**TERMS OF REFERENCE**

**CONSULTANT FOR DESIGN & SUPERVISION**
**OF**
**Special Education Block Construction & Rehabilitation Package**
**Lowe River Primary School, Trelawny & Frankfield Primary School, Manchester**

**PROJECT #073781**

***CONTENTS***

**DEFINITIONS**

For this TOR the following terms are defined:

**Consultant** – Referred to as the Firm contracted to undertake Design services as outlined in this Terms of Reference and as the Project Manager, Designate for the Works Contract that may flow from this assignment.

**JSIF** –JSIF is the "Employer" for all design, supervision and contracting services.

**Contractor**- A provider or prospective provider of goods (under goods contract), works (under a works contract) and services (under a services contract).

**Project Manager** – is the Managing Director or designate as assigned by the Managing Director.

# INTRODUCTION

## 1 GENERAL INTRODUCTION

The Jamaica Social Investment Fund (JSIF) was established in December 1996 as a component of the Government of Jamaica's strategy to reduce and eradicate poverty. Cabinet in December 1995 approved the establishment of the JSIF as a key component of the Government's National Poverty Eradication Programme (NPEP). JSIF invests in community-based projects as a means for empowering communities and building social capital. By involving communities fully in identifying, prioritising, planning, managing and monitoring their own development projects, JSIF helps to build local capacity to sustain and extend development initiatives.

The JSIF is an autonomous government company designed to provide investments in community-based projects island wide and is a demand-driven financial intermediary. It works in partnership with communities, the private sector, non-governmental organizations (NGOs), and donor agencies, in seeking to channel benefits to the poorest communities across the country.

The JSIF promotes, appraises, finances, and supervises sub projects in the following areas:

Social Infrastructure - includes the rehabilitation, expansion, construction & equipping of facilities such as schools, health centres, community centres, homes for the elderly and persons with disabilities, infirmaries; it also includes the construction and rehabilitation of public sanitary conveniences, drains, canals and community-based water systems.

Economic Infrastructure - includes the rehabilitation and upgrading of parochial, feeder and urban access roads and the construction and rehabilitation of community-based agro-processing facilities.

Social Services - includes assistance to programmes offering services in career guidance and job placement, counselling (including conflict resolution & drug abuse), parenting and family life education, and skills training to the un/under employed and persons with disabilities.

Organizational Strengthening - includes technical assistance and training for community-based organisations to assist them in developing and managing community-based projects and organisations, to governmental and non-governmental institutions in participatory project cycle management and improving the support they can provide to communities in managing community development initiatives.

## 2 PORTFOLIO BACKGROUND

The Basic Needs Trust Fund Programme Tenth Cycle (BNTF 10) is funded through a grant provided by the Caribbean Development Bank in the sum of USD 8,249,000 to the Government of Jamaica and GoJ counterpart funding of USD 1,168,000. The effective implementation period of the loan is October 2021 – April 2025.

The BNTF 10 will continue to finance sub-project interventions in core priority sectors of water and sanitation, basic community access and drainage, and education and human resource development including livelihoods. Encouraging greater private sector partnerships has been built into the Programme design to leverage additional resources for reducing poverty.

The core purpose of the project will be to facilitate the development of rural communities through increased access to basic services thereby advancing Jamaica's thrust towards full Rural Development. The design and implementation architecture will be geared towards responding to the need for increased flexibility, efficiency, consolidation of institutional efforts, and progressive delegation of authority to country Implementation Agencies (IAs), in line with improving programme management capacity, supervision, quality assurance and institutional competencies. These will be achieved through:

- Expansion and conservation of the stock of social and economic infrastructure, using labour intensive measure of community mobilization to enable access to a wide range of basic public services;

- Improvement of the human resource base through skills development and social readjustment; and

- Promotion and strengthening of community organizations and their capacity for initiating and managing change.

It is anticipated that the subprojects funded by the grant will be predominately located in rural Jamaica given the high incidence of poverty in these areas. The BNTF 10 is directly aimed at assisting poor communities, therefore, in instances where urban sub-projects are undertaken these will be located in quintile 1 or 2 communities or be located in the higher quintiles but be in areas considered to be a "pocket of poverty".

