

Project Description for Scoping (PDS)

PROJECT DESCRIPTION FOR SCOPING (PDS)

1. BASIC PROJECT INFORMATION

1.1	Name of the Project	MARINE AGGREGATES AND OTHER RELATED MATERIALS (OFFSHORE) QUARRY PROJECT Government Seabed Quarry Permit Application (GSQPA) No. OMR-013-2020	
	Location	Municipal Waters of Limay Province of Bataan	
	Total Area	3,974.3028 hectares	
	Total Volume to be Dredged	154 Million Tons per Year or 70 Million Cubic Meters	
	Extraction Rate	77-88 Million Tons per year or 35-40 Million Cubic Meters per year	
	Project Type	Environmentally Critical Project (ECP) 2.1 Mining and Quarrying Project 2.1.3 Extraction of Non-Metallic Minerals $\geq 75,000$ MT or Area ≥ 20 hectares regardless of capacity extraction of non-metallic minerals such as Aggregates (sand, stone, gravel, including dredging with or intended for recovery and use of materials).	
	Components	Dredging of sand and other related materials in support to the 265 Hectares Pasay Harbour Reclamation Project.	
	Project Cost	Php 1 Billion	
1.2	Proponent Name	CARGON MINING CORPORATION	
	Proponent Address	Corporate Office: 30 th Floor, High Street South Corporate Plaza, Tower 1, 26th Street Cor 9th Avenue, Bonifacio Global City, Taguig City, 1634 Metro Manila Field Office : Purok 1, Binoklutan, Botolan, Zambales Head Office : Ulticon Builders Comp., Don Julian Rodriguez Ave., Ma-a, Davao City	
	Ownership	Covered by Government Seabed Quarry Permit (GSQP) No. OMR-013-2020	
	Proponent Contact Person	Name: <i>Cargon Mining Corporation</i> CARLOS S. GONZALEZ Landline No.: 8-3967500; 8-3967509	Designation: President
	EIA Preparer Contact Person	<i>Teragrail Geology and Geotechnics</i> CLEMENT CHRISTIAN A. FAJARDO 23 Jacinto Street, Phase 3B BPS Imus Cavite Mobile No: +63 908 636 5350 Email: inquiry@teragrail.com	EIS-Team Leader

2. PROJECT DESCRIPTION

2.1 Goals and Objectives

The proposed Marine Aggregates and Other Related Materials (Offshore) Quarry Project is covered by Government Seabed Quarry Permit (GSQP) No. OMR-013-2020 covering total area of area **3,974.3028 Hectares** Project to be located within the Municipal Waters of Limay, Province of Bataan intended to support the proposed 265 Pasay Harbour Reclamation Project for its suitable filling materials requirement. Cargon Mining Corporation has entered into Memorandum of Agreement (MOA) between approved 265 Hectare Pasay Harbour Reclamation site for the supply of suitable dredge fill materials, the Philippine Reclamation Authority (PRA) has granted the Notice to Proceed (NTP) to the proposed reclamation project, ***Annex A presents the Notice to Proceed (NTP) and MOA between Cargon Mining Corporation and Pasay City Government.***

Tenement and Mining Rights

The GSQP Application of the proponent covers a total area of **3,974.3028 Hectares** more or less, ***Figure 1 presents the Namria Map showing Location of the proposed project and Figure 2 presents the google map of the proposed project.*** The Philippine offshore areas are all declared Mineral Reservations. Cargon Mining Corporation opted for the issuance of Authority to Verify Minerals (ATVM) which was granted December 3, 2020, ***Annex B presents the ATVM*** to immediately verify the offshore mineral resources while waiting for the approval of the GSQP. The western segment of the GSQP faces towards coast of Limay and Mariveles, Bataan while the eastern segment faces towards Manila and Cavite City.

DENR Administrative Order No. 2000-25, March 09, 2000, Implementing Rules and Regulations of Executive Order No. 153 - "Authorizing the Utilization of Offshore Areas Not Covered by Approved Mining Permits and Contracts as Sources of Dredged Fill Materials for Government Reclamation Projects and for Other Purposes". Pursuant to Section 4 of Executive Order No. 153 "Authorizing the Utilization of Offshore Areas Not Covered by Approved Mining Permits and Contracts as Sources of Dredge Fill Materials for Government Reclamation Projects and for Other Purposes", the following Implementing Rules and Regulations are hereby promulgated:

Section 6: Authority to Utilize Areas Not covered by Approved Mining Permits/Contracts as Borrow Areas for Government Reclamation Projects. The Government thru the DENR, NRDC and PEA, has the right to utilize offshore areas not covered by approved mining permits/contracts, including areas covered by pending mining applications, as borrow areas for dredged fill materials for existing and future Government Reclamation Projects. Surveys, sampling, site selection, dredging, and related operations in borrow areas shall be subject to monitoring by the DENR, for compliance with R.A. 7942, DAO 96-40, PD 1152, PD 1586, DAO 96-37 as revised, NIPAS Act (R.A. 8556), UN Law of the Seas and all their implementing rules and regulations.

