

# **Eexecutive Summary for the Public**

## ***MANDAUE RECLAMATION PROJECT***

Barangays Paknaan and Umapad, Mandaue City

### PROPONENT

**GlobalCity Mandaue Corporation and City Government of Mandaue  
(Joint Venture)**

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**EIS SUMMARY FOR THE PUBLIC (ESP)****MANDAUE RECLAMATION PROJECT**

Barangays Paknaan and Umapad, Mandaue City

PROPONENT: GlobalCity Mandaue Corporation and City Government of Mandaue (Joint Venture)

*Project Description***1.0 PROJECT FACT SHEET**

Name of Project:	Mandaue Reclamation Project
Location of Project:	Barangays Paknaan and Umapad, Mandaue City
Project Type:	Reclamation and other land restoration projects (3.3 Category A EMB MC 005 July 2014)
Proponent:	GlobalCity Mandaue Corporation and City Government of Mandaue (Joint Venture)
Office address:	<p>GlobalCity Mandaue Corporation 27th Floor, One Corporate Centre, Julio Vargas St. corner Meralco Avenue Ortigas Center, Pasig, NCR</p> <p>Incorporators: Jose Gervacio Amistoso Ramil Mendoza Michael Romero Marvee Espejo Ian Vincent Ludovice</p> <p>City Government of Mandaue Mandaue City Hall, Magallanes Street, Mandaue City</p>
Contact Person:	<p>Carlos M. Velasco General Manager – GlobalCity Mandaue Corporation Contact number: (0917) 311-2525 Email: charlievelasco@gmail.com</p> <p>Atty. Giovanni Tianero Budget Head - City Government of Mandaue Contact number: (0917) 662-1146 Email: van_tianero@yahoo.com</p>
Year Established:	Proposed
Project rationale:	The City Government of Mandaue has signed a memorandum of agreement (MOA) with the Philippine Reclamation Authority last December 2, 2008 (“2008 PRA MOA”). In this MOA, the city identified a part of its territory for reclamation purposes as part of its patrimonial interest as a local government unit.
Project Duration:	Six (6) years
Project Area:	Approximately 131 hectares (1,310,261.88 m <sup>2</sup> )
Total project cost:	Nine Hundred Fifty Million Pesos (PhP 950,000,000.00)
Total manpower:	Max of 70 workers (reclamation phase) 10 (maintenance phase)

## **2.0 PROJECT DESCRIPTION**

Land reclamation became a viable option in the province of Cebu to address increasing urbanization and the need for new land for housing, commercial, industrial, institutional, and recreational purposes. Although Mandaue City had gained some land from these projects, the city has determined that it would need its own reclamation project for future urban developments to address its development demands.

### **2.1 Location, project area, and accessibility**

The proposed project will reclaim foreshore and submerged land occupying portions of Barangays Paknaan and Umapad, Mandaue City, Province of Cebu, Region 7 (**Figure 1**). Mandaue City is one of three highly urbanized cities in the province of Cebu forming part of the Cebu Metropolitan area. The reclamation project will have a total area of approximately 131 hectares (1,310,034.4 square meters) in four phases.

The prominent features of the surrounding areas at the proposed reclamation project are shown in **Figure 2** and described briefly below.

1. The Marcelo Fernan Bridge and UN Avenue at the south and southwest perimeter of Area A;
  2. Fishponds at the north and northwest perimeter of Area A;
  3. Fishponds, mangrove areas, and the Mandaue City solid waste disposal site at the north and northwest perimeter of Area B1;
  4. The mouth of the Butuanon River and mangrove areas at the western perimeter of Area B2;
  5. The Cansaga Bridge at the north perimeter of Area C;
  6. Mangrove patch enclosed by Area C and at its northwestern perimeter;
  7. The Butuanon River along the south perimeter of Area C; and
  8. Residential areas at the southeast and western boundaries of Area C.
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## EIS SUMMARY FOR THE PUBLIC (ESP)

