

# ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR

## PROPOSED RECLAMATION PROJECT

**CITY GOVERNMENT OF PUERTO PRINCESA AND  
WTEI REALTY DEVELOPMENT CORP. (WRDC)**

**JANUARY 2023**

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## EXECUTIVE SUMMARY

### PROJECT FACT SHEET

#### Project Information

Project Name	Proposed Reclamation Project
Project Type	Reclamation Project
Project Location	Sitio Tawiran Barangay Luzviminda, Puerto Princesa City, Palawan
Project size	22.2 Hectare
Project Cost	Php 2.7 Billion

#### Proponent Profile

Project Proponent	Hon. Lucilo R. Bayron City Mayor City Government of Puerto Princesa and New City Hall Building, Bgy. Sta. Monica Puerto Princesa City, 5300
Address	Atty. Carlo Gomez / City ENRO Representative from the City Government of Puerto Princesa, Palawan
Mobile Number	09175751747
Email Address	<a href="mailto:carlobenitezgomez@yahoo.com">carlobenitezgomez@yahoo.com</a>
Co - Proponent	Mr. William Tan President WTEI Realty Development Corp. (WRDC)
Office Address	WTEI Corporate Center Malvar Street, Barangay San Miguel Puerto Princesa City
Email Address	<a href="mailto:palawanproject123@gmail.com">palawanproject123@gmail.com</a>
Mobile Number	09175315004
Preparer	Theresa Calo Freelance Environmental / Consultant and Preparer
Mobile Number	09176455837 / 09997702978
Email Address	<a href="mailto:theresa_cal@yahoo.com">theresa_cal@yahoo.com</a> <a href="mailto:marites3474@gmail.com">marites3474@gmail.com</a>

Project Category Per EMB Memorandum Circular 2014-005	Category B: EIS Based Projects
Authority over the project	Proposed Reclamation Project by the City Government of Puerto Princesa and WTEI Realty Development Corp (WRDC)  Memorandum of Understanding with the Philippine Reclamation Authority (PRA) for the Proposed (22.2 Hectare) Reclamation Project

## PROCESS OF DOCUMENTATION OF THE CONDUCT OF EIA (EIA TEAM, EIA STUDY SCHEDULE, & AREA, EIA METHODOLOGY, PUBLIC PARTICIPATION)

### Process of Documentation of the Conduct of EIA

The procedures followed of this Environmental Impact Assessment (EIA) for this Proposed Reclamation Project is consistent with the provisions of the PEISS under **Presidential Decree No. 1586**. (*Establishing an environmental impact statement (EIS) system including other environmental management related measures and for other purposes*) that ECC is a planning tool and not a permit.

### EIA Team

The EIA Team is composed of multi-disciplinary specialists who have extensive experience in the conduct of EIAs of projects in various industry and environmental sectors.

Environmental Impact Assessment Team		
Team Member	Field of Expertise	Company
Engr. Eugene Catalan Professional Engineer	Preliminary Concept Masterplan and Engineering Design	BSG Construction
Xavier Gil S. Garcia	Geologist PRC Reg. No. 1875	Private Company
Benjamin J. Gonzales Bernardo S. Montaño Rodulf Anthony Balisto	Coastal Resources Assessment	Western Philippines University, College of Fisheries and Aquatic Sciences
Theresa Calo	EIS Preparer	Freelance Environmental Consultant and Preparer
Engr. Rhea Sto Nino	Chemical Engineer	Private Company

### EIA Study Schedule

The following are the activities that were conducted for this study. Continuing activities will be based on the results of the Review Committee Meetings.

ACTIVITIES
Coastal Resources Assessment
Geotechnical Survey
Bathymetric Survey
Geohazard Assessment Report (GAR)
Preliminary Concept Masterplan and Engineering Design

## **SOCIAL PREPARATION UNDERTAKEN**

SOCIAL PREPARATION UNDERTAKEN	
Activity	Date
Initial Perception Survey	August 2019
Focus Group Discussion	September 2019
Information Education and Communication (IEC), Public Participation and documentation	September 2020
Public Scoping	May 4, 2023

## **EIA Methodologies**

The approach and methodology adopted to complete this EIS is in accordance with the prescribed methods of EMB and the procedural manual for DAO 2003-30. The table below provides the methodology used for each module.

Module	Baseline / Data Sources and References	Methodology
<b>LAND</b>		
Land Use Classification	<ul style="list-style-type: none"> <li>Review of secondary data</li> <li>Spatial analysis of reference maps</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive Land Use Plan (CLUP) of the City Government of Puerto Princesa, Palawan</li> <li>NAMRIA</li> </ul>
Geology and Geomorphology	<ul style="list-style-type: none"> <li>Review of secondary data</li> <li>Spatial analysis of reference maps through GIS</li> <li>Analysis of historic occurrences of geologic hazards</li> </ul>	<ul style="list-style-type: none"> <li>NAMRIA</li> </ul>
Pedology	<ul style="list-style-type: none"> <li>Review of secondary data</li> <li>Describe the physical properties and erodibility potential of the soil, ongoing erosion processes and assess the erosional impacts of the project.</li> </ul>	<ul style="list-style-type: none"> <li>Primary data gathering</li> <li>NAMRIA</li> </ul>
Terrestrial Ecology	Biological survey of	Primary data gathering

	existing flora and faunal components including onsite species identification and comparison of identified species with published Identification guides  Ocular observation of fauna through Transect walk  Interview with locals and guides	
<b>WATER</b>		
Hydrology	Review of secondary data	Primary data gathering
Oceanography	Review of secondary data	Primary data gathering
Marine Water Quality	Characterization of water quality by water sample collection and analysis	Primary data gathering
<b>AIR</b>		
Ambient Noise Quality		
Contribution in terms of Greenhouse Gas		
<b>PEOPLE</b>		
Demographic profile / Baseline	Primary data: Conduct of Public Perception Survey, Public scoping Secondary data: Comprehensive Land Use Plan And Socio Demographic Profile of the City Government of Puerto Princesa, Palawan	

### **Public Participation**

Public participation through Information Education Communication Campaign and Perception Survey activity were conducted for the Proposed Reclamation Project of the City Government of Puerto Princesa and WRDC Port Project (Luzviminda & Mangingisda Area dated September 30, 2020, 9:00am held at Luzviminda Basketball covered court.

### **Public Scoping**

As part of environmental impact assessment, the City Government of Puerto Princesa, Palawan in partnership with WTEI Realty Development Corp. (WRDC) conducted a Public Scoping for the proposed Reclamation Project. Scoping is the presentation of the proposed project, gathering and analysis of information that a state agency will use to establish the breadth, or scope of environmental review of the proposed reclamation project. In this activity we identified the significant environmental and social impacts.

Project Title	Proposed Reclamation Project
Date of Public Scoping	May 4, 2023
Time and Venue	10:00am at Barangay Luzviminda Basketball Covered Court
Total Number of Attendees	230 Participants from different sectors of society
Invitees	<ul style="list-style-type: none"> <li>• Barangay Council of Luzviminda</li> <li>• Barangay Council of Mangingisda</li> <li>• City Environment and Natural Resources Office of Puerto Princesa</li> <li>• Residents of Barangay Luzviminda and Barangay Mangingisda</li> <li>• Representative from Business Sector</li> <li>• Representative from Industries</li> <li>• Representative from Schools Public and Private</li> <li>• Representative from religious sector</li> <li>• Representative from Hospital</li> <li>• Representative from indigenous populations</li> <li>• Representative from Non – Government Organization</li> </ul> <p>Also in the attendance;</p> <ol style="list-style-type: none"> <li>1. Rolando Amurao – Deputy Mayor for Southeast Barangay</li> <li>2. Herbert javier – Observer from Sangguniang Panlungsod</li> <li>3. Mercedita Almorfe – Deputy PEMU, Palawan</li> <li>4. Atty. Carlo Gomez – City ENRO Puerto Princesa</li> <li>5. Hon. Laddy Gemang – Barangay Captain, Barangay Luzviminda</li> <li>6. Hon. Absalon Umpad – Barangay Captain. Barangay Mangingisda</li> <li>7. Atty Patrick Tan - WTEI</li> <li>8. Rolando Vocalan – Preparer / Speaker</li> <li>9. Theresa Calo – Preparer / Speaker</li> </ol>
Program of Activities	<ul style="list-style-type: none"> <li>• Invocation</li> <li>• National Anthem</li> <li>• Welcome Remarks</li> <li>• Introduction / Roll out of Participants, overview of the proposed project and proposed action plan – Theresa Calo, Preparer</li> <li>• Overview of the Scoping, guidelines, Mechanics of the scoping for the project and next step in the EIA Process – Ms. Mercedita Almorfe, Deputy PEMU, Palawan</li> <li>• Brief Presentation of the proposed project – Theresa Calo, Preparer</li> <li>• Issues and Concerns – Rolando Vocalan and Atty Carlo Gomez, City ENRO</li> </ul>