# 3 PROJECT OVERVIEW

The Jamaica Social Investment Fund (JSIF) is seeking to aid the Ministry of Education in the expansion and rehabilitation of schools across Jamaica to enhance the learning experience of the children through the provision of better facilities.

Given the identified gaps in the services provided in support of Children with Disabilities, the JSIF will be supporting the MOE in increasing the number of institutions equipped to facilitate all students, irrespective of their disabilities. The project will target 2 institutions as outlined below:

1. Lower River Primary School – Trelawney
2. Frankfield Primary School in Manchester

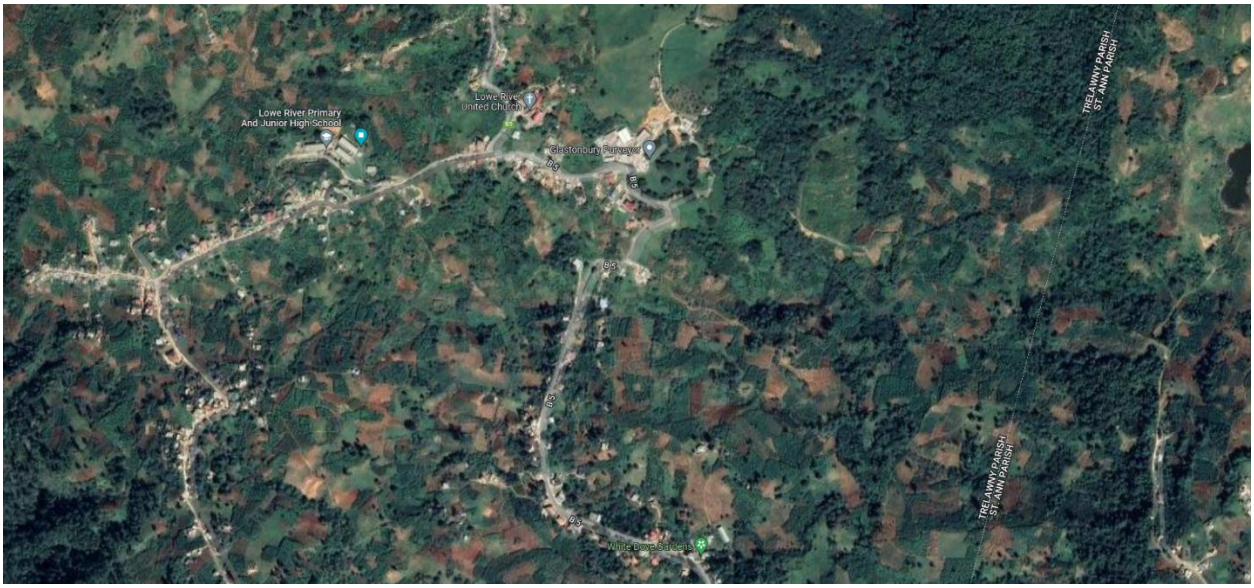
**Lowe River Primary School**

Consultancy services are required to support the effective implementation of the captioned project. The project will involve the construction of a classroom block with associated tertiary sewer system and sick bay, making connections to existing utilities.

## Location

**Lowe River Primary School, Trelawny**

**Co-ordinates: (18°14'15.2"N 77°29'50.4"W)**




## Key Stakeholders

Lowe River Primary School
Acting Principal: Dorrett Brown
876-359-5239

JSIF Contact :