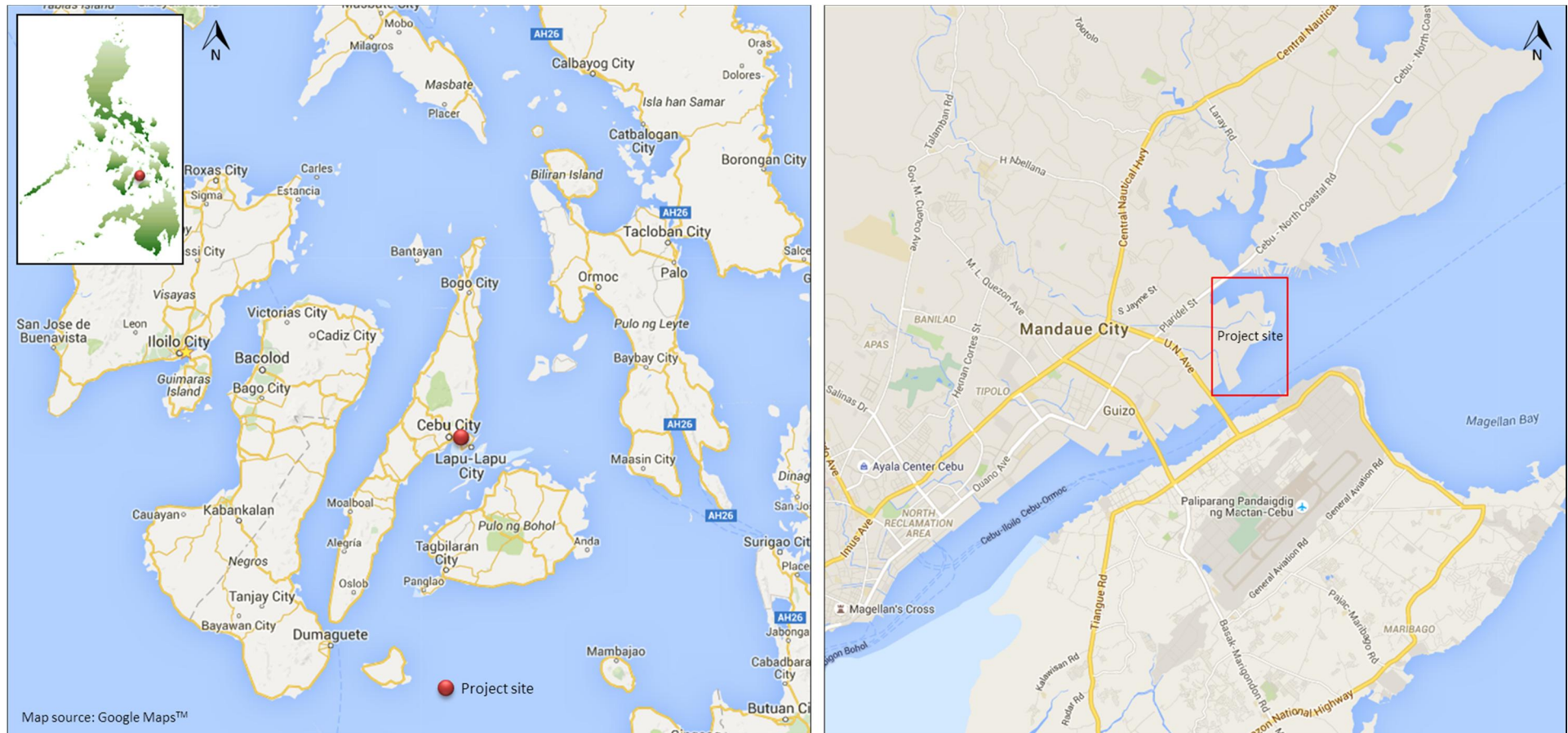
### MANDAUE RECLAMATION PROJECT

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Project Description

Figure 1. Project location map





## EIS SUMMARY FOR THE PUBLIC (ESP)

### MANDAUE RECLAMATION PROJECT

Barangays Paknaan and Umapad, Mandaue City

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*Project Description*

**Figure 2. The project site showing boundaries and prominent vicinity features**



## EIS SUMMARY FOR THE PUBLIC (ESP)

### **MANDAUE RECLAMATION PROJECT**

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*Project Description*

## **2.2 Project alternatives**

The location of the reclamation project was chosen because a) it is accessible to Cebu City and the surrounding metropolitan areas, b) it is seen to decongest shipping traffic at Cebu ports and cargo truck traffic at the