



Permit No: CI00454500102

## ENVIRONMENTAL PROTECTION AGENCY

# *Environmental Permit*

ENVIRONMENTAL ASSESSMENT REGULATIONS, 1999 (LI 1652)

This is to authorize

## MINISTRY OF WORKS AND HOUSING

To commence the proposed Greater Accra Resilient and Integrated Development (GARID) Project as per the attached schedule.

Located within Accra Metropolis and other Municipalities of the Greater Accra Region of Ghana.

Ebenezer Appah-Sampong  
Deputy Executive Director/Technical Services  
For: Executive Director

Date Issued: October 27, 2021

Validity Period: April 26, 2023

**NB:** This Permit is only valid with the attached Schedule and the Seal of the Environmental Protection Agency and conditioned upon obtaining other permits from relevant institutions among others

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## Environmental Protection Agency

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### SCHEDULE TO THE ENVIRONMENTAL PERMIT

- 1.0 CONTACT : KWADWO OHENE SARFOH  
(PROJECT COORDINATOR)
- 2.0 COMPANY : MINISTRY OF WORKS AND HOUSING  
ACCRA-GHANA, GAR
- 3.0 CONTACT : +233302983322
- 4.0 REGISTRATION NO. : CI: 4545/01
- 5.0 PERMIT NO. : CI0045450102
- 6.0 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)  
PROPOSED GREATER ACCRA RESILIENT AND INTEGRATED  
DEVELOPMENT (GARID) PROJECT LOCATED IN THE ACCRA METROPOLIS  
AND OTHER MUNICIPALITIES OF GREATER ACCRA REGION OF GHANA.

In pursuance of the Environmental Protection Agency Act 1994 Act, 490 {Sections 2 (i) and 12 (1)} and the Environmental Assessment Regulations, 1999 (LI 1652) and on the basis of the information provided in the Environmental Impact Assessment (EIS), ( September 2021), this Environmental Permit is issued authorizing **Ministry of Works and Housing** to commence the **Deferred and Routine Maintenance Dredging of Odaw Drainage Basin project** located in the Accra Metropolis and other Municipalities of Greater Accra Region of Ghana upon obtaining the necessary building and development permits from the relevant Assemblies.

### 7.0 CONDITIONS OF PERMIT

#### 7.1 Project Specifications

- a. Comply with all project specifications, mitigations, monitoring and other environmental management provisions indicated in the project EIS as well as Ghana Standard for Environmental Protection-Requirements for Effluent Discharge (GS 1212,2019), Ghana Standard for Environment and Health Protection-Requirements for Ambient Air Quality and Point Source/Stack Emissions (GS 1236, 2019), Ghana Standard for Health Protection-Requirements for Ambient Noise Control (GS 1222, 2018). The project involves the **Deferred and Routine Maintenance Dredging of Odaw Drainage Basin** in the Accra Metropolis and other Municipalities with the following activities.

### **Project Scope**

- a) Excavation/dredging /removal of waste and sediments from the Odaw River, its tributaries drains and Korle Lagoon
- b) Emptying of sand traps
- c) Construction of the handling sites and handling of the dredged materials
- d) Transport of dredged materials from dredging locations to the handling sites
- e) Transport of non-reusable materials from handling sites to disposal site of Anyaa
- f) Temporary removal of flap gates of the interception weir and prevention of floating waste entering the Lagoon.

### **Equipment /Methodology of dredging**

- a) Cutter suction dredger (CSD)
- b) Watermaster in hydraulic configuration
- c) Watermaster in mechanical configuration
- d) Excavator +pontoon (wet mechanical dredging)
- e) Excavator (dry mechanical dredging)

## **7.2 Location**

- a) The proposed project is located within the Accra Metropolis and other Municipalities of Greater Accra Region. The dredging project will be carried out in the following locations.

I.Odaw line, 33,123m<sup>3</sup>

II.Odaw unlined 9,138m<sup>3</sup>

III.Agbobloshie

IV.South Kaneshie, 14,334m<sup>3</sup>

V.Korle Lagoon, 29,949m<sup>3</sup>

- b) The following locations with their coordinates will serve as temporary handling sites for the dredged materials before its finally disposed off

I.Korle-na, (5.532186, -0.221591)

II.Odaw-na, (5.558610, -0.219359)

III.Pasico, (5.538386, -0.219025)

IV.Lavender hill, (5.529935, -0.223344)

## **7.3 Displacement of properties**

- a) Ensure payment of adequate compensation for buildings, lands and kiosks in accordance with the provision of the law at the appropriate values in line with the Land Valuation procedures
- b) Affected people shall be compensated and a resettlement action plan to be prepared and livelihood restoration plan for vulnerable prepared for implementation
- c) Collaborate with Lands Commission to facilitate the compensation procedures to ensure that all affected parties are promptly compensated.
- d) Submit a report on compensation payment as part of the Annual Environmental Report of the project.
- e) Optimise the footprint of the works, including access to the dredging areas, cleaning of drains, collection areas, dewatering areas in order to avoiding assets of people
- f) Place markers in the field with the deferred dredging campaign to show footprint of the works so that people do not established any assets within the footprint