	<ul style="list-style-type: none"> <li>• Open Forum - Preparer</li> <li>• Synthesis and integration summary of issues and agreement on scoping - Preparer</li> <li>• Closing Remarks – Atty Patrick Tan</li> </ul>
Preparation for the Scoping	<ul style="list-style-type: none"> <li>• The Preparer submitted a project description to EMB Region 4B for the proposed reclamation project for review. Likewise, a request letter for Public Scoping was also submitted.</li> <li>• A letter of invitation for the attendees signed by the Regional Director of EMB Region 4B was forwarded to all invitees served as an invitation for the public scoping.</li> </ul>

## **REPORT AND ASSESSMENT:**

Public scoping was conducted at Barangay Luzviminda Basketball Court, it was attended by 230 participants from the two (2) Barangay Luzviminda and Mangingisda. In addition it was also attended by the following sectors namely; Barangay Council of Luzviminda, Barangay Council of Mangingisda, City Environment and Natural Resources Office of Puerto Princesa, Residents of Barangay Luzviminda and Barangay Mangingisda, Representative from Business Sector, Representative from Industries, Representative from Schools Public and Private, Representative from religious sector, Representative from Hospital, Representative from indigenous populations, Representative from Non – Government Organization. The Public scoping program started at 10:00am.

Topic on Environmental Impact assessment was discussed. The proponent of the proposed reclamation project is the City Government of Puerto Princesa in partnership with the private developer WTEI Realty Development Corp. (WRDC). In order to provide information to all concerned citizen public scoping was conducted at Barangay Luzviminda along with adjacent Barangay Mangingisda. Stakeholder participation for the project was ensured to determine the current situation of the affected residents, including the issues and concerns they are experiencing in their community. The issues and concerns based on the results of the perception survey and public scoping are summarized below:

## **ISSUES AND CONCERNS RAISED DURING THE PUBLIC SCOPING**

- Livelihood / Employment for Barangay Luzviminda and Mangingisda – Concerned Barangay for the proposed reclamation project will be prioritize in this project, opportunities for the mangingisda, however there will be a screening committee and requirements for the employment.
- Public / Social Services - Road construction
- Environmental Management – One of the major priorities of the project is Protection of the Environment. The City Environment and Natural Resources Office (CENRO) of Puerto Princesa , Palawan will monitor the area, likewise mitigating measures of the project will be applied. Environmental parameters to be monitored.
- Valid sources of fill materials - The project will source filling materials from valid sources only.

## **SUMMARY OF BASELINE CHARACTERIZATION KEY ENVIRONMENTAL IMPACTS AND MANAGEMENT & MONITORING PLAN AND EMF & EGF COMMITMENTS**

The summary of baseline characterization and its corresponding environmental impacts and mitigation plan is presented. This EIS provides a more detailed discussion of the baseline conditions, environmental impacts and mitigation measures.

### **THE LAND**

Based on the data of the National Mapping and Resource Information Authority (NAMRIA), Alienable and Disposable (A & D) lands were estimated to comprise about 15% of the total land area of the City. Forestland or timberland, which cannot be titled, covers almost 11% of the total area of Puerto Princesa. The unclassified public forestland makes up 74% of the total land area of the City. This implies that many of the residents who are occupying lands in the City do not have titles.

It is uncommon to find that A&D lands totaling to 4,643 hectares or 14% of the total A&D lands are located in slopes above 18% thereby making these lands susceptible to erosion and eventually land degradation when they are developed into agriculture or settlements. 26 barangays in the City have A&D lands above 18% in slope. The barangays with the largest A&D lands located in slopes above 18% are Buenavista (38% of the total A&D lands above 18% in slope), Lucbuan (11%) and Maruyugon (8%).

### ***Land and Sea Cover***

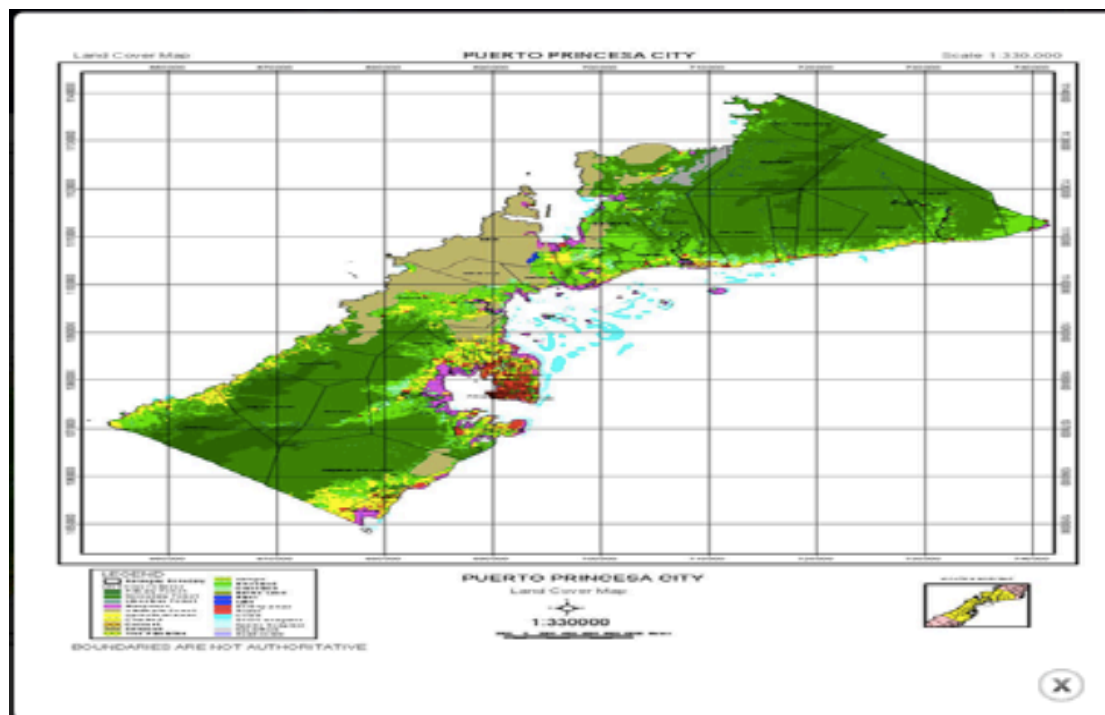
Based on the data generated by the Mapping Team of the ECAN Zoning Project using 2005 SPOT5 satellite imageries, about 73% of the total land area Puerto Princesa is still forested with primary forest (7%), secondary forest (52%), limestone forest (1%), and ultramafic forest (13%). Its remaining mangrove forest covers a total area of 5,737 hectares. Brushlands and grasslands, which can be developed into forest plantations, orchards, upland agriculture and even settlements, comprise 14% of the total land area of the city.

Lands cultivated to agriculture are substantial covering a total area of 19,549 hectares or about 10% of the total land area of the City.

Built-up areas were measured to be about 3,993 hectares or 1.85% of the City' total land area from the 2,376 hectares under the Land Use Survey conducted in 1999. This means that the built-up areas have increased by 1,617 hectares or 68% in five years posting an average annual increase of about 323 hectares.

The SPOT5 satellite imageries used were able to identify for mapping the coastal habitats in the coastal waters of Puerto Princesa. Although the deeper portions of the coastal water was not covered, mapping of the shallower portions produced the following measurements: coral reefs cover 3,074 hectares, dense seagrass with 836 hectares and sparse seagrass with 880 hectares.

The Land/Sea Cover map of Puerto Princesa City. It depicts the spatial distribution of the different types of vegetation cover, land uses and coastal habitats' cover.



## WATER RESOURCES

The City has a total of 115,610 hectares of watershed areas of which five watersheds have major river basins and six have medium-sized river basins.

The five river basins with the largest area include Babuyan River (25% of the total catchment area), Montible River (20%), Langogan River (14%), Inagawan River (12%) and Bacungan River (10%). Irawan watershed, which is the main source of water supply in the City, has a small catchment area comprising only 3% of the total catchment area.

Development of groundwater in the City proper to supply part of its water requirements has limited potential because of low yield and partly salt-water intrusion into the fresh water aquifers. However, groundwater abstraction has a better potential in Sta. Monica, Irawan and Iwahig.