Project Manager
Daintyann Barrett-Smith
876-968-4545 ext. 2238
876-5612246

Social Officer
Renisha Daley
876-968-4545 ext. 2233
876-442-8140

Project Officer
Danielle Simpson
876-968-4545 ext. 2241
876-418-3251

**Project Budget for Works: JMD 35 - 40 million**

**SUMMARY TABLE OF ISSUES / PROPOSED NEEDS AND SOLUTIONS**

| ISSUE | PROPOSED SOLUTION |
|---|---|
| **Lowe River Primary School, Trelawny** | |
| | |
| Ministry of Education is seeking additional classroom spaces at the school to house a special needs unit which will serve the students in the surrounding areas. | Consultant will undertake the Design and supervision of a reinforced concrete two (2) classroom block, on the school grounds, with classrooms no less than 51.28m² or 552ft². Scope should consider ramp access, for physically disabled, to be incorporated in building design, Louvre type windows with aluminium bend resistant extruded blades, construction of a covered walkway, the consultant will also need to ensure that the proposed design is adequately placed onsite and with the required foundation as it relates to structural integrity and resistance to the adverse weather effects and phenomenon. |

| ISSUE | PROPOSED SOLUTION |
|---|---|
| New block will need a bathroom due to the distance from existing bathroom facilities. | Consultant will undertake design and supervision of a reinforced concrete four (4) seater male and female bathroom facility (2 wheelchair accessible water closet seats (p.w.d) for girls; 2 wheelchair accessible water closet seats (p.w.d) for boys) with accompanying tertiary treatment system and connecting to public sewer system, where in existence, as well as connection to existing water supply, the consultant will need to ensure that the contractor has established relevant levels and placement of proposed structures to maintain functionality of the waste water system. |
| The sanitation and electrical elements for any addition will need to be connected to the existing systems already in place. | The Consultant is to design adequate connection points for the relevant sanitation and electrical systems to function efficiently and safely. Also, the consultant has the responsibility of ensuring the contractor makes connection of utilities for new block, upgrade of existing school utility system to facilitate new block suitably including GEI Inspection and construction of meter pole column and wiring where required. |
| Flooring for the new classroom block and bathroom needs to be able to facilitate the activities of children from day to day in the school environment | Consultant shall ensure that the classroom floors shall be steel floated concrete finish with a 4' thick reinforced concrete screed; with bathroom areas tiled with lightly colored non-skid ceramic tiles. |
| No inclusive access to proposed location for unit | Consultant is to design walkway with associated ramps and width to accommodate for wheelchair access. |
| | |
| Land surveying and geotechnical services are required to suitably set out the design on the project site. | The consultant will be required to undertake, a topographic survey and undertake works to create a surveyor's ID report, for submission to the municipal corporation, for the project site to facilitate the placing the design adequately on site. Consultant will be required to undertake all the relevant geotechnical testing and reporting necessary for the adequate placement of the design on site. |
| Though the DRMA has been removed, COVID 19 will still require the effective oversight and implementation of works on sites to ensure overall safety is maintained on the ground for all stakeholders. | The contractor will need to implement the project according to contractual agreement and in compliance with existing health protocols for COVID-19; will be responsible to ensure safety is maintained on the project site. |

*This table is for the purpose of acting as a guide to the consultant and does not constitute the entire scope of works.*

**Frankfield Primary School**

Consultancy services are required to support the effective implementation of the captioned project. The project will involve the construction of a classroom block with associated tertiary sewer system, sickbay, and walkway, making connections to existing utilities.

**Location**

**Frankfield Primary School, Manchester**

**Co-ordinates: (17°55'18.3"N 77°26'39.4"W)**


**Key Stakeholders**

Frankfield Primary School
Principal: Jason Scott
876-819-7079

JSIF Contact :

