TERMS OF REFERENCE FOR THE ARCHITECTURAL CONSULTANCY SERVICES REQUIRED FOR THE DEVELOPMENT OF AN ALTERNATIVE FUMIGATION FACILITY AT THE GOVERNMENT OF JAMAICA'S EXPORT COMPLEX IN KINGSTON, JAMAICA

1. BACKGROUND

There have been several reports of damage to fumigated products (especially yams) over the years from the Kingston Complex. These damages are attributable to the chamber type fumigation currently practiced. Temperatures recorded at the Export Complex in Kingston; over the last seven (7) years indicated that the temperatures have been increasing. The records showed that these temperatures reach as high as 102.2 degrees Fahrenheit especially during the summer. Ideally yams should not be exposed to temperatures this high. This upward trend in the movement of environmental temperatures is expected to continue as global warming continues.

Chamber type fumigation uses more methyl bromide as the system uses a fixed supply of the gas irrespective of the quantity of produce being fumigated. This can have detrimental effects on the environment and will also increase the fumigation cost to farmers. Some exporters have stopped fumigating at the Kingston Complex due to the fear of product damage influenced by heat.

The MICAF is now seeking to construct an alternative fumigation facility that will minimize the possible negative effects of rising global temperatures on the produce being fumigated for export by the MICAF. It is also seeking to reduce the volume of methyl bromide gas which is consistently used, and as a result reduce operating costs as well as environmental damage resulting from the release of methyl bromide in the atmosphere. In the final analysis, what is being sought by MICAF is a modern fumigation facility that will facilitate the provision of an efficient, cost effective and climate resilient fumigation service to all its customers, including the very small exporters**.**

2. OBJECTIVE OF CONSULTANCY ASSIGNMENT

To prepare preliminary, detailed designs and bill of quantities, along with tender documents with the inputs of the required engineers and other technical experts to ensure that the designs of the proposed Fumigation Facility at the Export Complex in Kingston, satisfies of local and internationally accepted standards..

3. DELIVERABLES, COMPLETION DATES & PAYMENT PLAN

No.	DELIVERABLES OF ARCHITECTUAL FIRM	COMPLETION TIME	PAYMENT - % OF CONSTRUCTION COSTS
1	Preliminary Design	3 weeks after signing	2%
2	Detailed designs and Bill of Quantities	7 weeks after signing	5%
3	Tender documents	12 weeks after signing	1%
4	Construction supervision progress reports	Monthly or as agreed	4%

4. SCOPE OF WORK –TO BE UNDERTAKEN BY THE CONSULTANT

In designing the preferred fumigation facility and developing the project proposal, the following factors should be taken into consideration

a) **Foundation** - the entire facility i.e. fumigation zone and enclosed building (office, introduction room, storage room, bathroom, and gas reading room) will sit on a 193 x 206 ft. foundation, 4ft high all around to facilitate loading and off-loading of containers and trucks. The foundation will also be equipped with ramp, and steps that will accommodate movement of people and machines**.**

b) **Driving Ramp –** one driving ramp will be located just in front of the north eastern corner of the eastern section of the fumigation zone and one just across the south west corner of the western section of the fumigation zone. This ramp will serve to accommodate easy movement of the ministry's operational vehicles (forklift).A step for pedestrians should be located south of both ramps (in the south east and south west corners respectively).

c) **Operational Ramp–**This is to serve the purpose of loading and off-loading of cargo at the fumigation facility. This ramp will circumference the fumigation area and provide adequate place for operation.

d) **Steps –**there will be two steps implemented to facilitate pedestrian movement, thus increasing the safety of workers. One step will be implemented adjacent to the main ramp, while the second step will be implemented to the north of the property adjacent for the enclosed building**.**

e) **Ground surface –** the entire surface area around the fumigation facility should be asphalted. The purpose of this is to ensure easy movement of delivery trucks and containers on the property. This will also help to maximize the ability to maintain ground sanitation and pest control programs**.**

f) **Fencing –** the entire perimeter of the fumigation property will be fenced off from the airport authority main land. Fence will be 12 feet high made of chain link fence and razor wire on top of the chain link.

g) **Buffer Zone –** Forty feet (40ft) from the fence on the south side and the west side. Sixty feet (60ft) on the east side and fifteen feet (15ft) on the north side. The distance between the fumigation block and the office complex should be forty feet (40). The office complex will encompass a small office, storage room and bathrooms.

h) **Floor –** This will be concrete and steel floated to encourage safe and smooth movement of people and machinery working in the area. Special attention will be given to the fumigation zone in ensuring the area is properly paved or rendered to avoid the development of cracks or breaches that would cause escape of gas during fumigation**.**

i) **Roof –** roofing for the fumigation zone should be zinc and all other areas except the office complex – (bathroom, office, storage, introduction room etc.) which should be made of concrete slab. For the zinc roof areas, there should be a ceiling made of treated wood to assist with heat reduction and enhance durability**.**

Scope of Architectural Design Services

i) Conduct desk research and meet with relevant MICAF officials for any further information and guidance required ; prepare detailed work plan and schedule

ii) Conduct site investigation and data collection - to accurately assess the site and identify the need for any new and additional boundary, topographical, or other survey.

iii) Consult with the Plant Quarantine Branch of MICAF and all relevant GOJ regulatory agencies /departments, to clarify required standards to be met by the facility to be designed.

iv) Prepare design concept /schematic drawings based on needs of MICAF and local and internationally accepted standards for such facilities, while seeking to minimize negative environmental impacts, and promote energy efficiency and climate resilience.

v) Following submission of design concept/schematic drawings to MICAF, receive feedback from the Ministry , its agencies and other key organizations to guide the finalization of the design development phase

vi) Prepare detailed drawings/working drawings, in-keeping with the aforementioned standards, and the requirements of MICAF.

vii) Prepare Bill of Quantities/detailed cost estimates for the construction of facility and preparation of the immediate surroundings, in keeping with generally accepted guidelines.

viii) Preparation of tender documents in keeping with the GOJ requirements

ix) Provide supervision and prepared required reports/documents during the construction period

5. **QUALIFICATIONS OF THE CONSULTANCY FIRM**

The Consultancy Firm should have at least fifteen years of experience in the design of factories, warehouses or similar type of large facilities.

Qualification of Key Personnel

i) Key Expert 1: Architect and Project Manager: Master's Degree in Architecture, registered with the Architects Registration Board locally or overseas, with over 15 years of experience in the design of a variety of large structures. Extensive experience in construction supervision and project management.

ii) Key Expert 2: Civil /Structural : B.Sc. in Civil Engineering, registered with a Professional Engineers Registration Board, with over 15 years of experience on a wide variety of construction projects, including experience in refurbishing/construction of sports and recreational facilities.

iii) Key Expert3: Quantity Surveyor–B.Sc. in Quantity Surveying, with over 10 years of experience in quantity surveying and a member of Jamaican Institute of Quantity Surveying.

6. **REPORTING AND SUPERVISION**.

The Consultants will report to the Principal Director of Panning & Policy at MICAF and will consult with the Head of the Plant Quarantine Branch as required during the conduct of the assignment.

7. THE CHARACTERISTICS OF CONSULTANCY

a) Type of Consultancy: Firm

b) Duration of Project

The Architectural design phase of the project will be over a twelve week period. The construction supervision will be over a one year period after the start of construction of the facility

c) Type of Contract:

12% of the agreed construction cost of the facility.