port vicinities, c) it has access to the Mactan Strait, a major marine sea lane connecting Cebu City to other port cities, and d) the harbor area of the reclamation site is protected from storm surges by Mactan Island.

The final area and configuration among the four options was selected upon consultation with stakeholders, e.g., affected barangay residents and livelihood around the area. The criteria used to select the final area and configuration were to minimize a) encroachment to the mangrove areas, b) hindrance to the natural drainage system in the area, and c) encroachment on titled land, existing fishponds, and portions of the UN Avenue. **Figure 3** shows the final configuration of the proposed reclamation project.



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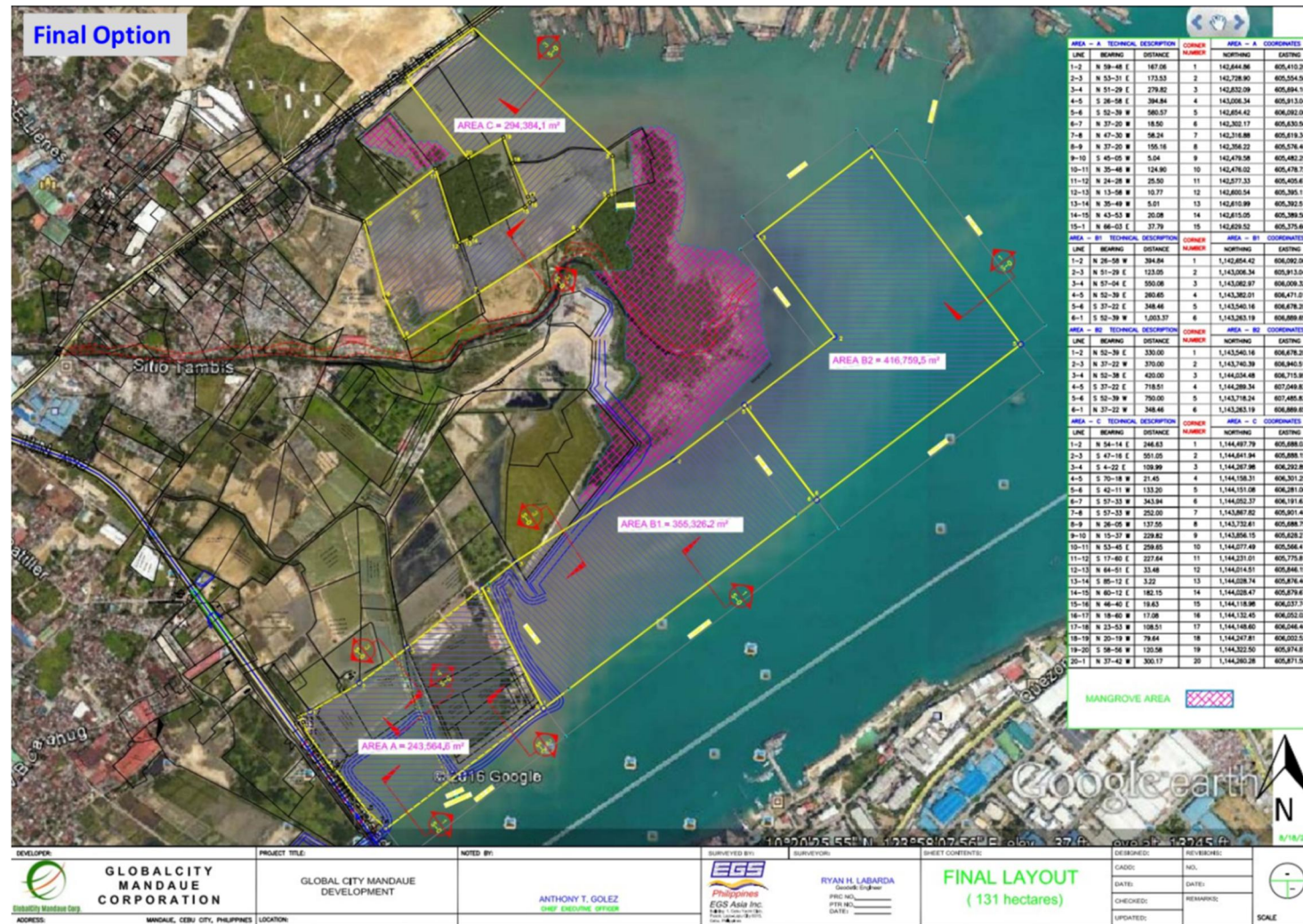
### MANDAUE RECLAMATION PROJECT