The groundwater quality of the City is relatively poor with a pH higher than 7.2, which is the benchmark for good quality groundwater. The groundwater also has high content level of calcium and magnesium making it hard and produces crust deposits when used in boilers.





## CLIMATE



### ***Rainfall***

The City has two prevailing type of climate. The type that prevails in the west coast has two distinct seasons: six months dry (November-April), and six months wet (May-October) with the heaviest recorded rainfall in September, While the lowest or driest month occurs in February. Western barangays of the City (New Panggangan, Marufinas, Cabayugan, Tagabinit, Buenavista, Bahile, Macarascas, Simpocan, Bagong Bayan, and

Napsan) fall within this type. The type prevailing in the east coast has short dry season with varying heavy rainfall months. Dry months have been recorded during the months of January to April. Recorded rainiest month is September.

### ***Temperature***

Temperature is one of the three most important factors in climate as far as plant growth is concerned. The other two factors are moisture and light. Temperature influences every chemical and physical process connected with plants such as solubility of minerals; absorption of water, gases, etc.; synthesis; growth and reproduction. In the animal world, atmospheric temperatures have profound effect in the reproductive as well as productive efficiency of livestock, like milk production in dairy farming.

The City has a uniform high temperature. However, there is no marked difference in temperature between areas falling under the first and second type of climate. Generally the warmest months are March, April and May, the coolest are November, December, January, and February.

### ***Humidity***

The City has more or less uniform as well as high relative humidity. The range is from 79 to 86 percent with an annual mean of 84 percent. Fluctuations in relative humidity affect the rate of evaporation in such a way that if other factors like moisture content of the soil and its temperature and the temperature of the air were momentarily held constant, a lower relative humidity tends to enhance vaporization, while in an extreme case, atmosphere approaches 100 percent, evaporation may cease and condensation induced.

### ***Wind***

The City has two distinct prevailing winds, the northeast (NE) monsoon and the southwest (SW) monsoon. The northeast monsoon generally sets in October and continues until April. The monsoon blows mainly between north and northeast with a tendency towards an easterly direction at the end of the season. It has a velocity ranging from 15 to 25 kilometers per hour at its height and an average of 6 kilometers per hour. Rain clouds during the NE monsoon practically lose all the moisture before reaching the southwest part of the archipelago, thus the City and the province as a whole receive no rainfall towards the end of the northeast monsoon (January-April).

The southwest (SW) monsoon or the summer monsoon follows the NE monsoon after a transition period of variable winds and calms. The SW monsoon prevails from June to October. It blows most steadily during July and August although not as steady as the NE monsoon, reaching a maximum velocity of about 35 kilometers per hour. In October or during the close of the SW monsoon, strong winds occur in the southern part of the city. The southwest winds bring torrential rains but with uneven distribution.

The NE and SW monsoons affect the eastern and western part of the City. When these winds blow, the seas are very rough. The calm months of the year are from April through June on both the eastern and western side of the City.

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## **GEOLOGY**



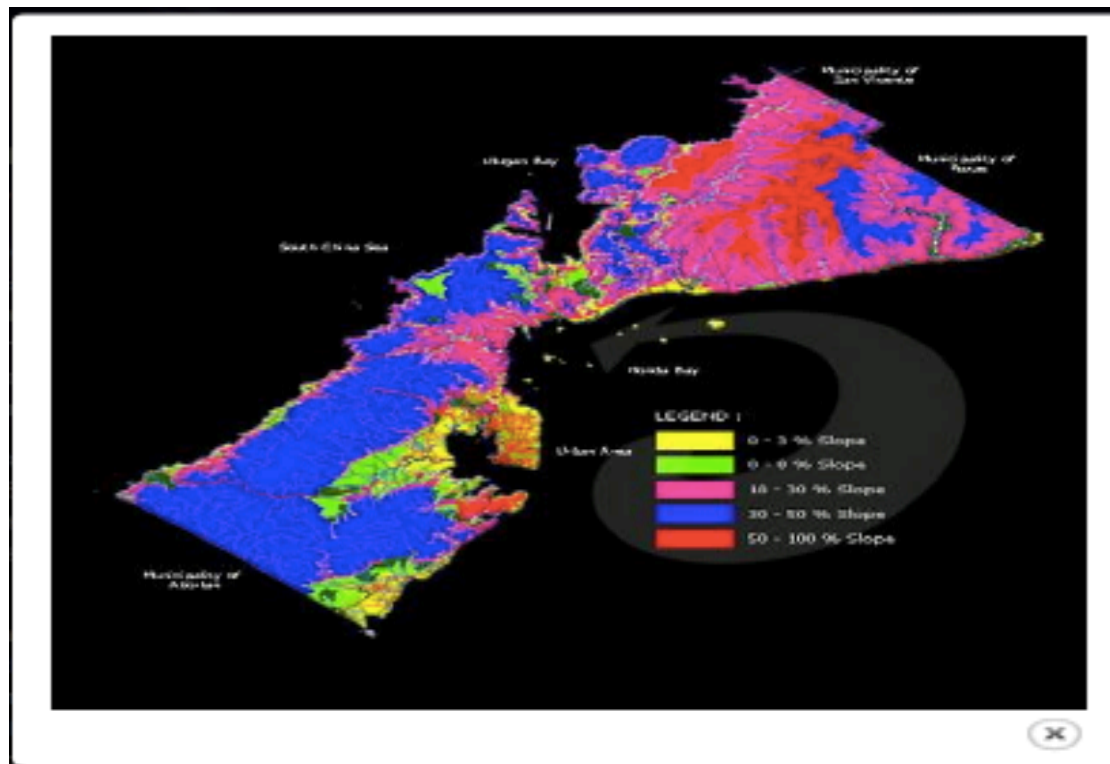
In the southern portion particularly in the Irawan area, metamorphic rocks of the Inagawan Formation can be found. The area is also partly composed of sedimentary Iwahig Formation, alluvium of unconsolidated gravel, sand, pebbles and silt. Some ultramafic rocks of the Palawan Ophiolite Complex also characterize the area.

The northern part of the City is comprised of ultramafic rocks. In particular, the Langogan area is characterized by metamorphic rocks consisting of quartz-feldspathic and mica schists, phyllites, slate and quartzites. The ultramafic rocks consist of unaltered serpentinized pridotite, dunite and pyroxomite.

Babuyan area is made up of Irahuan Metavolcanics which resemble the quartz-hematite schist in appearance and are also friable and weather into dark reddish gray platy fragments which are usually scattered near outcrops of river beds. St. Paul limestone outcrops as small patches are found in the south and midwestern part of the catchment. It is comprised of a very thick, massive, marbleized limestone with very well developed karst.

The Puerto Princesa Subterranean River National Park has karsts limestone formation and is popular tourist destination among local and international tourists. The underground river is about 8.2 kilometers in length and has been proclaimed under Proclamation No. 212 as a National Park. The park covers a protected area of 22,202 hectares. It is also included in the list of World Heritage Sites by UNESCO because of its diverse ecosystem and the presence of rare flora and fauna. The site, which is located in Sabang, barangay Cabayugan has also fine white beaches.

## TOPOGRAPHY AND SLOPE



More than half (57.43%) of the total land area of Puerto Princesa City have flat to gentle slopes, making the City an ideal site for urban development and agricultural development (Table II.2). Only about 22% of the total land area of the City has severe limitations for settlements and infrastructure development because of steep slopes (>30%). Moderate slopes of 8-18%, which can also be developed for agriculture and low-density housing comprise 15% of the City's total land area. However, agriculture and settlements development within this moderate slope range has to adopt soil conservation and slope stabilization measures to avoid soil erosion and landslides, respectively.

Seven (7) barangays have more than 80% of their total land area with flat to nearly level land (0-8% slopes). These barangays are highly suitable for agriculture and urban expansion: Bahile, Binduyan, Concepcion, Langogan, Marufinas, San Rafael and Santa Cruz. Remarkably, Bahile has 98% of its total land area with 0-3% slope.

In contrast, 22 barangays have their entire land area comprised of steep slopes (30-50% slopes). These barangays are better left off with substantial forest cover to maintain their ecological stability and prevent accelerated erosion and massive landslides which could affect downstream settlements, agriculture and coastal fisheries. The 22 barangays sitting on critical slopes are: Bagong Pag-asa, Bagong Silang, Kalipay, Liwanag, Mabuhay, Magkakaibigan, Maligaya, Mandaragat, Manggahan, Maningning, Masigla, Masikap, Masipag, Matahimik, Matiyaga, Maunlad, Milagrosa, Model, Pagkakaisa, Princesa, Seaside, Tagumpay and Tanglaw.