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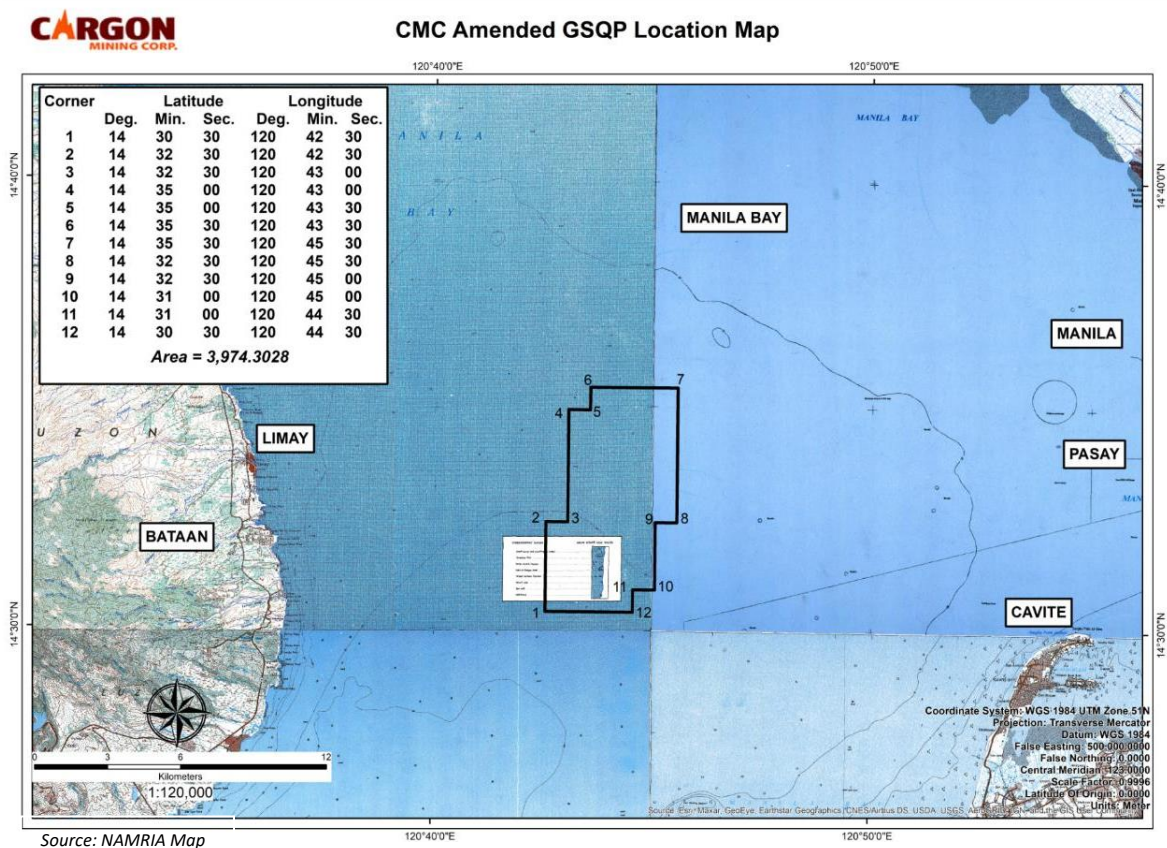