Barangays Paknaan and Umapad, Mandaue City

PROPONENT: GlobalCity Mandaue Corporation and City Government of Mandaue (Joint Venture)

Project Description

Figure 3. Final Option - Reclamation project area



## EIS SUMMARY FOR THE PUBLIC (ESP)

### MANDAUE RECLAMATION PROJECT

Barangays Paknaan and Umapad, Mandaue City

PROPONENT: GlobalCity Mandaue Corporation and City Government of Mandaue (Joint Venture)

Project Description

## 2.3 Project type and size

The proposed project is reclamation (3.3 Category A “Reclamation and other land restoration projects “ as per EMB Memorandum Circular-005 July 2014) with an area of 131 hectares (1,310,034.4 square meters).

The project will reclaim foreshore areas and parts of the sea. Except for Phase 1 and a small part of Phase 2, 87% of the total project area will be reclaimed from the Mactan Strait (**Table 1**). The calculated filling material for each phase is 9,733,021.9 cubic meters but the actual volume will reach about 11,679,626 cubic meters considering a 15% mark-up for shrinkage and compaction.

**Table 1. Areas of project phases (m<sup>2</sup>)**

Phase	Area with existing fill	Area for reclamation	Area per phase
Phase 1 (Area A)	159,457.2	84,107.4	243,564.6
Phase 2 (Area B1)	5,515.8	349,810.4	355,326.2
Phase 3 (Area B2)	-	416,759.5	416,759.5
Phase 4 (Area C)	-	294,384.1	294,384.1
<b>Total</b>	<b>164,973.0</b>	<b>1,145,061.4</b>	<b>1,310,034.4</b>

Source: GlobalCity Mandaue Corporation

## 2.4 Resource utilization

Support facilities such as generating sets to provide electricity, water tank trucks to supply potable water, barracks and office, canteen, and portable sanitary facilities will be provided during the reclamation works located at the designated staging areas.

Resource competition in terms of power and water requirements are not expected. The domestic water requirements during the reclamation is only seven cubic meters (max of 70 personnel) a day assuming a consumption rate of 100 cubic meters per person per day. The water requirement during maintenance is even smaller (10 personnel). The water requirements will be delivered to the staging area by a third party.

The estimated filling material for each phase is shown in **Table 2**. The actual filling volume will reach 11,679,626 cubic meters because a 15% mark-up for shrinkage and compaction is usually added.

The current option for the source of filling materials is the Mactan Strait. In case the bottom materials are unsuitable, alternate sources include the DENR-approved sand borrow pits in Maasin and Malapascua. Other identified alternative borrow pits subject to DENR approval will be from nearby towns of Liloan, Compostela, Danao and Carmen.