The barangays with the largest area of flat lands (0-3%) include Bahile, Bacungan, Langogan, Napsan, Cabayugan, Marufinas, and Binduyan.



## LOCATION AND LAND AREA

The City of Puerto Princesa is located 306 nautical miles southwest of Manila, 205 nautical miles from Panay and about 250 nautical miles from Zamboanga. It is bounded on the North by the Municipality of San Vicente and Roxas and on the South by the Municipality of Aborlan. Its western side faces the South China Sea while in its eastern coast lays the Sulu Sea.

Puerto Princesa City has a total land area of 253,982 hectares making it the largest City in the country.

The City is comprised of 35 urban barangays and 31 rural barangays (Table II.1). The total area of the urban barangays is 14,716 hectares or only 5.7941% of the total land area of the City. The largest land area of the City is comprised of the rural barangays with a total area of 239, 266 hectares or 94.2059% of the total land area of the City.





## GEOGRAPHY

The City of Puerto Princesa in Palawan, Philippines is located 306 nautical miles southwest of Manila, 205 nautical miles from Panay and about 250 nautical miles from Zamboanga. It is bounded on the North by the Municipality of San Vicente and Roxas and on the the South by the Municipality of Aborlan. Its western side faces the South China Sea while in its eastern coast lays the Sulu Sea

Puerto Princesa City has a total land area of 253,982 hectares making it the largest City in the country.

The City is comprised of 35 urban barangays and 31 rural barangays. The total area of the urban barangays is 14,716 hectares or only 5.7941% of the total land area of the City. The largest land area of the City is comprised of the rural barangays with a total land area 239,266 hectares or 94.2059% of the total land area of the City.



## **PUERTO PRINCESA CITY PROFILE**

**Puerto Princesa City**, which forms part of the **Philippine's last frontier**, is a City rich in natural resources. It is the country's largest City with a total land area of 253,982 hectares. A chain of mountain ranges runs through the entire length of the City, dividing it into two distinct areas – the East and the West Coast. The eastern side, which is facing the Sulu Sea is characterized by thin strand lines bordered by swamplands, following a series of flat plains to hilly terrain. The West Coast has fewer plains with mountain ranges close to the China Sea, thus giving the City a unique yet fragile ecology.

A significant portion of the City retains its indigenous vegetation, rainforest, mangroves, and coastal ecosystem, all of which support an array of wildlife. In terms of species biodiversity and its wide range of ecosystems, Puerto Princesa is of national significance. The famous **Puerto Princesa Subterranean River National Park** (formerly known as Saint Paul's Subterranean River National Park) covering a protected area of 22,202 hectares is haven to endemic flora and fauna. UNESCO has inscribed the Park as a World's Heritage Site on December 4, 1999. This natural wonder features an 8.2 kilometers navigable underground river reputed to be the world's longest that winds through a spectacular cave before emptying out into the South China Sea.

Given that natural resources can be exploited for economic purposes, it is necessary to properly manage the City's natural resources so that sustainable development can be achieved. This does not mean that these resources cannot be used. However it does require that the use of renewable resources be managed so that their use can be sustained and adverse environmental and social impacts can be avoided. Collective and timely effort is imperative to conserve the city's major natural resources for the benefit of the existing and future community. The proper management of these resources will ensure that the community will continue to benefit from these resources.

Conservation of natural areas protects biodiversity for future generations and provides areas for recreation and enjoyment. While it may have some environmental impacts, it does add to quality of life and enhances other economic activities for eco-tourism. Such complementary activities include operating eco-tourist destinations, making investments in tourism-related facilities and enterprises and providing specific services for local and foreign tourists. The City being part of the Province of Palawan is covered by Republic Act 7611 or the Strategic Environmental Plan for Palawan, thus environmental planning shall be guided by the policies and principles so stipulated in the law.

The project proponent currently implements solid wastes disposal program by collecting all recyclable materials such as paper, cardboard plastic, glass, tin cans etc. and are segregated for eventual recycling. Non - reusable materials are disposed through the private garbage hauler disposal services. The solid waste is non-toxic and non-hazardous and would not pose an environmental risk. Since today is pandemic disinfection of garbage are being done prior to the collection of garbage.

Other office and canteen waste shall be disposed through the Private garbage Hauler collection and disposal system.

The project proponent has been issued a locational / zoning Clearance a photocopy of which is attached.



## I. PROJECT DESCRIPTION

The Environmental Impact Statement (EIS) Report has been prepared to serve as a partial requirement for an application for an Environmental Compliance Certificate (ECC) for the Proposed Project. The ECC application covers only the reclamation of land and a portion of seafront that is 600 meters.

The project will convert a portion of the sea front of Sitio Tawiran, Barangay Luzviminda South East Coast of the Palawan Island, Philippines. This location has been used by locals as their boat landing for so many years until they were able to transfer to Central location for better access to public service. This area with reference to NAMRIA has the most least mangrove in the vicinity since the early years. The depth requirements are also ideal.

### Description of the reclamation site

Luzviminda and Mangingisda were populated by the influx of migrants from the different parts of the country who were searching for land to own and build their houses. With this, the small population of over three thousand speaks in different language. Migrants came from all over the country but the dominant group came from Visayas. Since there are no major establishments in the area that could provide employment, sources of income generally come from farming, fishing and or driving motorcycle and jeepneys. Both Barangays can be accessed through land and sea transportations. Sitio Tawiran can be accessed through an access road going to the coastal area from the Barangay road.

Households get the water supply from deep wells and public water pumps. The Barangay are supplied with electricity by PALECO. The Barangay Captain is the recognized leader in the community. He downloads information from the City Government to his constituents. Issues and concern of the community are discussed during the council meeting, sometimes with the participation of the parties concerned for proper decision-making.

The Barangay have basic facilities for the communities, which includes Barangay hall, Health Center, public school and Basketball Court. There are also churches and stores in the area. There is a rural health unit center that takes care of the common illnesses in the area. The unit is open daily and is manned by a midwife. Vaccination and pre-natal care are the main activities in the center.

In the project site there are traces of abandoned (not maintained) baklad, and some are installed for personal use.

The adjacent land surface in the reclamation project exhibits relatively flat and gently sloping landforms, with elevation between 0 to 15 masl. The reclamation project covers about 600 meters from the shoreline. The shoreline in this portion of Barangay Luzviminda has an orientation of NE-SW.

The reclamation area will solidify the economic relevance of Puerto Princesa in the developing economy of Palawan by providing easy access of bulk commodity imports for distribution to the entire province especially with the opening of BIMPEAGA/ASEAN routes; easy access of exports and distribution of food (farm or agro-industrial products) in the neighboring provinces. This port project is essential to

the proposed light industrial park adjoining this project to be able to pre-process imports for local distribution.

There is a question why not utilize existing port, additional load in port will not be efficient especially that there is no more space in that vicinity to create a light industrial hub for pre-processing prior to distribution. The zoning in that area will also not allow such due to the worsening traffic in the central business district and national highway.