Figure 1. Location of the Proposed GSQP

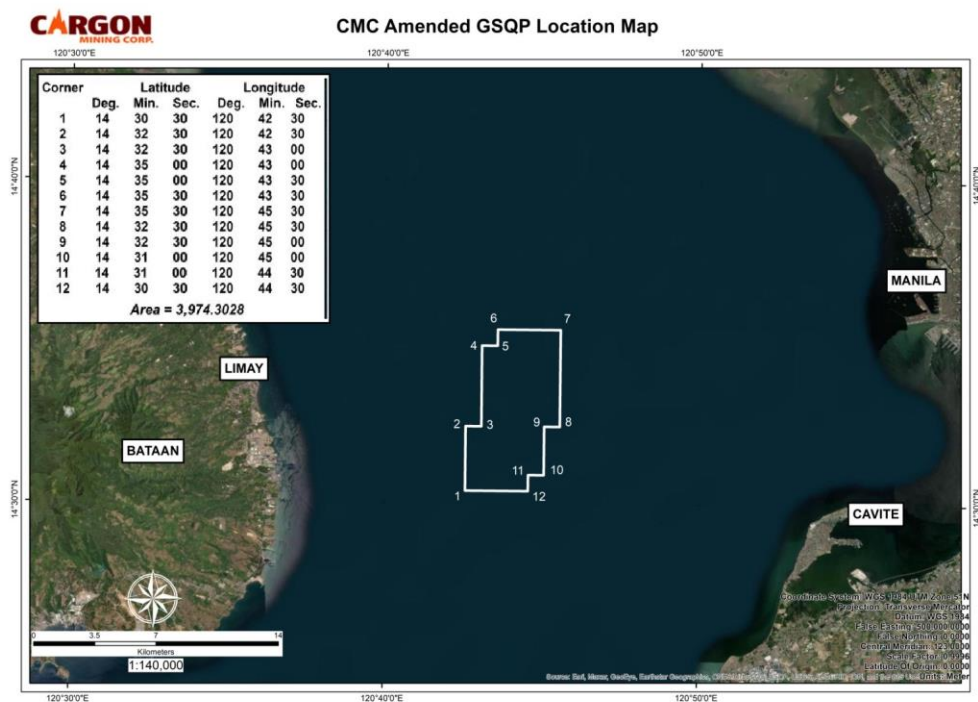


Figure 2. Location of the Proposed GSQP

2.2 Project Location and Accessibility

Project Location

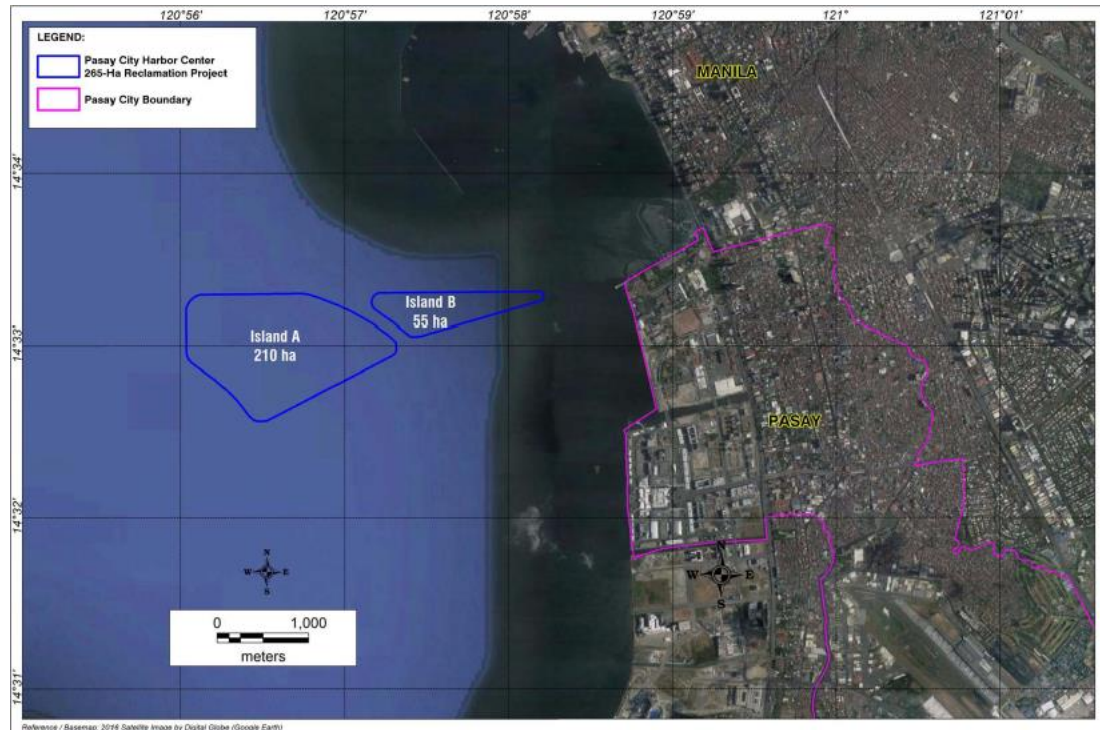
Manila Bay is 60km long estuary facing the South China Sea located at the southwest portion of Luzon. The coastline is approximately 190km which can be accessed through a channel 18km wide situated near Corregidor and Caballo Island and can be reached by sea travel. The proposed area is bordered by coastal cities and municipalities of the National Capital Region (Manila, Pasay, Paranaque, Las Pinas, and Navotas) and coastal Provinces of Bataan, Cavite, Pampanga and Bulacan, **Figure 3 presents the google map of image of Manila Bay and nearby Municipalities** while Figure 1 and 2 shows the geographical coordinates (boundary corners) of the applied GSQP area of the proponent.

Accessibility

The dredging works from the seabed quarry site to the proposed 265 Hectare Pasay Harbour Reclamation Project will travel by sea and is approximately 20 kilometers northeast of the proposed GSQP area, **Figure 4 presents the location of the QSQP to the proposed reclamation site while Figure 5 presents the location of the Quarry Materials dumping site (Reclamation site).**



Figure 3 Google map of image of Manila Bay and nearby Municipalities



Source: EIS, Proposed Pasay Harbour Center Reclamation Project

Figure 4 Quarry Materials dumping site (Reclamation site).

2.3 Alternative of the project being considered by the proponent on the following:

- **Project Type, components and size** – The dredging of seabed and other related fill materials project being applied for under GSQP No. OMR-013-2020 is to provide suitable dredge materials in support to the proposed approved reclamation project.

The project if granted will be able to support the government's reclamation project which will provide better growth of the city in the future by providing additional land for development to City of Pasay. Source of dredge fill materials by means of sea travel which is about 20km northeast is considered better access to the proposed government reclamation site.