**Table 2. Estimated filling volumes per phase**

Phase	Area for reclamation (m <sup>2</sup> )	Volume (m <sup>3</sup> )
Phase 1, Area A	84,107.4	714,912.9
Phase 2, Area B1	349,810.4	2,973,388.4
Phase 3, Area B2	416,759.5	3,542,455.75
Phase 4, Area C	294,384.1	2,502,264.85
<b>Total</b>	<b>1,145,061.4</b>	<b>9,733,021.9</b>

Source: GlobalCity Mandaue Corporation

## 2.5 Projected timeframe of project implementation

The reclamation project will take about six (6) years to complete (**Table 3**). Construction in this context implies the activities in reclaiming land from the foreshore and sea. The major activities are a) silt removal, b) construction of containment structures, including mooring/berthing facilities, c) placement of granular fill, d) soil compaction, and e) dredging of berthing areas. Construction materials, equipment, and machinery will be sourced locally according



## EIS SUMMARY FOR THE PUBLIC (ESP)

### MANDAUE RECLAMATION PROJECT

Barangays Paknaan and Umapad, Mandaue City

PROPONENT: GlobalCity Mandaue Corporation and City Government of Mandaue (Joint Venture)

#### Project Description

to the design specifications of the project, if available. Support services and facilities at the site will include a field office, barracks for workers, canteen, warehouse, temporary sanitary facilities, First Aid Team, communication. Water requirements will be sourced locally.

**Table 3. Estimated timeframes for each project phase**

Phase	Indicative timeframe					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1						
2						
3						
4						

Source: GlobalCity Mandaue Corporation

Operation in this context means the completion of the reclamation works (Phases 1 to 4) at the end of the sixth year and the maintenance of the newly reclaimed areas until the commencement of site development activities. Until then, activities mainly involve preventing unauthorized entry, inspection of soil stability, maintenance of drainage system, and other relevant housekeeping activities.

Manpower, equipment, and support facilities will be phased out gradually according to the project timetable. For example, equipment (e.g., dredging) and support facilities will be transferred to Area A after its completion. As most of the support temporary facilities are modular in nature, reusable, and readily transportable, these could easily be pulled-out from the staging area with minimal left-over construction wastes. Hauling and disposal of remaining construction materials and debris will be the responsibility of contractors as part of the technical specifications stipulated in their contracts. The sea vessels (dredging and barges) used during the filling operations will be properly managed to minimize obstruction of sea traffic in the Mactan Strait.

## 2.6 Manpower

The project will require 34 to 70 personnel during the six-year reclamation (construction phase) and ten during maintenance phase.

## 2.7 Indicative project investment cost

The reclamation project will cost about Nine Hundred Fifty Million Pesos (PhP 950,000,000.00).

### **3.0 CONCISE INTEGRATED SUMMARY OF THE MAJOR IMPACTS AND RESIDUAL EFFECTS AFTER MITIGATION**

#### Assessment of major impacts

Adverse impacts to the land component common during the reclamation works and maintenance phase were identified and assessed as potentially significant in the long-term. These were a) changes in land use, b) encroachment in Environmentally Critical Areas (ECA), c) possible tenurial or land issues, d) impacts to fauna and flora at the mangrove areas. The encroachment in ECAs will expose the reclamation areas to geo- and hydrological hazards. The initial findings on these susceptibilities should be considered by the proponent in the detailed engineering design phase. In addition, distinct adverse impacts during the maintenance phase are soil erosion and contamination.

Common adverse impacts during the reclamation works and maintenance phase on the water component assessed as potentially significant in the short- and long-term were changes in drainage morphology, inducement of flooding, water pollution of the Butuanon River and marine waters, and loss of mangrove species.

There were no significant impacts on the ambient air during the reclamation works. However, an impact assessed as potentially significant in the short-term during the maintenance phase is fugitive dust generation during high wind and dry soil conditions.

Common adverse impacts during the reclamation works and maintenance phases on the people component assessed as potentially significant in the long-term were:

- Displacement of land
- Change in land ownership
- Affected structures
- Loss of business and/or income
- Public access and access to sea water
- Displacement of docking area
- Threat of flooding
- In-migration
- Health hazards
- Generation of solid waste
- Increase in traffic
- Disturbances on peace and order

Long-term beneficial impacts are a) generation of employment and livelihood opportunities, b) increase in business opportunities and associated economic activities, and c) increase LGU revenue.