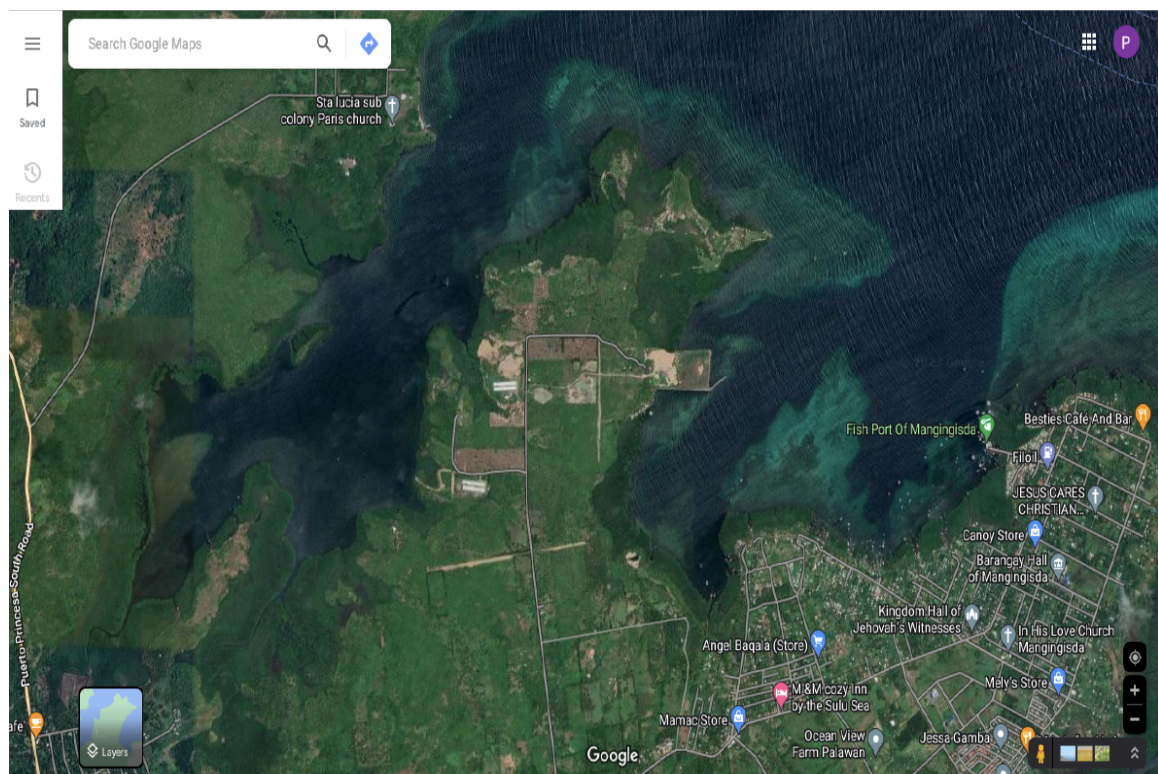
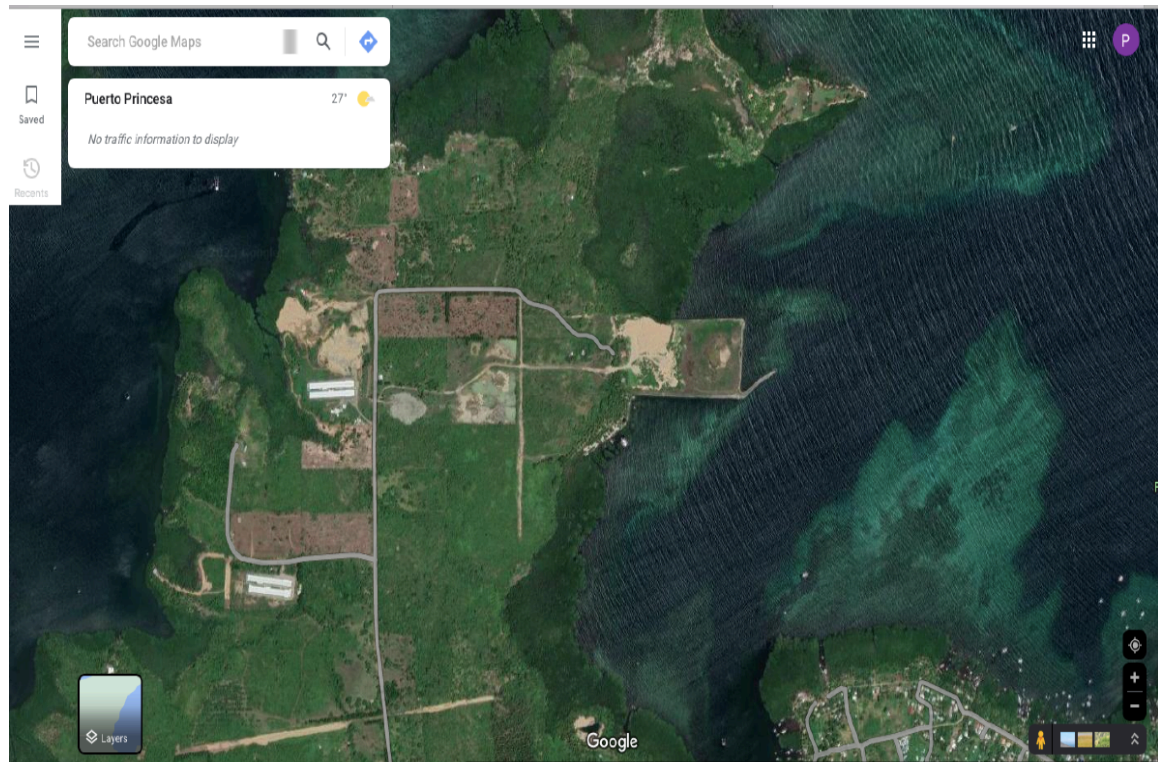
Another question is why in Sitio Tawiran? This location has been used by locals as their boat landing for so many years until they were able to transfer to central locations for better access to public service. This area, with reference to NAMRIA map, has the least mangrove in the vicinity since the early years. The depth requirements are also ideal.

There are already many players in the tourism industry, but there is limited to no attention on economic part of BIMPEAGA where the development of sub-regional supply/value chains for priority commodities with highest perceived potential for intra-EAGA and extra-EAGA trade and processing. This is where this project will be of great support to the government.

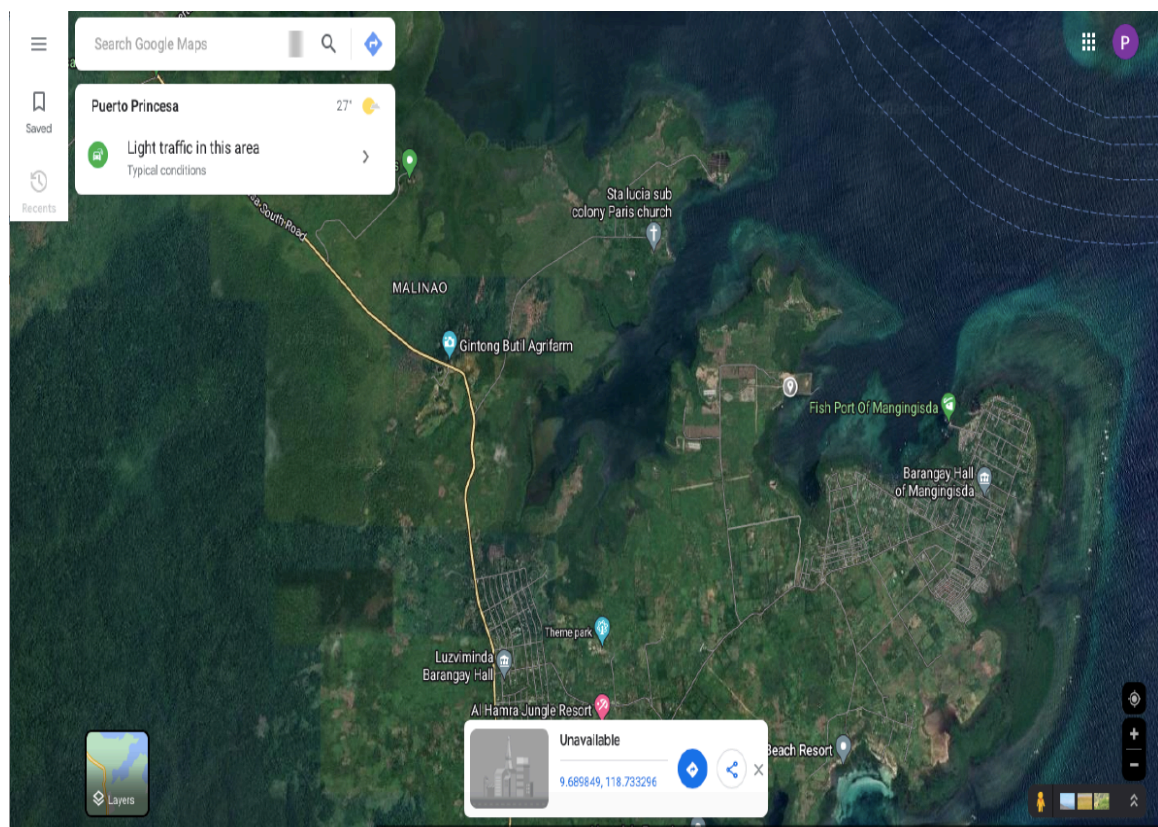
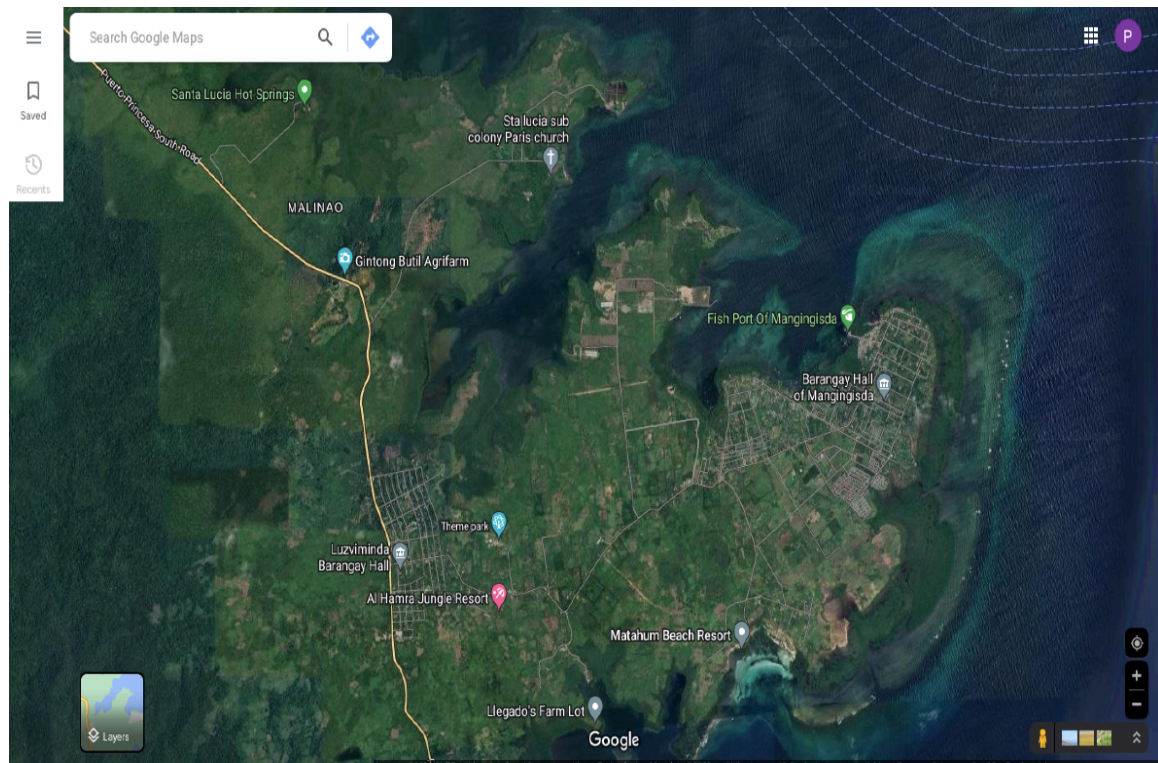
#### **Major Components of the Proposed Reclamation Project**