The project area is a potential site source for dredge fill materials considering the parameters following Section 15(a) of DAO 96-40, the following offshore areas on seabed quarrying/dredging application were considered under provisions of DAO 2000-25, 'Implementing Rules and Regulations of Executive Order No. 153 "Authorizing the Utilization of Offshore Areas Not Covered by Approved Mining Permits and Contracts as Sources of Dredgefill Materials for Government Reclamation Projects and Other Purposes":

1. More than 1,500 meters distance from the nearest coastline (mean low tide level) of land or island(s) and where the seabed depth is less than 30 meters measured at mean sea level;
2. More than 1,000 meter distance from the nearest boundary of a declared National Integrated Protected Area System (NIPAS) component or Protected Area such as marine park/reserved, fish sanctuary, etc.;
3. More than 500 meters from all sides of production oil rigs and platforms, piers/ports, navigational sea lanes;

4. More than 2,000 meters distance from both sides of submarine cables, pipelines, bridges and other facilities/infrastructure, unless written consent is obtained from the concerned party;
5. More than 1,000 meter distance from coral reefs, shoals and banks with endangered Marine Habitat as delineated by PAWB-DENR; and
6. Exclusion/buffer corridors of 15 seconds of geographic coordinates, approximately measuring 450 meters wide, as reckoned from the boundary/perimeters of valid and existing Permit/Contract Mining Areas.
7. Level of environmental and social impacts cause by the operation. The environmental impacts of the project will not render the area unusable after the life of the project.
8. The proponent has valid Contract or Memorandum of Agreement (MOA) with the approved Reclamation Project.
9. The initial applied GSQP location of the proponent covered Municipalities in Limay and Mariveles, Province of Bataan and Cavite City with total area of 6,210.3887 Hectares. However, due to several studies undergone by the proponent, the total area were reduced to **3,974.3028** Hectares through the amendment of the GSQP which covers only the Municipality of Limay, Province of Bataan.

2.4 Project Components

The proposed marine dredging/quarrying shall be using three (3) dredging equipment to dredge the seabed and transport it to the proposed location of the reclamation site which is about 20km northeast of the GSQP area, Table 2 presents the list of equipment and its specifications.

Table 2 List of Dredging Equipment and Specifications

No	Name	Carrying Capacity (m ³)	Total Installed Power (kW)	Sailing Speed Loaded (kn)	Maximum Dredging Depth (m)	Built by and Construction Date
1	Boskalis Trailer Suction Hopper Dredger - Gateway	22,000	13,870	15.4	62	Merwede Shipyard B.V. 2010
2	Boskalis Trailer Suction Hopper Dredger - Queen of the Netherland	59,168	27,634	16.0	PS 67/ SB 67/83 with submersible dredge pump	Verolme Shipyard Heusden B.V./Keppel Shipyard Singapore 1998
3	Boskalis Trailer Suction Hopper Dredger - Willem Van Oranje	22,000	13,870	15.4	52	IHC Dredgers B.V. 2010

2.5 Process Technology

2.5.1 Mandatory Requirements

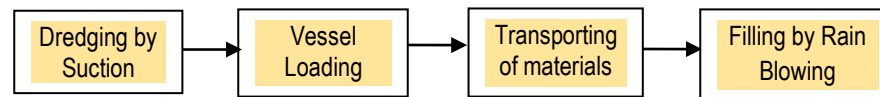
The following are mandatory requirements prior to dredging operations:

- a. Government Seabed Quarry Permit or GSQP from Mines and Geosciences Bureau (MGB)
- b. Environmental Compliance Certificate (ECC)
- c. Letters of No Objections (LONO) from various agencies
- d. Area Clearance

2.5.2 Dredging Process

The process technology includes dredging by suction, vessel loading, transporting and filling by rain blowing method to the proposed reclamation site which is about 20km from the proposed dredging site, **Figure 6 presents the Process Flow.**

Figure 6 Process Flow of the Operation Phase



2.5.3 Mineral Sand Deposit, Dredging Equipment and Methodology

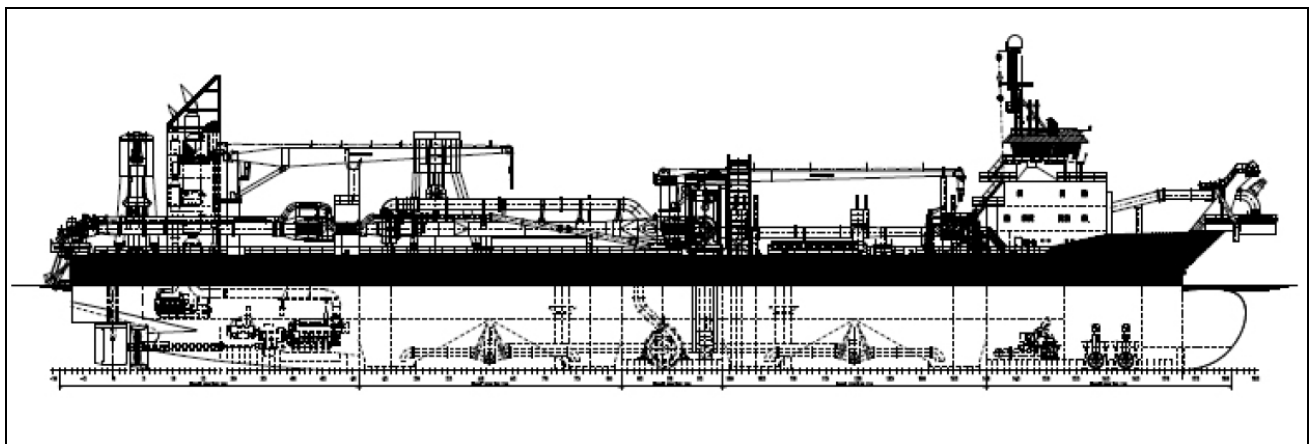
The total estimated volume of potential dredge fill is 826.30 Million Cubic Meters of marine sand aggregates or 1,817.90 Million Tons deposit materials, *source: Final Exploration Report (FER) 2021, Jaime C. Zafra*. The proponent shall be using three (3) different types of Trailing Suction Hopper, such as:

Trailing Suction Hopper Dredger (TSHD)-Gateway

There are two types of Trailing Suction Hopper Dredger; Trailing type is the type that sucks the dredged soil through the Drag Head on the fleet of suction pipe.

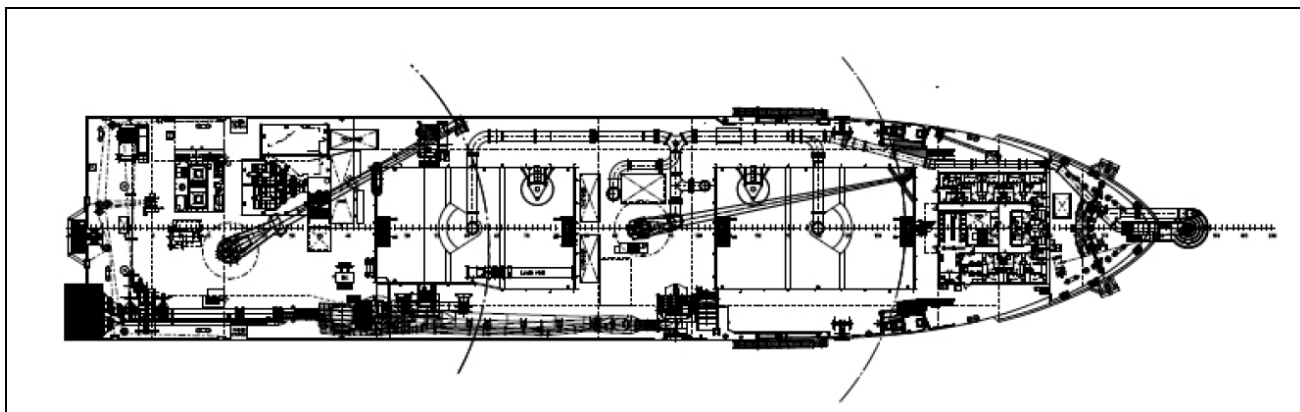
After loading the dredged materials to the Hopper and arriving at the reclamation site, the gate bar opens and the soil is loaded or conveyed by a pipe. This dredger type is less affected by weather and unfavorable sea condition and widely used in deep sea soil sourcing. It can hold the Hopper itself, can be separately transported, and is very advantageous for long distance destination.

However, it has a disadvantage in which it will transport more water when it dredges some soil such as clay, and other similar types of soil. Trailing suction hopper dredger has a big dredging capacity of 22,000 cubic meters and long conveying distance (more than 20 km), yet, it is not well applied for the area with low water level like the condition of the project area, **Illustration 1 and Illustration 2 presents side view and top view deck level of the equipment, respectively.**



Source: Boskalis Dredging and Marine Experts

Illustration 1 Side View of the Trailing Suction Hopper Dredger-Gateway



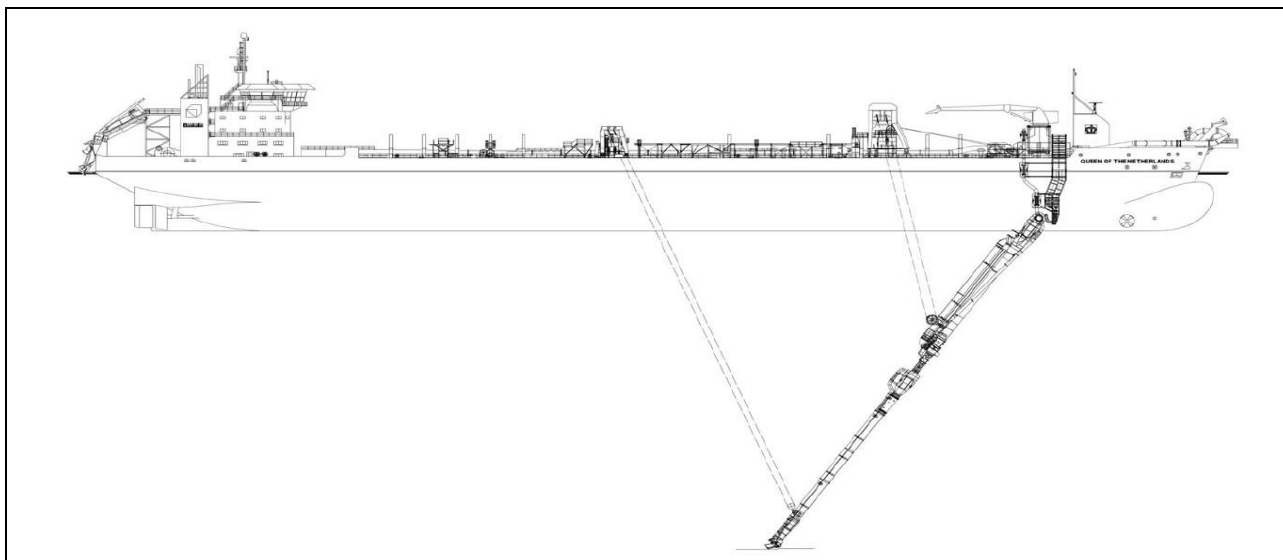
Source: Boskalis Dredging and Marine Experts