The major management measures to address these adverse and enhance beneficial impact relate to issues on land ownership, land use, flooding, access to the sea, marine water quality, air pollution, mangrove areas, and socioeconomic aspects (livelihood, income loss, health, traffic). Measures to enhance the beneficial impacts relate to employment opportunities, economics, and LGU income through taxes. The management measures also included costs, entity implementing the measure, and arrangements to guarantee its implementation.

#### Residual effects

The following are the residual effects after mitigation of the major impacts:

1. Land component
  - Possible conversion of surrounding areas to other uses;
  - Reduced susceptibility of reclaimed areas to geo- and hydrological hazards;
  - Affected private lands and fishponds will be part of the reclaimed areas;
  - New landmass as a new visual element;

## **MANDAUE RECLAMATION PROJECT**

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*Integrated summary of impacts and residual impacts*

- Increase in land valuation near the new landmass; and
- Gradual and continued recovery of mangrove areas.

### **2. Water component**

- Insignificant change in the existing natural drainage system in the area;
- Reduction of flooding due to improved drainage;
- Change in circulation limited to currents conforming to the shape of new land masses;
- Change in bathymetry near the new land masses;
- Reduced concentration and dispersal area of suspended sediment;
- Insignificant concentrations and dispersal area of water pollutants;
- Increased recovery chances of biodiversity in the Butuanon River; and
- Minimized loss of mangrove species.

### **3. Air component**

- Insignificant emissions of greenhouse gases;
- Reduced fugitive particulate generation; and
- Sound levels not exceeding DENR noise limits for construction.

### **4. People component**

- Proper compensation of affected land owners and occupants;
- Minimized income losses;
- Temporary traffic congestion due to heavy equipment and trucks;
- Adjustment to the new dock location;
- Adjustment to the presence of the new land masses;
- Minimized flooding;
- Potential increase in employment and economic opportunities in the area;
- Improved delivery of social services; and
- Improved Level of Service of affected roads.

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Barangays Paknaan and Umapad, Mandaue City

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Identified stakeholders

### 4.0 IDENTIFIED STAKEHOLDERS

The stakeholders identified during the pre-scoping IEC and will be invited to the public hearing are shown in **Table 4**.