- g) Implement waste separation before waste is transported to disposal site, so that valuable materials can be removed by the people who are affected by the removal of the solid waste

#### **7.4 Drainage and Flood Management**

- a) Ensure that all drainage system designs follow the natural topography of each location to minimize flood
- b) Ensure that there is demarcated land reserved for landscaping in order to reduce flooding
- c) Excavated materials should be fully enclosed to prevent run off
- d) Implement Flood Early Warning Systems (FEWS) under GARID, and other non-structural measures in order to reduce flood risks and causalities
- e) Implement and enforced safety measures at locations with hazardous and explosive materials in order to reduce risks associated with flood and others
- f) Relocate all facilities outside flood-prone zones in order to reduce indirect flood impact
- g) Involve local communities in keeping the neighbourhood clean raising their awareness on in waste prevention and management.
- h) Prevent further encroachment of the buffer zone along the Odaw river and drains, so that less people are in the flood-prone area
- d) Implement improved solid waste management in Accra (as part of GARID) to reduce the load of solid waste in the drain and channels and therewith in the dredged material

#### **7.5 Flood Control Measures**

- a) Prepare and implement schedules for bi-annual de-silting of all drains systems within the Greater Accra Metropolis

#### **7.6 Appropriate Waste Handling and Management Measures**

- a) Ensure proper waste handling measures consistent with the requirements of the following:
  - The Local Government Act 1994, (Act 462)
  - Annex 3.4.1 EPA Permissible levels and the EPA Act 1994, (Act 490)
  - The Hazardous Act, 2016, (Act 917)
- b) Ensure that waste is segregated at source as a standard requirement for all franchised operators and contractors for the project
- c) Ensure that only licensed waste operators manage the wastes at the dredging sites

#### **7.7 Traffic Management Framework**

- a) Ensure that access roads are improved to enhance safety during of the dredging activities.
- b) Sensitise communities about the proposed dredging project as well as vehicular and material haulage through towns.
- c) Ensure that all haulage trucks travel within the 20km/h speed limit
- d) Engage the services of a traffic warden to regulate traffic to and from the facility
- e) Alternative routes must be provided for pedestrian and vehicular traffic at closed or obstructed access routes
- f) Adequate reflective road signs must be placed at appropriate locations to avoid accidents
- g) All construction trucks and machinery must carry appropriate warning signals
- h) Name the various parking lots within the dredging sites and conspicuously displaying these names
- i) Erect signage within the various dredging sites and direct incoming vehicles to available parking lots

- j) Transport dredged materials during off-peak traffic periods along transport routes
- k) Prepare and implement traffic management plan

#### **7.8 Work Camps/Sites**

- a) Approval must be sought and obtained from the Agency in the selection and siting of work camps or sites
- b) Under no circumstance should the siting and operation of work camps create any social, health or environmental nuisance
- c) Work camps and worksites must be re-instated to blend with the surrounding natural conditions
- d) Work camps should not be sited close to river bodies or residential areas

#### **7.9 Noise and Sanitation**

- a) Comply with EPA permissible noise levels of 55dB(A) in the daytime i.e., 06:00hrs – 22:00hrs and 48dB(A) at night between 22:00hrs – 06:00hrs
- b) Comply with the existing Metropolitan Assemblies' byelaws on noise and sanitation.

#### **7.10 Noise and Vibration Control Measures**

- a) Noise emissions from the operations (including the construction stage) into the external environment shall meet the Ghana Standard for Health Protection-Requirements for Ambient Noise Control (GS 1222, 2018) levels for industrial areas.
- b) Implement measures/actions to:
  - i. Ensure that static and dynamic balancing of all noise generating equipment is done regularly to reduce noise emissions.
  - ii. Provide silencers to selected equipment with the ability to generate high noise levels to minimize noise emissions.
  - iii. Provide enclosures for selector equipment with the ability to generate excessive noise.
- c) The equipment layout, equipment foundations, and structures shall be designed taking into accounts, the requirements for noise abatement and minimization.
- d) Ensure that staff operating at the dredging sites are provided with ear plugs and other personal equipment (PPE).
- e) Ensure that machinery and equipment such as PA systems and generator sets undergo scheduled/routine maintenance for efficient output and reduction in potential frictional noise from moving parts.
- f) Set up public complaint desks at the Assemblies and conspicuously advertise them to solicit concerns from the public.
- g) Use barges for dredging in wet environment if this indeed reduces CO2 emissions
- h) Comply with EPA permissible noise levels of 55dB(A) in the daytime i.e., 06:00hrs – 22:00hrs and 48dB(A) at night between 22:00hrs – 06:00hrs
- i) Comply with the existing Metropolitan Assemblies' byelaws on noise and sanitation.