Illustration 2 Top View Deck Level of the Trailing Suction Hopper Dredger-Gateway

Trailing Suction Hopper Dredger (TSHD)-Queen of the Netherlands

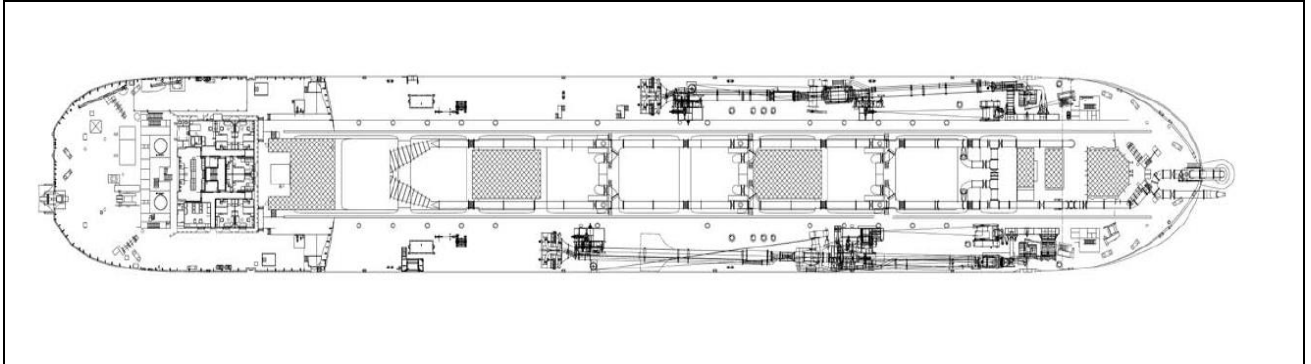
The vessel was lengthened at the Keppel Shipyards by 54 meters with the addition of a mid-ship section weighing 4,750 tonnes, making her one of the largest dredgers in the world with a capacity of 59,168 cubic meters.

The ship has three hopper discharge options of pumping ashore by pipeline, dumping through bottom doors or rainbowing. The ship has equipment to dredge almost any material; such as clay, silt, sand and rock. The pump room onboard has two 6,000 kW (8,000 hp) dredge engines that can be used in series or in parallel with the vessels two 1,200-millimetre-diameter (3.9 ft) suction pipes or combined with a submerged outboard pump. The vessel also has three 1,000 kW (1,300 hp) jet water pumps that are used to agitate subsea material whilst trailing, collapse and liquify hopper cargo for pumping or degassing natural air pockets in the seabed using the Venturi effect, **Illustration 3 and Illustration 4 presents side view and top view deck level of the equipment, respectively.**



Source: Boskalis Dredging and Marine Experts

Illustration 3 Side View of the Trailing Suction Hopper Dredger-Queen of the Netherlands



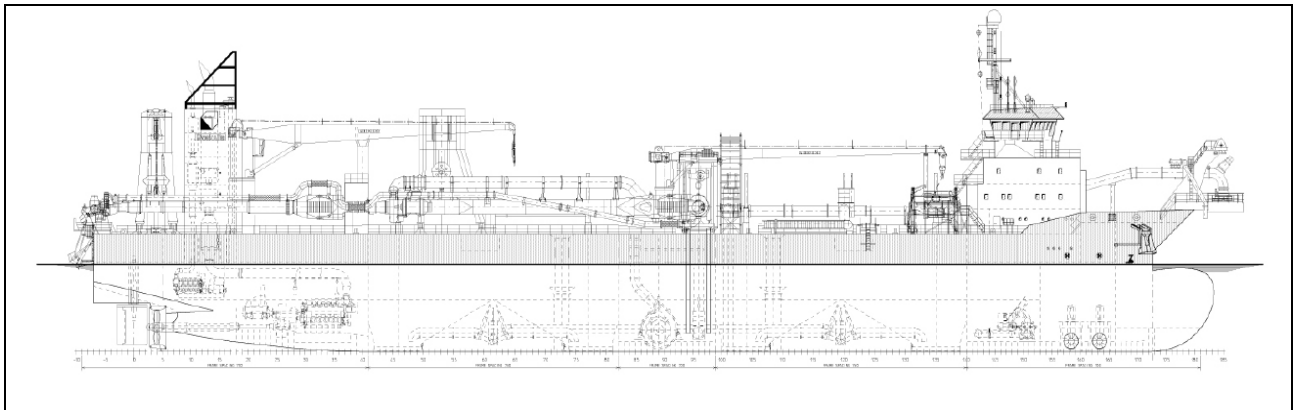
Source: Boskalis Dredging and Marine Experts

