s			
6. Landslide/ erosion of exposed road sides resulting in sedimentation of waterways	☑ The road will traverse a mountainous area necessitating deep cuts on mountainside, Please see DED for deep cuts and stations ☑ The exposed slopes will likely consist of highly erodible loose materials ☑ The cut slopes will be hard materials that would resist erosion ☑ The road passes through a relatively benign terrain, cuts will be minimal	☑ Include slope protection works at the following stations: Please see attached Table 4.4 Schedule of Trapezoidal canal ☑ Areas are listed as priority areas for planting activity during Feast of the Forest of the barangay	7 days Every 3rd Saturday of June, yearly	DED/POW Contract City Ordinance 286	Contractor/ Assigned Project Engr Barangay Officials
7. Inadequate drainage resulting in flooding or ponding	☑ The road will block runoff, resulting in flooding on one side of the road during rainy days.	☑ Installation of cross drain (please see attached Table 4.5. Schedule of RCCP Cross drains & box Culverts)	1 week (7 calendar days)	DED/POW Contract	Contractor/ Assigned Project Engr
8. Potential acceleration of denudation of the upland/hilly	☑ The proposed road will connect the upland farmers to the	☑ Introduction of sustainable upland farming, and	August – October 2015	Training Module for Sloping Agricultural	OCA

areas due to intensification of crop production	national highway going to the public markets of Puerto Princesa and even in the nearby municipality of Roxas. The proposed project will encourage upland farmers intensify their orchard farms which could accelerate the denudation of hillsides rendering them unproductive in a few years	organic farming systems		Land Technology	
9. Potential increased in encroachment of human activities into the nearby public forest	☑ The proposed road will improve human access to the nearby public forest, resulting in increased slash and burn cultivation, illegal logging and poaching	☑ Enactment of City Ordinance 396, known as Conservation Protection and Restoration of the Sources of Life of Puerto Princesans	August 2015	City Ordinance 396	City ENRO
10. Local employment	☑ Construction will provide local employment opportunities	☑ Hiring priority shall be given to qualified local residents; Implement I-BUILD Manual on local hiring	360 calendar days of constructi on period	Contract	Contractor I-Build Team
11. High risk and other key areas along the road	☑ There are steep portions of the road that may pose risk to commuters	☑ Put up access road and safety signs in these key areas for the safety of	Duration of the project	Contract	Contractor/ Assigned Project Engr

	☑ There is a school along the road	commuters			
12. DA – IPM (SAKAKALIKASAN) /Sustainable Agriculture	☑ Runoff of chemicals from farms	☑ Information, Education and Communications Campaign on sustainable agriculture/Good Agricultural Practices (GAP) and conduct training on organic farming	2015 onwards	Training Modules	OCA /SES Team
13. Quarry Sources and locations	☑ Over extraction of quarry materials	☑ There are Sufficient Legal Sources of Quarry Materials Adjacent to the Project Site; there are Rivers that are Approved as Source of Quarry Materials	Duration of the project construction	Certification issued and Map Materials 2014 (Please see Annex 14, 15 and 16)	Contractor I – Build, SES Team,
14. Potential damage to existing road due to hauling of quarry materials	☑ Sources of quarry will cause damage to existing roads	☑ Regular maintenance and repair of existing road by the contractor	Duration of the project construction	Contract	Contractor/ I–Build Team SES Team
15.Possible discovery of artifacts, bones and other objects of interests during construction of the road	☑ Artifact/bone or any objects of interest found during the project construction within 10 meter radius and	☑ Suspension of earth moving activities and follow the Archeological/ Paleontological Finds Procedure	Duration of the project construction	Contract Paleontological Finds Procedure	Contractor, I-Build Team SES Team–

	outside 10 meter radius	presented in Annex 29.			
16. Grievance during construction	☑ Complaints from the community, contractor and the proponent ☑ The project has already established an acceptable policy on addressing grievances ☑ Access to Grievance Redress Mechanism (GRM posters and Grievance Form Drop Boxes) is available in strategic locations at all levels of project implementation: ☑ Barangay Hall ☑ City Hall	☑ Appointed Grievance Point Person (Annex 28) ☑ Establish an acceptable policy on project implementation and grievance redress mechanism	Duration of the project	Administrative Order No. 28	SES Team Grievance Point Person
17. IP/ICC	☑ There is an I/ICC in the area as per LGU Records and on-site validation ☑ The road will not traverse any ancestral domain	☑ Conduct consultation with the IPs only ☑ Tribal chieftains express their support	During the start of documentation	Minutes of Public Consultations dated June 10, 2014 (Annex 1) Certificates of Support: Annex 2 & 3	SES Team, I-Build Team, I-Plan Team
18. Cutting of Trees	☑ The road construction will necessitate cutting of trees: ☑ Coconut ☑ Fruit Trees ☑ Forest species	☑ Secure cutting permit from: ☑ PCA ☑ DENR	During the documentation stage	Letter request from the PENRO to the Regional Director, FMD DENR-R1VB, Annex 10	SES Team, I-Build Team, I-Plan Team