#### **7.11 Occupational Health and Safety**

- a) Pre-employment training should be provided for all recruited workers on safety procedures associated with basic dredging works, equipment and machinery handling etc
- b) Institute an environmental awareness training programmes to sensitise workers on the need to follow laid down procedures during the dredging activities

- c) Ensure the provision of appropriate personal protective clothing/gear such as gloves, over coat, safety boots, nose masks etc.
- d) Ensure the provision of well-stocked first aid kit for minor injuries that might occur
- e) Reversing alarms should be installed on all machinery and vehicles to alert people to avoid accidents
- f) Demarcate and fence temporary waste temporary handling site, collection areas and dewatering areas to prevent unauthorized entry into the sites.
- g) Selection collection areas with minimum community risks, away from houses and businesses
- h) Provide first Aid kits to cater for minor accidents before workers are sent to clinic depending on the level of injury

#### **7.12 Dust and Emission Control Measures**

- a) Ensure that dust suppression measures include water dowsing along the roads to be used by project vehicles.
- b) Ensure speed limits of 40km/h but reduced to 20km/h within project sites.
- c) Haulage trucks should be covered with tarpaulin to prevent dust emission.
- d) Follow noise abatement procedures
- e) Follow laid down procedure when conducting engine runs
- f) Adherence to scheduled vehicle maintenance regime for all operators
- g) Provision of signage to inform drivers of full and available car parks
- h) Ensure the use of modern, well-maintained machinery and vehicles to reduce air emission

#### **7.13 Biodiversity Protection Measures**

- a) Provide greenbelt by reserving some areas for residual biodiversity resource protection
- b) Demarcate and enforce the relevant buffer distances along water bodies if any
- c) Comply with the national buffer zone policy.
- d) Consult the Water Resources Commission to determine the appropriate buffer zone

#### **7.14 Wildlife Control Measures**

Ensure that Wildlife control measures are consistent with AfDB's Environmental and Social Policies and Guidelines Operational Safeguard 3- Annex 3.3.6, will involve the elimination of the presence of attractants and dispersal methods as well as control of activities beyond the areas to be dredged. Attractant eliminating measures should include the following:

- a) Landscaping of available areas within the areas to be dredged (controlled weeding)
- b) Implementation of proper waste management practices
- c) Use of auditory deterrent method (use of distress and predatory calls)
- d) Physical barriers (perimeter fence)
- e) Visual deterrents- lights

#### **7.15 Reduce Soil Erosion and Destabilization**

- a) Rehabilitate sites after work, including restoring beds, banks, and flow of waterways.
- b) At the completion of the work, disturbed soil should be levelled and grasses immediately or re-planted to control soil erosion.

#### **7.16 Livelihood Enhancement Opportunities**

- a) Develop a resettlement framework to guide and ensure adequate, fair and equitable compensation payment to affected property.

- b) Institute an employment package that will cater for the artisans in the affected and neighbouring communities.

#### **7.17 Solid Waste Management**

- a) Effectively manage solid and liquid wastes including hazardous and non-hazardous waste generated during the dredging activities.
- b) Train staff in effective waste handling and management procedures
- c) Comply with the waste management requirements of the Metropolitan Assemblies.
- d) Consult with the Metropolitan Assemblies on the development of new off-site engineered landfill sites.

#### **7.18 Fire Prevention Measures**

The following mitigation measures shall be instituted

- a) Provision of water hydrants at strategic locations around the dredging locations
- b) Posting of safety signs indicating and prohibiting smoking, mobile phone usage and naked light and switching off engines to prevent potential ignition at the places where activities are being carried out

#### **7.19 Recycling of Waste**

- a) All waste generated from construction activities should be reused or sold to recycling companies to be converted to usable products.

#### **7.20 Public Utilities**

- a) Statutory reservations should be observed during the dredging activities in order to avoid destruction

#### **7.21 REGULATORY REQUIREMENTS**

Notwithstanding this permit, the project is further subject to other relevant regulations and permits pertaining to the sector and must be observed. These include the following amongst others;

- a) Fire Precaution (Premises) Regulations 2003, (LI 1724)
- b) Factories, Offices and Shops Act, 1970 (Act 328)
- c) Comply with the Water Resources Commission Act, 1996 (Act 522)
- d) Hazardous and Electronic Waste Control and Management Act, 2016, (Act 917)
- e) Hazardous Electronic and Other Wastes (Classification), Control and Management Regulations 2016, (LI 2250)
- f) Public Health Act, 2012 (Act 851)
- g) Persons with Disability Act, 2006 (Act 715)
- h) Ghana Standards Authority Act, 1973 (N. R. C. D. 173)