Illustration 4 Top View Deck Level of the Trailing Suction Hopper Dredger- Queen of the Netherlands

Trailing Suction Hopper Dredger (TSHD)-Willem Van Oranje

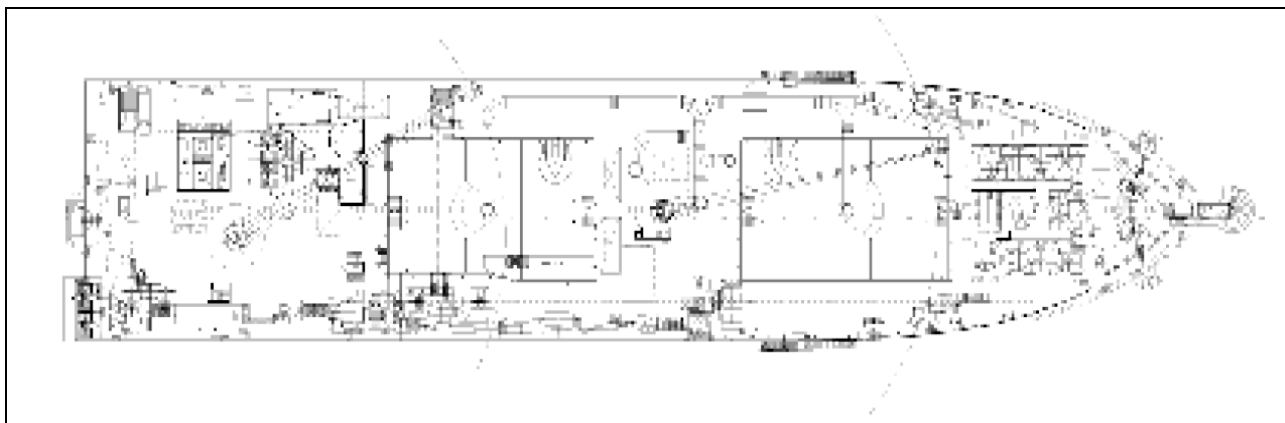
Trailing suction hopper dredger Willem van Oranje will become the world's first dredging vessel to operate on 100 percent bio-fuel oil. The fuel, which is completely free from sulphur, is made from used cooking oil, resulting in a carbon reduction of 90 percent compared to conventional fossil fuel.

The 143m-long TSHD Willem van Oranje, which began service in 2010, has a hopper capacity of 12,000 cubic meters and total installed power of 13,870 kW. It can dredge to a depth of 62m and is deployed on some of the most diverse maritime infrastructure projects around the world, **Illustration 5 and Illustration 6 presents side view and top view deck level of the equipment, respectively.**



Source: Boskalis Dredging and Marine Experts

Illustration 5 Side View of the Trailing Suction Hopper Dredger-Willem Van Oranje



Source: Boskalis Dredging and Marine Experts

Illustration 6 Top View Deck Level of the Trailing Suction Hopper Dredger-Willem Van Oranje

2.6 Project Phases, Key Environmental Aspects, Wastes, and Built-in Measures

Table 3 summarizes the environmental aspects, wastes and built-in measures that would likely occur during the operation of the proposed dredging of seabed.

Table 3 Key Environmental Aspects, Wastes, and Built-in Measures

Phases	Environmental Aspect	Wastes	Built-In Measures
Pre-Construction Phase	Planning Stage, preparation of conceptual plans and final plan and secure ECC	No Identified wastes related to this phase	Comply with the process as mandated by the National and Local Office
Construction and Operation Phase	Land – Alteration of bathymetry, seabed profile Water- Turbidity, changes in waves and current patterns Biological-loss of fish population and changes in the density, diversity, biomass	<ul style="list-style-type: none"> • Mud/Silt and other unwanted materials derived during dredging, transporting and filling by rain blowing activity • Domestic Wastewater generated by the on-board workers • Solid wastes • Hazardous wastes • Accidental Oil spills • Emission of vessel 	<ul style="list-style-type: none"> • Provision for Silt curtain • Implement Bilge Water Management • Compliance with MARPOL 73/78 • For Sea-based Operations- These are generally garbage from the crew and are segregated onboard, placed in bins and disposed onshore. • No disposal of liquid and solid wastes at the sea • Compliance to Sections of the Philippine Clear Air Act, R.A. 8749 • Equipment shall be provided with filter media
Abandonment Phase	Water	Domestic Wastewater generated by the on-board workers	The project shall be developed into farm lot subdivision.