Project Manager
Daintyann Barrett-Smith
876-968-4545 ext. 2238

876-5612246

Social Officer
Renisha Daley
876-968-4545 ext. 2233
876-442-8140

Project Officer
Danielle Simpson
876-968-4545 ext. 2241
876-418-3251

## SUMMARY TABLE OF ISSUES / PROPOSED NEEDS AND SOLUTIONS

| ISSUE | PROPOSED SOLUTION |
|---|---|
| **Frankfield Primary School, Manchester** | |
| | |
| Ministry of Education is seeking a special needs facility to house the students in the surrounding areas. | Consultant will undertake the Design and supervision of a reinforced concrete two (2) classroom block, on the school grounds, with classrooms no less than 51.28m² or 552ft². Scope should consider ramp access, for physically disabled, to be incorporated in building design, Louvre type windows with aluminium bend resistant extruded blades, construction of a covered walkway, the consultant will also need to ensure that the proposed design is adequately placed onsite and with the required foundation as it relates to structural integrity and resistance to the adverse weather effects and phenomenon. |
| New block will need a bathroom due to the distance from existing bathroom facilities. | Consultant will undertake design and supervision of a reinforced concrete four (4) seater male and female bathroom facility (2 wheelchair accessible water closet seats (p.w.d) for girls; 2 wheelchair accessible water closet seats (p.w.d) for boys) with accompanying tertiary treatment system and connecting to public sewer system, where in existence, as well as connection to existing water supply, the consultant will need to ensure that the contractor has established relevant levels and placement of proposed structures to maintain functionality of the waste water system. |
| The sanitation and electrical elements for any addition will need to be | The Consultant is to design adequate connection points for the relevant sanitation and electrical |

| ISSUE | PROPOSED SOLUTION |
|---|---|
| connected to the existing systems already in place. | systems to function efficiently and safely. Also, the consultant has the responsibility of ensuring the contractor makes connection of utilities for new block, upgrade of existing school utility system to facilitate new block suitably including GEI Inspection and construction of meter pole column and wiring where required. |
| Flooring for the new classroom block and bathroom needs to be able to facilitate the activities of children from day to day in the school environment | Consultant shall ensure that the classroom floors shall be steel floated concrete finish with a 4' thick reinforced concrete screed; with bathroom areas tiled with lightly coloured non-skid ceramic tiles. |
| No inclusive access to proposed location for unit | Consultant is to design walkway with associated ramps and width to accommodate for wheelchair access. |
| Though the DRMA has been removed, COVID 19 will still require the effective oversight and implementation of works on sites to ensure overall safety is maintained on the ground for all stakeholders. | The contractor will need to implement the project according to contractual agreement and in compliance with existing health protocols for COVID-19; will be responsible to ensure safety is maintained on the project site. |
| Land surveying and geotechnical services are required to suitably set out the design on the project site. | The consultant will be required to undertake, a topographic survey and undertake works to create a surveyor's ID report, for submission to the municipal corporation, for the project site to facilitate the placing the design adequately on site. Consultant will be required to undertake all the relevant geotechnical testing and reporting necessary for the adequate placement of the design on site. |

## DESCRIPTION OF SERVICES – FORMULATION

## 4 SCOPE OF WORK

The Consultant is required to provide ALL professional inputs, advice, and support to the implementation of the project through the provision of appropriate and fit for purpose designs and costing estimates to the community stakeholders and JSIF.

Where applicable the Consultant will also be required to supervise the construction of the aforementioned works.

Design proposals will be assessed by JSIF and where preliminary approval is attained, a more detailed design and costing estimate will be required from the Consultant. These will be subject to approval by the JSIF before the Consultant makes the necessary applications and drawing

submissions to the approving agencies. The Consultant is responsible for submission of the relevant documents duly prepared and stamped to all applicable regulatory entities for approval.

Prior to the above submission, the Consultant will however take steps to engage, consider and incorporate the requirements of the relevant regulatory agencies as applicable from the start of the general scope stage. This is to ensure smooth and timely approval of the subsequent submission after Final approval of drawings has been granted by the JSIF.

The Consultant agrees to hold harmless and indemnify JSIF for all claims, damages and causes of action arising out of the negligent design by the Consultant.

The Consultant accepts that the Supervision component of the Scope of Works is not automatic and is subject to variables to include review of the Consultant's performance during the Design or Formulation phase, the successful completion of the design/formulation activities, the successful award of the works contract for the infrastructure intervention or budget.
s
JSIF's expectations of the Consultant for the design are outlined in ***Annex X***, but are not limited to ***Annex X.*** All applicable professional and regulatory standards are to be applied in the completion of this assignment.

## 5 DELIVERABLES

### Preliminary Design

The following deliverables, produced and developed to the applicable standards, constitute Preliminary Design. The purpose of the Preliminary design is to provide JSIF and relevant stakeholders with reasonable assurance that the design of the project is proceeding in a reasonable manner and that the Consultant has considered all areas that can have a major impact on the design of the project.