#### **7.22 Minimize Transmission of HIV/AIDS and Other Communicable Disease**

- a) Implement regular and frequent HIV/AIDS awareness training for dredging workers, with more frequent and focused training for higher at-risk workers
- b) Regularly distribute HIV/AIDS awareness communications materials;
- c) Implement labour hiring programme away from dredging sites to reduce the presence of "camp followers," prostitutes, drug dealers/users, and other potential HIV/AIDS carriers;

- d) Monitor the build-up or presence of “camp followers,” prostitutes, narcotics dealers/users, and other potential HIV/AIDS carriers who may attempt to access construction or camp facilities or attempt to interface with contractor or subcontractor employees;

**7.23 Landscaping**

- a) Adequate provision should be made for landscaping and beautification in accordance with Section 26(1) of the National Building Regulations, 1996, LI 1630 to enhance the natural landscape of the project area.

**7.24 Parking Facilities**

- a) Make adequate requirements for parking of vehicles to avoid parking on pavements and access roads.

**7.25 Monitoring**

Monitor the following during project activities

- a) Air quality and dust generation (in built up areas) -(PM10, CO2, SO2, NO2 & O3 levels)
- b) Noise
- c) Waste Management
- d) Compensation Payment
- e) Traffic Management
- f) Accidents

Submit quarterly monitoring reports on the above issues to the Agency during the dredging phase of the project

**7.26 Completion Notice**

- a) Notify EPA on the completion of the proposed project infrastructure development

**7.27 Notification of Works and Changes**

- a) Notify relevant authorities including EPA of malfunctions/accidents/incidents within 24 hours of such occurrences.
- b) Notify EPA of any major changes in the planned development contrary to the information provided in the ESMS
- c) Notify EPA of the completion of the proposed project and any expansion works.

**7.28 Annual Environmental Report**

- a) Submit Annual Environmental Report of the company’s operations in accordance with Regulation 25 of LI 1652.

**7.29 Environmental Management Plan**

- a) Submit an Environmental Management Plan within eighteen months of commencement of project operations and thereafter every three years in accordance with Regulation 24 of LI 1652. The Environmental Management Report should incorporate all other operations on site



### 7.30 Site Meetings

- a) Invite the relevant EPA Regional or District office to attend relevant Site Meetings to discuss the implementation of environmental safeguards in the proposed projects or existing projects

### 7.31 Other Permits

- a) Notwithstanding this Permit, the project is further subject to other relevant regulations and permits pertaining to the sector and must be observed.

### 7.32 Permit Transferability

- a) This permit is not transferable. It covers only **Ministry of Works and Housing's** compliance with conditions provided in the Environmental Impact Statement (EIS).

### 7.33 Validity Period

- a) This permit is valid for a period of eighteen (18) months from the issuance of this permit and shall expire on **April 26, 2023**.

### 7.34 Permit Limitation

- a) This permit does not cover the operations of any of the existing or proposed dredging projects in the country. Separate assessments must be carried out and permits obtained for either existing or proposed airport terminals in the country as appropriate.

### 7.35 Grievance Redress Mechanism

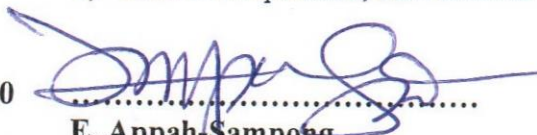
- a) Set up public complaint desks within the areas of influence to receive feedback on any flood cases.
- b) Set up public complaint desks at all the Assemblies and conspicuously advertise them to solicit concerns from the public.

### 7.36 Penalty for Breach of Conditions of Environmental Permit

Providing false information or failure to comply with or observe all the permit conditions above shall:

- a) Attract administrative penalties as shall be prescribed by the Agency.
- b) Attract the necessary fines as prescribed under Regulation 26 of the Environmental Assessment Regulations, 1999, LI 1652.
- c) Render this permit invalid.
- d) Lead to suspension, cancellation or revocation of this permit or prosecution.

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**E. Appah-Sampong**  
**Deputy Executive Director (Technical Services)**  
**For: Executive Director**

**Date Issued: October 27, 2021**

**Expiry Date: April 26, 2023**

### 9.0 NOTIFICATION

*The Hon Minister, Ministry of Environment, Science, Technology and Innovation, Accra*  
*The Chief Executive, Accra Metropolitan Assembly, Greater Accra Region*  
*The Executive Secretary, Water Resources Commission, Accra*  
*The Hon Minister, Ministry of Roads and Highways, Accra*  
*The Chief Inspector of Factories, Factories Inspectorate Dept, Accra*  
*The Regional Director, EPA, Accra West Region, Amasaman*