2.7 The project site and the proposed EIS Study Area.

The Direct Impact Area (DIA) identified is the entire project site with area of **3,974.3028** Hectares within the Municipal Waters of Limay, Bataan. The presence of fishersfolks utilizing the sea as the main sources of income or livelihood. Biological effects such as changes and loss of marine lives, domestic wastewater, solid waste and hazardous wastes to be generated by the vessels. The proposed site is about 16 km west from the dredging site, considering the distance and location, no identified Indirect Impact Area (IIA), **Figure 7 shows Project Location Showing Impact Area.**

2.8 Resource Utilization

Power- During the dredging/reclamation works, electrical power that will be required by sea craft and auxiliary equipment will be sourced on-board these sea vessels.

During filling, which may take approximately 2 years, the minimal power requirements of the maintenance crew and for lighting on the reclamation site will be sourced through MERALCO.

Water- Water supply by the vessel/barge crews will also be on-board.

2.9 Project Timeframe of the Project Phases

Pre-Construction Phase – Acquisition of necessary permits – 6 months to 1 year

Operation Phase – Two (2) Years

Decommissioning Phase – Two (2) Months

Table 4 Project Timeframe of the Project Phases

Phase	Year															
	1				2				3				4			
	Semester															
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Pre-Operation/Construction																
Operation																
Decommissioning																

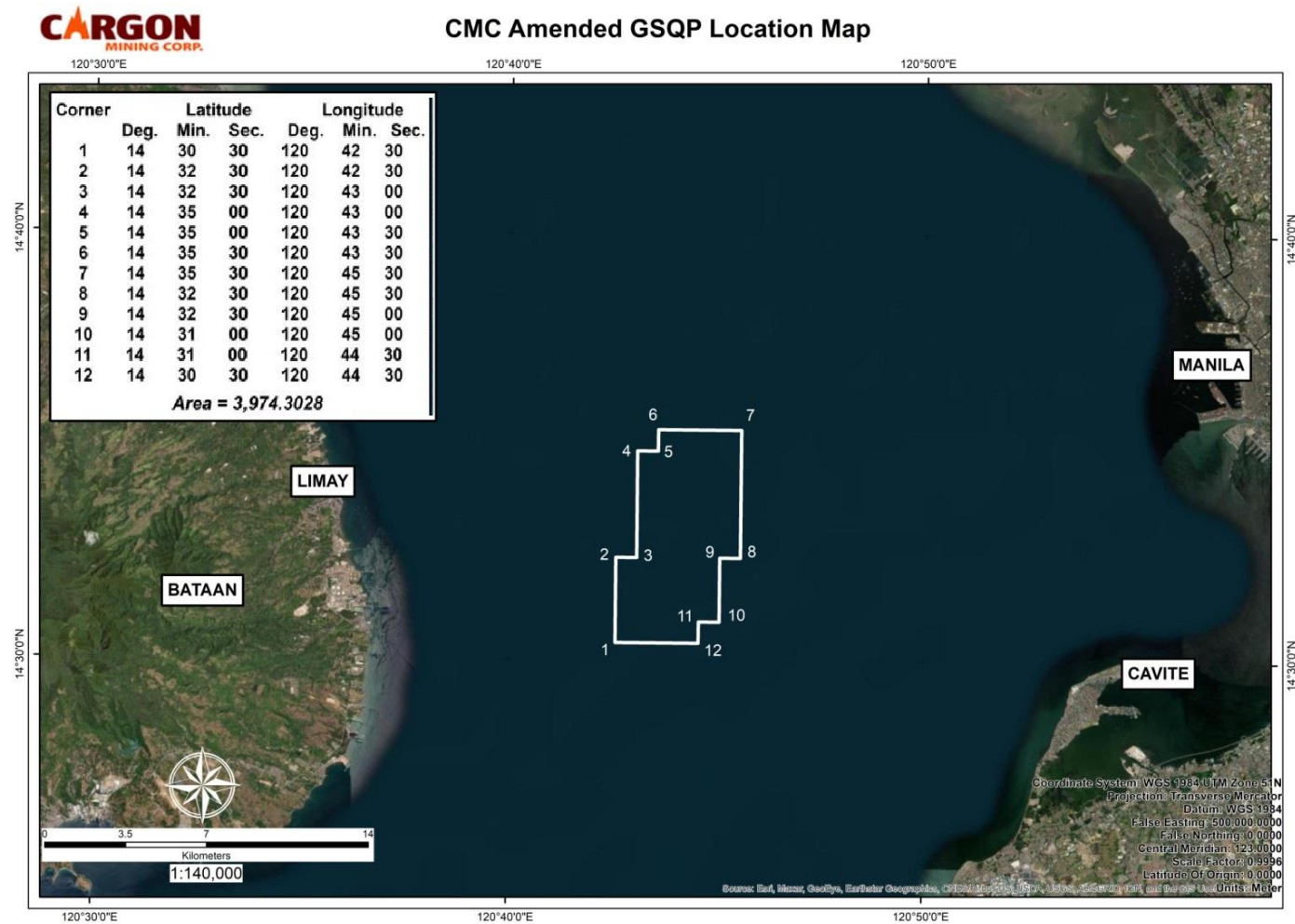


Figure 7. Project Location Showing Impact Area

2.10 Photos of the project Site.