**The preliminary design deliverables include *inter alia*:**

- Engineering Report
    - Field test reports (to verify site conditions and validate design concepts)
    - Relevant documents (conceptual) as per project requirements for all systems and processes (Hydraulic, Civil, Structural, Electrical, Mechanical, Heating, Ventilation and Air Conditioning - HVAC) as necessary.
- Written description of conceptual requirements (operational, size, location etc.)
- Hydraulic schematics for water system (including source elevation, destination, quantity where necessary)
- Process flow diagrams illustrating all elements in the system (including pumps, filters, thrust blocks, lateral connections) as necessary.
- Preliminary engineering drawings – Civil, Mechanical, Electrical and HVAC
- Provide preliminary engineering design calculations details

- Assist in evaluating and selecting sites. Develop material and equipment checklists.
- Preliminary construction cost estimates.
- Preliminary construction schedules and WBS.
- Surveyor's ID Report

**Final Design**

The following deliverables, produced and developed to the applicable standards constitute Final Design. The purpose of the Final design is to provide detailed and complete outputs to allow for *inter alia* submission and approval of designs to the applicable regulatory agency, the preparation of complete tender documents for Works, Construction drawings, and Detailed Bill of Quantities to support a fixed price and measured works contract.

**The final design deliverables include *inter alia*:**

- Relevant standards and specifications for design drawings (such as technical, environmental, mechanical etc.)
- Concepts for all engineering systems, processes and schedule of drawings.
- Final to-scale drawings for all systems, including at a minimum, site piping plan, major earthworks, electrical diagram, hydraulic schematic, etc.
- Construction and operating cost estimates, schedules and WBS as necessary.
- Material and equipment checklists.
- Final engineering design calculations etc.
- All submissions should be in the required specified software version/format as outlined in **Annex X.**

## DESCRIPTION OF SERVICES – SUPERVISION

## 6 SCOPE OF WORK (SUPERVISION)

The implementation of the Supervision component is subject to the successful completion of the Formulation activities and the successful awarding of the works contract for the infrastructure intervention. The order to commence supervision will be given to the Consultant by the Project Manager immediately after the signature of the works contract.

The JSIF, represented by its Managing Director, is the authority responsible for monitoring the execution of the works contract. The Consultant is nominated under the works contract as Supervisor's representative. The present Terms of Reference, complemented by the Conditions for Works Contracts and Delegation of Power from the Supervisor, shall cover the activities of the Supervisor's Representative for supervising the implementation of the works contract.

Once the Administrative Order instructing the Consultant to commence the Supervision component of this TOR is issued by JSIF, the Consultant shall immediately be informed in writing the which powers under the Conditions of Contract and Technical Specifications are delegated to the Consultant as the Project Manager's Representative. The Consultant shall not proceed with the

implementation of any activities unless this Delegation of Powers signed by the Supervisor (Project Manager of this contract) is duly received by the Consultant.

Upon receipt of the Delegation of Powers from the Project Manager, the Consultant shall inform in writing all concerned parties about the names, contact details and specimen signatures of the individuals that are authorised to represent the Consultant in its function of Supervisor's Representative or Project Manager, Designate.

Where the Consultant is engaged and/or retained for the Supervision, the Consultant shall be the ***Project Manager, Designate*** referred to in all the Construction Contract Documents and shall provide full supervision services throughout the duration of the civil works/infrastructure contract, and in accordance with the terms of Consultant's contract.

## MANDATORY APPROVALS

All decisions that will have cost, time or quality implications, as well instructions or changes that shall impact time, cost or quality MUST have the Employer's approval. As such the Consultant **shall** request, in a timely manner, approval from the JSIF prior to the issuing any of the following:

(a) Variation Orders (Increase or Decrease)
(b) Extension of Time
(c) Practical Completion
(d) Final Completion
(e) Change in use of contract Sums (variations/deviations from agreed sums)
(f) Any and all actions or directives that impact on time and/or cost and/or quality and/or contractual obligations.