**Table 4. Identified stakeholders for the public Hearing**

STAKEHOLDER	ADDRESS
<b>Concerned Regional and Provincial Government Agencies and Offices</b>	
Philippine Reclamation Authority (PRA)	7th Floor Legaspi Towers 200 Bldg., Paseo de Roxas, Makati City, 1226 Metro Manila
Department of Public Works and Highways (DPWH) Region 7	South Road Properties, Cebu City
Department of Public Works and Highways (DPWH) District 6	A.C. Cortes Avenue, Mandaue City
Department of Tourism (DOT) Region VII	G/F LDM Bldg., corner Legaspi and MJ Cuenco Sts., Cebu City
National Grid Corporation of the Philippines (NGCP)	Nasipit, Talamban, Cebu City
Cebu Port Authority (CPA)	CIP Complex, S. Osmena Blvd., North Reclamation Area, Cebu City
Civil Aviation Authority of the Philippines (CAAP)	Mactan, Lapu-Lapu City, Cebu
Metropolitan Cebu Water District (MCWD)	Lapu-lapu Cor., Magallanes St., Cebu City
Cebu Provincial Government	N. Escario St., Cebu Capitol, Cebu City
Provincial Environmental and Natural Resources of Cebu	Greenplains Subdivision, Banilad, Mandaue, City, Cebu
Regional Director, DENR-EMBR7	Greenplains Subdivision, Banilad, Mandaue, City, Cebu
Regional Director, DENR R7	Government Center, Sudlon, Lahug, Cebu City
<b>Concerned Offices in Mandaue City</b>	
Mayor	City Hall, Magallanes Street, Mandaue City
Department Head, City ENRO	City Hall, Magallanes Street, Mandaue City
Disaster Risk Reduction Management Office	City Hall, Magallanes Street, Mandaue City
City Planning and Development Office	City Hall, Magallanes Street, Mandaue City
Traffic Engineering and Management	City Hall, Magallanes Street, Mandaue City
City Engineering Office	City Hall, Magallanes Street, Mandaue City
City Health Office	City Hall, Magallanes Street, Mandaue City
City Engineering Office	City Hall, Magallanes Street, Mandaue City
Housing and Urban Development Office	City Hall, Magallanes Street, Mandaue City
Mandaue Fisheries and Aquatic Resources Management Council	City Hall, Magallanes Street, Mandaue City
Barangay Paknaan LGU	Paknaan Barangay Hall, Mandaue City
Paknaan Fishermen and Fish Vendor Association	Paknaan Barangay Hall, Mandaue City
Paknaan Multipurpose Cooperative	Paknaan Barangay Hall, Mandaue City
Paknaan Multipurpose Cooperative	Paknaan Barangay Hall, Mandaue City
United Women's Organization of Paknaan	Paknaan Barangay Hall, Mandaue City
6.5 Resettlement Site Management Council	Paknaan Barangay Hall, Mandaue City
Kahugpungansamga Lumulupyo sa Sityo Tulay, Paknaan HOAs	Paknaan Barangay Hall, Mandaue City
PagatpatanPaknaan Livelihood Residence Organization (PPAKLIR)	Paknaan Barangay Hall, Mandaue City
Paknaan National High School	Paknaan Barangay Hall, Mandaue City
Land Claimants, Barangay Paknaan	Paknaan Barangay Hall, Mandaue City
Barangay Umapad LGU	Umapad Barangay Hall, Mandaue City
Fisher folks Leaders, Barangay Umapad	Umapad Barangay Hall, Mandaue City
Land Property Owner, Barangay Umapad	Umapad Barangay Hall, Mandaue City
Barangay Labogon LGU	Labogon Barangay Hall, Mandaue City
Laboganon Fisher folks Association	Labogon Barangay Hall, Mandaue City
<b>Other LGU Office</b>	
LapuLapu City LGU	City Hall, Barangay Pusok 1, Lapu-Lapu City



**MANDAUE RECLAMATION PROJECT**

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*Statement of commitment***5.0 PROPONENT'S STATEMENT OF COMMITMENT**

This is to certify that the proponents **GlobalCity Mandaue Corporation** and the **City Government of Mandaue** are capable and committed to implement the necessary mitigating measures to minimize the adverse and enhance the beneficial impacts caused by their proposed **Mandaue Reclamation Project** located at **Barangays Paknaan and Umapad, Mandaue City**.

In witness hereof, we hereby set my hand this \_\_\_\_\_ day of \_\_\_\_\_ 2017 at \_\_\_\_\_, Philippines.

**DR. ANTHONY ROLANDO GOLEX, JR., MD**

Chief Executive Officer

GlobalCity Mandaue Corporation

SUBSCRIBED AND SWORN TO before me this \_\_\_\_\_ day of \_\_\_\_\_ 2017, affiant exhibiting their Community Tax Certificate No. \_\_\_\_\_ issued at \_\_\_\_\_ on \_\_\_\_\_.

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Series of 2017

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PROPONENT: GlobalCity Mandaue Corporation and City Government of Mandaue (Joint Venture)

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*Availability of the draft EIS report*

### **6.0 AVAILABILITY OF THE DRAFT EIS REPORT**

The report can be accessed through the following:

- a. ENVIRONMENTAL MANAGEMENT BUREAU  
DENR Compound, Visayas Avenue, Diliman, Quezon City 1116  
Telephone Nos.: 927-15-17, 928-37-42
- b. EMB website (<http://www.emb.gov.ph>)
- c. City Planning and Development Office  
Mandaue City Hall  
Magallanes Street, Mandaue City