- Industrial zone and Green Port area
- Port facilities ships and transshipments, warehouses, piers, fueling and repair station, Berth Marina

## I.I PROJECT LOCATION AND AREA







#### **a. Location of the Proposed Reclamation Project**

Latitude: 9.69027164410251 Longitude: 118.73312466760365

#### **b. Geographic coordinates of**

The precise location of the project site is geo-graphically centered at coordinates Latitude: 9.69027164410251 Longitude: 118.73312466760365 based on the Google Earth GPS Reader Map.

#### **c. Rationale for selection primary & secondary impact areas**

Based on the expected physical/chemical effects of the project implementation, the primary impact Area is within the project area itself while the secondary impact Area extends from the project site.

### **1.2 PROJECT RATIONALE**

### **1.3 PROJECT ALTERNATIVES**

#### **Pollution Control Device**

### **1.5 PROCESS / TECHNOLOGY OPTIONS**

#### **Production Process**

Before proceeding to the construction phase of the project a work plan of a reclamation projects shall be lay out such as; Inventory of all relevant contractual and technical specifications including layout of the reclamation area, the required fill, the testing and monitoring requirements and other possible milestones.

- An inventory of boundary conditions such as; the borrow Area, the sailing route of the dredging vessels and the reclamation area and its surroundings.
- The Nature of the existing subsoil at borrows area and the reclamation site.
- Environmental regulations
- Navigational regulations
- Required Permits
- Availability of Plant
- Detailed project Planning

- Dredging Plan of borrow area including dredging equipment
- Fill Transport Plan (e.g. pipeline, booster pump, stations trailing sanctions hopper, barges and other equipment)
- Result of the geotechnical Analysis (e.g. settlement and stability of bunds and fill)
- Filling Plan (e.g. plant and equipment required, the number and thickness of lifts, consolidation, periods, testing schedules)
- Soil and ground improvement plan (e.g. vertical drains, compaction)
- Monitoring and quality control Plan
- Risk Assessment and Mitigating measures

#### **Power generation & water supply system**

### **1.6 PROJECT SIZE**

#### **Total Project Area**

The proposed reclamation project has a total of 22.2 hectares;

#### **Annual production rate & working days/hours if process industry**

### **1.7 DEVELOPMENT PLAN, DESCRIPTION OF PROJECT PHASES AND CORRESPONDING TIMEFRAMES**

#### **Pre-construction Phase**

The pre-construction activities, which consist essentially of the planning aspects of the project, have not been completed. These include the preparation of the feasibility studies, master development plans, detailed engineering specifications, budget estimates, project timetable, etc.

This period also include the obtainment of the various government permits and clearances from various government agencies. This will be done after the issuance of Environmental Compliance Certificate (ECC).

#### **Construction Phase**

The site development and construction phase shall start the physical implementation of the project. The Major activities to be undertaken during this period are the following;

<b>Site Preparation (Clearing and Grubbing)</b>
<b>Excavation Works</b>
<b>Foundation Works</b>
<b>Civil Works</b>

The various construction activities shall be implemented using the following guidelines/ specifications:

### **Construction Materials**

The American institute on steel shall strictly in accordance with the codes, standards and specification acceptable in the Philippines such as those set the construction materials to be used in the project Construction (AISC), American Concrete Institute (ACI), American Welding Society (AWS) and the American Society Testing and Materials (ASTM). Some of the materials to be utilized are cement, sand and gravel, aggregates, steel bars, lumber, welding rods, etc. These are available locally and shall be purchased from the most convenient sources.

### **Construction Equipment**

At one stage or another of the construction activities, the project proponent or contractors may utilize the following commonly used construction equipment:

Air Compressor	Pile Driver
Backhoe	Pump
Concrete Mixer	Tractor
Concrete Pump	Bulldozer
Crane	Truck
Front Loader	Vibrator
Generator	Grader
Jackhammer	Paver

### **Construction Facilities**

The proposed site will be provided with temporary structures, which will be needed during the construction period. These include the following:

<b>Security Outpost</b>
<b>Staff field Office</b>
<b>Storage Warehouse</b>
<b>Electrical and Mechanical Room</b>
<b>Workers Quarters</b>
<b>Water and Electrical Supply</b>



## Potable Toilets

### **Construction Methods**

The project contractors shall be required to strictly follow the design and specification as prepared by the project proponent's architects and engineers in accordance with the various provisions of the building code of the Philippines (P.D. 1096). The various infrastructures have been designed with due considerations to the estimate loading, bending deflection and earthquake occurrence to ensure its soundness and safety.

The contractors shall likewise be required to enforce all safety measures to prevent/minimize accidents and injuries to the construction workers. These include the compulsory wearing of hard hats, goggles, gloves and the general observance of safe construction practices.

### **Operation Phase**

The project proponent City Government of Puerto Princesa and WRDC shall operate during Monday to Saturdays only.

### **Abandonment Phase**

There is no definite limit on the operational lifespan of the reclamation area since it is expected that there will be always be a demand for ne clients. Nevertheless, in case of drastic changes in the land use or early obsolescence or any other "force majeure" causes, the reclamation area shall be abandoned in an orderly manner to avoid any residual impacts.

## 1.8 MANPOWER

### **Manpower Requirements**

The Proposed Reclamation Project will require about 400 construction personnel composed of engineer, foremen, skilled and semi-skilled workers as well as manual laborers.

During the operational phase, the proponent of the Proposed Reclamation Project will have a total complement of 60 staff including support personnel.

### **Expertise / Skills Needs**

During the construction phase, the project will require various expertise and skills needed for a construction project, which can range from manual workers up to civil/structure engineers. Skilled workers will be composed of masons, welders, painters, equipment operators, etc.

### **Nature and Jobs available**

The Proponent of the Reclamation project jobs would require mostly men but some women or indigenous people could be hired as supporting personnel. The project proponent will not practice discrimination to women and indigenous people and may even give them special consideration as long as they qualified for the position



needed. Likewise, local residents in the area are given priority during hiring periods.

### **1.9 INDICATIVE PROJECT INVESTMENT COST**

The estimated project investment cost for this project is Php 2.7 Billion excluding the development phase.

## **II. ANALYSIS OF KEY ENVIRONMENTAL IMPACTS**

### **2.1 LAND**

#### **2.1.1 Land Use and Classification**

The potential impacts of the implementation of the project on the land usage in the area describe below:

##### **Actual Performance / Experience**

The original project was implemented with the impacts properly addressed by the necessary mitigating measures both during the construction and operational phases. The project proponent has not yet experienced any environmental complaints from the neighboring communities. The proposed project shall be similarly addressed with the proper mitigating measures.