The FORMATS for all the above are provided by the JSIF for use by the Consultant solely for and on JSIF contracted assignments.

**The following outputs, produced and developed to the applicable standards constitute deliverables under the Supervision portion of the contract. They include *inter alia:***

- Constructability Report
- Monthly Progress Reports (See Annex II) to include information on:
    - Progress of Works
    - Test results
    - Environmental performance
    - Covid Compliance
    - Site Safety
    - Claim assessment and Recommendations
    - Cost assessment/analysis and Recommendations
    - Time assessment/analysis and Recommendations
    - Excerpts/Copies of Site Diary
    - Copy of Contractor's Claim

- Minutes of Site Meetings

The Consultant must provide the JSIF with a report on the constructability review, this is to ensure any new or emerging issues are considered and the necessary adjustments made prior to the start of Works.

The Consultant MUST provide the contractor with the necessary drawings, revisions, details or information to adequately carry out the works of the contract.
Specifically, the Consultant **shall** undertake the relevant Pre-Construction activities, Supervision of the Contractor, and other expected deliverables as laid out in "Annex XI (guidelines for supervision deliverables).

The Consultant services includes periodic review of Contractor schedules and method statements for reasonability and compliance with contract requirements, as well as perform delay analysis on extension of time requests.

The Consultant's supervision includes services necessary to assess and make recommendation on the price and/or contract cost adjustments for reasonableness, value for money and relativity to market prices.

### 6.1 **Project Standards – Project Supervision**

Construction management and Inspection shall be in accordance with the latest versions of the Building Act (2016) and all other relevant and applicable codes, regulations and standards.

**All Consultant activities shall be guided by JSIF's guidelines regarding Gender Equality, Environmental, applicable workplace codes and standards to continually maintain the highest level of professional and industry best practices. See Annex X1I for details.**

## 7 KEY PERSONNEL AND COSTS

***The Consultant must ensure that the required, professional, technical and administrative inputs, required to deliver on the project are considered, costed and made available to the project as necessary. These must be translated into the Technical and Financial submissions made by the Consultant.***

***The Consultant shall determine and specify (taking into account the nature and scope of the project) which professionals will be required, their corresponding experience and their input time to the project.***

The Consultant shall provide sufficient evidence and detail of qualifications, certification, experience and availability for and of personnel which must be available for the required time to allow the Consultant to deliver on the requirements of the Formulation and Supervision aspects of the contract(s).

At the start of the assignment(s) i.e. Formulation and Supervision, the Consultant must provide confirmation of availability of the personnel proposed at the time of bid. Where personnel are no longer available, the Consultant must provide similar evidence to assure that replacement personnel are of similar, or exceed the qualifications and experience of the previously submitted. The JSIF reserves the right to accept or reject based on changes to the Consultant personnel.

The Consultant shall provide evidence satisfactory to the JSIF and as outlined in the Bidding document to indicate the following:

- Qualifications of the personnel
- Certifications of the personnel
- CV of the personnel
- Professional registrations

In accordance with Jamaican law, Engineers, Architects, and all other relevant personnel working on the project, **MUST** be registered with the respective Professional bodies which govern the profession.

The site is required by the **Municipal Corporation** to be under the Supervision of a competent **Engineer, Clerks of Works or Foreman** at all times.

**Key personnel must sign their own submitted declarations.**

It is envisaged that part-time inputs may be required from non-key experts.

**Key Personnel for Formulation**

For this assignment, the key personnel and minimum qualification and experience required are outlined below:

| ***POSITION*** | ***MINIMUM QUALIFICATIONS*** |
|---|---|
| ***Project Manager and or Architect*** | **Education:** Bachelor's Degree in Architecture<br><br>**Experience:** At least 10 years of experience with the planning, designing, and reviewing of construction works for buildings. Skill sets matching the years of experience in Architecture, Project Management and Construction. Proficient in the use of Project Management Software and Computer Aided Design software such as AutoCad, ArchiCad or equivalent. Minimum of 5 years' experience as a Team Leader in the relevant field such as building design and preparation of contractual documentation for works contract. |