	☑ The trees to be cut are privately owned	☑ Secure permission from the owner to cut the trees		Permit to Cut from PCA, Annex 4 Waiver of Rights	
17. Demolition of affected structures at the right of way	☑ Only part of concrete structures will have to be removed during the construction	☑ Advise the owner of affected structure to demolish it by himself as their pre-construction agreement on the Barangay Site	During construction stage	Zoning Map	Punong Barangay Anti-squatting Staff
18. Batching Plant Requirement	☑ The road construction requires the setting up of 1 unit batching ☑ The batching plantwill be mobile and operated for less than 1 year	☑ Contractor to comply with the succeeding requirements as applicable to the setting up/construction of batching plant	During construction stage	Contract	Contractor Project Engr SES Team
Batching Plant Requirements					
1. Land acquisition for the batching plant	☑ The proposed site for the Batching plant is private lot of the Punong Barangay.	☑ Project proponent (CG)/Contractor to lease the site of the Batching Plant	Prior to start of construction of the Batching Plant	Contract of lease	Project Proponent/ Contractor
2. Conditions on the Plant Site	☑ The Batching Plant is not situated in a hazardous area.	☑ The proponent LGU to determine suitable sites for setting up of the Batching Plant ☑ The site should not be in a flood prone area.	Prior to start of constructi on of the Batching Plant	Environmental Issues and Mitigation Measures (EIMM)	Project Engr Contractor

		Consider the extreme hydrologic event of flood having a 100 year recurrence interval in site selection. ☑ The site is away from critical slopes and erodible areas.			
3. Disturbance to wildlife due to vegetation clearing	☑ The setting up of the Batching Plant will not necessitate clearing of vegetation and/or cutting of trees - The area is cleared already				
4. Temporary increase of solid waste during construction and operation of Batching Plant	☑ There will be significant volume of waste generated during construction and operation	☑ Proper handling and disposal of construction wastes	During construction and operation stage	EIMM	Project Engr Contractor
5.Potential heavy equipment hazard; i.e. dump trucks, concrete mixers , pay loader etc. during transport of aggregates and fresh concrete	☑ Batching Plant is situated in sparsely populated residential area ☑ The site of the batching plant is within plantation area.	☑ Proper handling and maintenance of heavy equipment during transport and unloading of materials. ☑ Properly locate equipment yards in the plant facility. ☑ Regular maintenance (water	During operation stage	EIMM	Project Engr Contractor

		sprinkling) and repair of the access roads to control suspended particulates ☑ Proper handling and disposal of excess oil, lubricants, paints etc.			
6.Potential noise during construction of the Batching Plant	☑ Project site is located 150 meters away from the residential area	☑ No plant operation during night time.	During Plant construction and operation	EIMM	Project Engr Contractor
7. Local employment	☑ Batching Plant will provide local employment opportunities that will provide a standard salary wage.	☑ Hiring priority shall be given to qualified local residents	During plat operation period	Contract	Project Engr Contractor
8. Potential hazard and risk to the community/plantation during Batch Plant operation.	☑ Batching Plant site poses risk to the community or plantation due suspended particulates ☑ Emission during operation of batching plant will affect the community and agri land	☑ Select a site out from high prevailing winds. This should be considered during the planning period to ensure that bunkers, conveyor's position are in the leeward direction to minimize the effects of winds.	During Plant Operation	EIMM	Project Engr Contractor

		☑ Provide natural or artificial barriers – such as trees, and fences, to help control the emission of dust from the batching plant to the sensitive land uses. ☑ Maintain a minimum 100 meters buffer area between batching plants and sensitive land uses. (Sensitive land uses are residential area and school)			
9.Occupational health hazards to workers	☑ Batch Plant workers are exposed to unsafe and hazardous condition ☐ Batch Plant activities are relatively minor	☑ Require all workers to strictly observe safety standards and use of personal protective equipment (PPE). ☑ Put up safety signs within the Batch Plant ☑ Provide potable water & sanitary facilities for workers within the	During Batch Plant Operation	O&M	Contractor

		facility.			
10.Accumulation of excess materials during operation	☑ The Plant will generate significant volume of excess raw materials.	☑ Proper handling and disposal of excess material ☑ Provision of covered dump sites for excess materials.	Batching Plant operation period	EIMM	Project Engr Contractor
11.Increased siltation and water quality degradation due to project activities	☑ Specify nearest/receiving water body: <u>Langogan River</u> Distance to nearest receiving water body: <u>3</u>km If nearest/ receiving water body is fresh water, specify: Current Water Use: ☐ Fishery ☐ Tourist Zone / Park ☑ Recreational ☐ Industrial ☐ Agricultural Distance of batching plant to the nearest well used: <u>3</u> km	☑ Strictly observe proper waste water handling and disposal ☑ Set up temporary silting ponds to minimize downstream siltation in creeks and rivers ☐ Recycle wastewater ☑ For highly alkaline wastewater, apply pH control before wastewater re-use or disposal ☐ Others (Pls. specify): _____	Batching Plant operation period	EIMM	Project Engr Contractor

B. Environmental Issues and Mitigation Measures(please see Annex 20)