##### **Historical Environmental Performance**

##### **Project Change as a Result of Project implementation**

### **2.1.2 GEOLOGY / GEOMORPHOLOGY**

#### **Change in Land Form**

The various site development and construction activities will unavoidably alter the project terrain but since they are largely surface development, the underlain geological/ geo-morphological characteristic will not be adversely altered.

#### **Rock Formation**

### **2.1.3 PEDOLOGY**

#### **Erosion Potential**

Based on the magnitude of the project area, the earthwork activities from this project will not cause any significant erosion problems in the area. Nevertheless, the project proponent shall therefore undertake the necessary mitigating measures, which shall be discussed.

### **Bank Stability**

### **Change in Soil Quality**

There shall be change in the soil Quality / Fertility of the project area. The proposed reclamation project will have no significant effects on the agricultural characteristics of the nearby areas.

## **2.1.4 TERRESTRIAL BIOLOGY**

The proposed project area is vegetated mostly with wild grasses while the wildlife population consists only of birds, insects, rodents and other small life forms.

There are no known rare or endangered flora and fauna species in the general area.

### **Vegetation Removal / Loss of Habitat**

During the site development and construction stage, vegetative cover of the project area will have to be cleared to pave the way for the construction / reclamation project

The wildlife in the project area shall be affected in various ways: forms that are capable of flying (birds, insects), running or creeping (reptiles, mammals) will tend to just move away. However, minute wildlife forms that live in the soil substrata such as worms, bacteria, fungi, etc. will be buried under the sites.

### **Threat to Existence of Local Important Species**

The project implementation will not be a threat to the existence of local vegetation due to the relatively small project area compared with the surrounding vicinity.

### **Threat to abundance, Frequency and Distribution**

The abundance, frequency and distribution of important species will not be significantly threatened by the project development.

### **Hindrance to wildlife access**

The project area will not be hindrance to any wildlife access traversing the area.

## **2.2 WATER**

### **2.3,1 Hydrology/Hydrogeology**

## **2.3.2 OCEANOGRAPHY**

- Change in circulation pattern
- Change in stream, lake water depth

- Change in bathymetry

### **2.3,3 WATER QUALITY**

- Additional & Total Sources of Pollution
- Actual Environmental Management Performance Experience
- Sampling Site

### **2, 3.4 FRESHWATER OR MARINE ECOLOGY**

- Threat to abundance, frequency and distribution of species -
- Loss of important species -
- Loss of habitat -

### **2.3 AIR**

#### **2.3.1 Meteorology/Climatology**

- Effect on Climate

The primary factors that determine the variations of climate over the surface of the earth are: (a) the effect of latitude and the tilt of the Earth's axis to the plane of the orbit about the sun; (b) the large – scale movements of different wind belts over the Earth's surface; (c) the temperature difference between land and sea; (d) contours of the ground, and (e) location of the area in relation to ocean currents.

The most important local or global meteorological changes brought about by human activity are those linked with ozone depleters and the greenhouse effect.

The project shall have no effects whatsoever on the local climate.

- Contribution to Global Greenhouse Gases

Greenhouse effects refer to the warming of the Earth's atmosphere. Radiation from the sun enters the atmosphere but is prevented from escaping back into space by gases such as carbon dioxide (produced for example by the burning of fossil fuels), nitrogen oxides (from car exhausts), and CFCs (from aerosols and refrigerators). As these gases build – up in the atmosphere, the Earth's average temperature is expected to rise.

### 2.3.2 AIR QUALITY (& NOISE)

#### 2,3.2 Air Quality (& Noise)

##### **Noise Quality**

Noise is defined as unwanted sound and is considered as a form of pollution. It is technically described in terms of sound pressure levels expressed as decibel (symbol dB) which is the ratio of two (2) amounts of electric or acoustic signal power equal to ten (10) times the common logarithm of this ratio. The dB readings may be measured either on the A, B or C network depending on the frequency of sound e.g. fast, slow, etc. For comparison, a whisper has an intensity of 20 dBA while a jet aircraft taking off nearby registers 140 dBA which is at the threshold of pain.

The maximum allowance noise level for a certain area is dependent on two factors, namely; a.) Category of the area, e.g. residential, commercial, industrial, etc. and b.) Division of twenty four (24) hour period, e.g. morning, daytime, evening, etc. Since the project site is located in an officially classified Commercial zone the maximum allowable noise limits are 65 dBA 60 dBA and 55 dBA during daytime, morning, evening and nighttime respectively. At present, there is no industrial or any other type of activities, which could adversely affect the noise quality in the area.

### 2.4 PEOPLE

#### 2.4 PEOPLE

Other socio-economic effects of the project as follows:

##### 2.4.1 Displacement of settlers

There shall be no displacement of settlers due to the absence of the said people in the reclamation area.

##### 2.4.2 Impact of In-migration pattern as a result of project implementation

##### 2.4.3 impacts on Indigenous People and Culture/Lifestyle (if any)

##### 2.4.4 project implementation's threat to public health vis-a-vis the baseline health conditions in the area

##### 2.4.5 local benefits expected from project implementation

2.4.6 Effect on the delivery of basic services and resource competition in the area  
The delivery of the basic services in the City shall not be affected since the project will not require additional needs from government revenues.

2.4.7 Effect on traffic situation in the area

2.4.8 Entity to be accountable for environmental management in the area

2.4.9 Effect on existing properties in the area in terms of relocation and devaluation

2.4.10 other affected properties

### III. ENVIRONMENTAL / ECOLOGICAL RISK ASSESSMENT

Levels 1 and Level 2 Threshold inventory determine through the Risk Levels as different categories as follows:

CATEGORY	LEVEL 1 (TONS)	LEVEL 2
Explosive	10	50
Flammable substances	5,000	50,000
Highly Flammable substances	50	200
Extremely Flammable substances	10	50
Oxidizing substances	50	200
Toxic substances (low)	50	200
Toxic substances (medium)	10	50
Toxic substances (High)	5	20
Toxic substances (very high)	0.2	1
Toxic substances (extreme)	0.001	0.1
Unclassified (Type A)	100	500
Unclassified (Type B)	50	200

The Proponent of the Reclamation project does not nor will exceed hazardous substances above the DENR levels.

#### **Acute Risks / Worst case Scenario**

The project will not use or operate any explosive, toxic or hazardous substances, which may have acute or short-term effects on the public. Acute risks include acid rain formation, which damages plants; trees and buildings exacerbate asthma and causes irritation of eyes, nose and throat.

#### **Chronic Risks**

#### IV. IMPACTS MANAGEMENT PLAN (IMP)

Impact management is the creation of a series of plans and protocols aiming to manage and monitor the identified mitigation measures and risks that may occur over the project lifetime, such as technology failures and natural disasters.

Essentially, *impact management* is the creation of a series of plans and protocols aiming to manage and monitor the identified mitigation measures and risks that may occur over the project lifetime, such as technology failures and natural disasters. Some of the plans are compulsory, such as an environmental management plan (EMP), which is required as part of an EIA report in most countries. Other plans are context-specific and/or depend on guidance from national legislation. For example, if the project takes place in close proximity to a community, a resettlement plan may be needed; if there were no communities close by, a resettlement plan would not be necessary. Impact Management begins during the project's planning phase and continues on after project implementation.