| | |
|---|---|
| | Having a certificate in LEED (Leadership in Energy Efficiency and Design) would be an added benefit. |
| ***Project Manager and or Civil/Structural Engineer*** | **Education:** Bachelor's Degree or Equivalent Certification in Civil/Structural Engineering or Construction Engineering and Management.<br><br>**Experience:** At least Ten (10) years general experience with planning, designing, and reviewing of construction works for buildings. Skill sets matching the years of experience in Engineering, Project Management and Construction. Proficient in the use of Project Management software such as AutoCad, ArchiCad, Civil 3D, or equivalent. Minimum of five (5) years as a team leader in the relevant field such as building design and preparation of contractual documentation for the works contract. Having a certificate in LEED (Leadership in Energy Efficiency and Design) would be an added benefit. |
| ***Quantity Surveyor*** | **Education:** Diploma Quantity Surveying.<br><br>**Experience:** At least Eight (8) years general experience in the field of quantity surveying of which at least five (5) years should be in building construction. |
| ***Electrical/Mechanical Engineer*** | **Education:** Bachelor's Degree or Equivalent Certification in Electrical/Mechanical.<br><br>**Experience:** At least Eight (8) years general experience in the field of electrical/mechanical engineering of which at least five (5) years should be in building. Proficient in the use of Project Management software such as AutoCad, ArchiCad, Civil 3D, or equivalent. |

**Key Personnel for Supervision**

For this assignment, the key personnel and minimum qualification and experience required are outlined below:

| ***POSITION*** | ***MINIMUM QUALIFICATIONS*** |
|---|---|
| ***Project Manager and or Architect*** | **Education:** Bachelor's Degree in Architecture<br><br>**Experience:** At least 10 years of experience with the planning, designing, and reviewing of construction works for buildings. Skill sets matching the years of experience in Architecture, Project Management and Construction. Proficient in the use of Project Management Software and Computer Aided Design software such as AutoCad, ArchiCad or equivalent. Minimum of 5 years' experience as a Team Leader in the relevant field such as building design and preparation of contractual documentation for works contract. Having a certificate in LEED (Leadership in Energy Efficiency and Design) would be an added benefit. |
| ***Project Manager and or Civil/Structural Engineer*** | **Education:** Bachelor's Degree or Equivalent Certification in Civil/Structural Engineering or Construction Engineering and Management.<br><br>**Experience:** At least Ten (10) years general experience with planning, designing, and reviewing of construction works for buildings. Skill sets matching the years of experience in Engineering, Project Management and Construction. Proficient in the use of Project Management software such as AutoCad, ArchiCad, Civil 3D, or equivalent. Minimum of five (5) years as a team leader in the relevant field such as building design and preparation of contractual documentation for the works contract. Having a certificate in LEED (Leadership in Energy Efficiency and Design) would be an added benefit. |
| ***Quantity Surveyor*** | **Education:** Diploma Quantity Surveying.<br><br>**Experience:** At least Eight (8) years general experience in the field of quantity surveying of which at least five (5) years should be in building construction. |

| | |
|---|---|
| ***Clerk of Works*** | **Education:** Diploma in Construction Management or equivalent qualification.<br><br>**Experience:** At least five (5) years general experience in the field of construction of which at least three (3) years should be as a Clerk of Works on projects of a similar nature, scope, and size. |
| ***Electrical/Mechanical Engineer*** | **Education:** Bachelor's Degree or Equivalent Certification in Electrical/Mechanical.<br><br>**Experience:** At least Eight (8) years general experience in the field of electrical/mechanical engineering of which at least five (5) years should be in building. Proficient in the use of Project Management software such as AutoCad, ArchiCad, Civil 3D, or equivalent. |

## 8 DURATION OF CONSULTANCY

The project consultancy period has an estimated duration of ***Twenty-One (21) months, comprising an estimated:***

- ***3 months for Formulation***
- ***6 months for Contracting Works Contractor***
- ***6 months for Supervision***
- ***6 months for Defects Liability Period***

*Duration*
*In the case of Formulation Activities:*

- *The preliminary phase of the project should be completed within **fifteen (15) working** days of contract signing.*