#### IMPACT MANAGEMENT PLAN

Project Phase Environmental Aspect	Environmental Component Likely to be affected	Potential Impact	Option for prevention or Mitigation / Enhancem ent	Responsi ble Entity	Cost	Guarantee Financial Arrangem ent
<b>I. PRE - CONSTRUCTI ON PHASE</b>						
Various Planning activities for the project	A. The Land	Not yet	NA	NA	NA	NA
	B. The Water	Not yet	NA	NA	NA	NA
	C. The Air	Not yet	NA	NA	NA	NA
Hiring of Planners and Consultants	D. The People	Income for various profession al	Selection for Qualified profession als	Project Proponent	Variable	Fees to covered contracts
<b>II. CONSTRUCTI ON PHASE</b>						
Site clearing and land development	A. The Land	Potential erosion and lost of vegetation	Erosion control and re – vegetative measures	Contractor	Included in project cost	Include TOR contractor
	B. The Water	Adverse effects on the water quality	Provision of Portable Toilets	Contractor	Included in project cost	Include TOR contractor
	C. The Air	Increase in TSP levels	Regular water spraying	Contractor	Included in project cost	Include TOR contractor
	D. The People	Short term	Priority of hiring to	Contractor	Included in	Include TOR

		income benefits for constructio n workers	local residents		project cost	contractor
<b>III. OPERATION PHASE</b>						
Generation of Solid Wastes from vaious clients / residents	A. The Land	Adverse aesthetic effects and odor nuissance	Regular collection of waste / waste segregation and recycling	LGU / Project proponent	Permit fees / None	Institute standard operation procedure (SOP)
Discharge of domestic effluents	B. The Water	Adverse effect on the water quality of Sitio tawiran	Constructio n of Wastewater treatment Facility	Contractor	Induced in Project cost	Include TOR Contractor
Minimal emissions from cooking activities	C. The Air	Negligible impact on air quality	No air pollution control device required	Not applicable	Not Applicable	Not Applicable
Employment of personnel	D. The People	Better income and other benefits to employee s and their dependen t	Priority of hiring to local residents	Project Proponent	None	Institute company policy
<b>IV. ABANDONEM ENT PHASE</b>						
Cease of Operations and abandonment of Reclamation Project	A. The Land	No Significant impact	No Toxic or hazardous solid wastes shall be left behind	Project proponent	Minimal	Institute SOP
	B. The Water	No significant impact	Not applicable	Project proponent	Minimal	Institute SOP
	C. The Air	No significant impact	Not applicable	Not applicable	Not applicab le	Not applicable
	D. People	Loss of Employment for workers	Separation pay to and other benefits will be settled	Project Proponent	Variable	Institute Company policy

### Land Management Plan

At the end of the construction activities the proponent shall be properly decommissioned with a general clean – up operation. Construction debris such as excess excavated soil and pieces of concrete shall be recovered for use as filling materials while steel bar cuttings and scrap lumber will be sold for possible use in other construction projects. Non – reusable materials will be treated as ordinary garbage and disposed of through the Private Hauler garbage collection services.

Likewise, all temporary structures in the work area such as the stake – out office, worker’s quarter, portable toilets, storage sheds, etc. will be properly dismantled then transported and re-assembled at another construction site.

To partly restore the vegetative cover of the project area, the project proponent shall undertake considerable re – vegetative measures to achieve a “green” and carefully managed environment at the site. In terms of quantity, the original vegetative cover may not be fully restored but on the other hand, the new vegetative cover will be better managed and cared for

Thus, enhancing the aesthetic appeal of the project site.

### Water Management Plan

#### Air Management Measures

#### Air Quality Measures

During the site development and construction stage, the exposed works areas as well as the access roads shall be sprayed with water using stationary hose.

Sprinkles and mobile water tankers. Spraying causes the dust to be water – logged which will prevent them from getting airborne. Due to evaporation and ground percolation, spraying shall be done at regular intervals. As additional measure, cruising speed of rucks and other heavy equipment within the work area shall be limited to ten (10) kph to minimize dust disturbances.

### **NOISE QUALITY MEASURES**

### **SOCIO – ECONOMIC ENHANCEMENT MEASURES**

## **V. SOCIAL DEVELOPMENT PLAN (SDP) AND INFORMATION, EDUCATION AND COMMUNICATION (IEC) IMPLEMENTATION**

The proposed Social Development Plan (SDP) and Information Education and Communication (IEC) are attached respectively;



## **SOCIAL DEVELOPMENT PLAN (SDP) FRAMEWORK**

Concern	Responsible Community/Member/Beneficiary	Government Agency/ Non-government Agency and Services	Proponent	Indicative	Source of fund
Environmental Sanitation	<ul style="list-style-type: none"> <li>Barangay kagawad for environment</li> <li>Project Affected Community</li> </ul>	CENRO CHO	PCO	Operation phase	Proponent
Health and Safety	<ul style="list-style-type: none"> <li>Barangay kagawad for Health</li> <li>Project affected Community</li> </ul>	CHO Barangay Disaster Management	Safety Officer	Operation phase	Proponent
Education and Recreation	<ul style="list-style-type: none"> <li>Barangay kagawad for education</li> <li>Project affected Families</li> </ul>	DepEd	Community Relations Officer	Operation phase	Proponent
Gender responsive Livelihood Employment and credit facilities	<ul style="list-style-type: none"> <li>Association person</li> <li>Qualifief project affected Men, women, Youth and Elderly</li> </ul>	LGU Planning office CSWD TESDA	Community Relations Officer	Operation phase	Proponent
Peace and Order	<ul style="list-style-type: none"> <li>Barangay kagawad for Peace and Order</li> <li>Project affected Community</li> </ul>	LGU PNP	Chief security officer	Operation phase	Proponent
Spiritual	<ul style="list-style-type: none"> <li>Barangay assigned Parish Priest</li> <li>Pastor from different denomination</li> </ul>	Parish priest Pastor	Community Relations officer	Operation phase	Proponent

## **INFORMATION, EDUCATION AND COMMUNICATION (IEC) PLAN / FRAMEWORK**

Target sector identified needing project IEC	Major Topic/s of concern in relation to project	IEC Scheme/ Strategy Methods	Information Method	Indicative Timelines and frequency	Indicative cost
LGU	Project description status	Individual methods	Invitation letters	Annually	Cost of meals , venue and IEC materials to be shouldered by the Project proponent
NGO	Actual impacts and measures	Group methods	Focus group interviews		
Project Affected Families	Performance against ECC / EMP		Hands – out		
			Audio – visual Presentation		
			Posters		
			Flyers		

## **ENVIRONMENTAL COMPLIANCE MONITORING**

Based on the nature of the various project activities, its potential impacts on the existing environmental setting and the technical / financial capability of the project proponent, a suitable environmental monitoring plan has been formulated. It would encompass various environmental components, potential impacts, parameters to be measured, sampling and measurement plans, etc.

## **VII. EMERGENCY RESPONSE POLICY AND GENERIC GUIDELINES**

No major accident or fatality was encountered during the implementation of the original project. Minor injuries were quickly treated on site.

The project proponent management staff as well as the rank and file will be assigned and properly oriented on their duties and responsibilities in handling emergency situations such as fires, earthquakes, typhoons, man-made accidents, etc. Proper orientation seminars and training shall be held for this purpose.

In emergency situation that cannot adequately handled by the staff, fast communication links with the PNP, Fire Department and the nearby hospitals for proper and professional assistance.

- *Social Development Plan (SDP) Plan Framework attached*
- *Information, Education and Communication (IEC) Plan / framework attached*
- *Environmental Monitoring Plan (EMoP) with Environmental Quality Performance Level (EQPL'S) attached*

## **VIII. ABANDONMENT / DECOMMISSIONING / /REHABILITATION POLICIES AND GENERIC GUIDELINES**

Once the Reclamation Project is completed, there are no plans to abandon the reclaimed area, as it shall be maintained permanently. The project shall be implemented by phase/section, such that each section is secured from erosion on a compartmentalized basis.

Should the completion of a phase/section under construction be deferred for another time, the filled materials will be protected from erosion through appropriate engineering measures such as the use of anchored fine mesh geotextile to minimize loss of filled materials. The specific phase/area shall also be secured from illegal encroachment.

In the future, should the facilities within the Project area be removed, the proponent shall ensure that the abandonment will be in accordance with the applicable laws and regulations of the national and local government units.

## X. INSTITUTIONAL PLAN FOR EMP IMPLEMENTATION

Environmental protection is a top priority of the City Government of Puerto Princesa and WTEI Realty Development Corp. (WRDC) and always a major consideration in the management's decision and policies. The project proponent's key staff and file personnel had been properly oriented on the importance of environmental matters. The Project Proponent shall assume the chief responsibility and over-all coordination of all environmental activities.

The supervisor who shall duly report back to the General manager shall directly supervise all the activities.

The company designated a Pollution Control Officer (PCO) wherein he will be responsible for the proper operation and maintenance of the various anti-pollution devices as well as the implementation of other various environmental management measures.

The Pollution Control Officer will prepare the various monitoring and ECC compliance report, which shall be regularly submitted to EMB - DENR - MIMAROPA Region.

An Environmental Unit will be created through Executive Order.

The objective of this organization is to achieve the following:

- Implementation of company policies
- Economical and safe operations and maintenance of the project
- Environmental compliance and sustainability; and
- Promotion and enhancement of the social acceptability of the project

The implementation of the Environmental Management Plan (EMP) provided in this document will be specifically handled by the Environmental, Health and Safety Department. The proponent, through the said department, is committed to comply with the conditions that will be stipulated in the ECC and other related environmental laws. The proponent will also establish a partnership with various stakeholders and local host communities in relation to the project. This partnership is necessary to maintain a transparent and positive relationship for the project and its stakeholders, as well as to ensure compliance with environmental protection and enhancement measures.