- *The final phase should be completed within **thirty-five (35) working days** after JSIF has signed off on the first phase.*

*In the case of Supervision Activities:*

- *The supervision component will commence once the Works contract is signed by both parties and the consultant is given the Administrative Order.*

## 9 JSIF INPUTS

JSIF will provide the Consultant with the following:

- Consultant contract
- Contractors' Contract Document
- Details on Site location
- Names of key contact persons from the Jamaica Social Investment Fund, other key stakeholders including community representatives.
- Electronic media with the JSIF's standard reporting formats as well as a format for the calculation of Interim Payment Certificate.

## 10 OWNERSHIP OF MATERIALS AND CONFIDENTIALITY

The Consultant understands that as part of the Consultancy, they will be asked to create, or contribute to the creation of architectural designs, drawings, documentation and other copyrightable works. The Consultant agrees that any and all designs, drawings, assignment outputs, including design formats for infrastructure, HTML script, forms, text, music, graphics, photographs and videos, computer programs, work-up files, documentation and other copyrightable materials that have been prepared as part of this contract shall be "works made for hire" and that JSIF shall own all the copyright rights in such works.

IF AND TO THE EXTENT ANY SUCH MATERIAL DOES NOT SATISFY THE LEGAL REQUIREMENTS TO CONSTITUTE A WORK MADE FOR HIRE, THE CONSULTNAT SHALL ASSIGN ALL COPYRIGHT RIGHTS IN THE WORK TO THE JSIF.

The Consultant therefore assigns to the entire right, title and interest in all of the following, that have been conceived or made (whether alone or with others) as part of this assignment:

(a) all Developments and architectural designs, drawings;
(b) all copyrights, trade secrets, trademarks and mask work rights in Developments; and
(c) all patent applications filed, and patents granted on any Developments, including those in foreign countries.

## 11 INDEMNIFICATION

The Consultant agrees to hold harmless and indemnify JSIF for all claims, damages and causes of action arising out of the Consultant's negligence and/or failure to perform.

# 12 PAYMENT SCHEDULE

## 12. 1 FORMULATION

**Reimbursable Expenses**

The contract with the Consultant is based on a FIXED FEE together with reimbursable expenses and will be on a stage and performance basis only. Above payments will be made within 28 days of Approval. Reimbursable expenses are deemed to be included in the overall contract price.

For formulation, Penalties of 2% deductions per 5 days may be applied for late submissions up to a maximum of 20% of the contract sum.

**Payments for Formulation Services will be based on the receipt, review and statement of adequacy and satisfaction by the JSIF on submission by the Consultant, and shall be made as follows:**

**First Payment (30%)** - For the Engineering Report, Preliminary Design and Estimate as outlined in Section 5.

**Second Payment (60%)** - For documentation as outlined in Section 5 of the ToR to include submission to the relevant regulatory agencies and inputs to Works tender i.e., Final Drawings, Bill of Quantities, and Schedule of Materials.

**Final Payment – 10%** - Upon approval of the JSIF Board of Directors; and the relevant Regulatory Agencies, whichever comes later.

## 12.2 SUPERVISION

**Payments for Supervision Services will be based on the receipt, review and statement of adequacy and satisfaction by the JSIF on submission by the Consultant, and shall be made as follows:**

There will be a 10% Retention on Professional Fees on each payment made. This Retention is to be the Final Payment paid at the end of the Defects Liability Period, and on submission and acceptance of the Final Accounts, and the original Certificate of Final Completion.

**First Payment (30%)** - Upon completion of pre-construction activities as outlined in Section 6 of the Terms of Reference.

**Interim Payments – up to a maximum of 60%** - Shall be made upon submission and acceptance of the certification of works done by the Contractor and accompanied by the Consultant Supervisor's Report (See Annex II) and as outlined in Section 6. Payments to the Consultant will be aligned with the % of work done by the Contractor up to a total of 60% of the Supervisor's

professional fees. Where the Contractor fails to make timely submission of claims, the Supervisor may submit monthly claims for Supervision, up to 60% of certified or accepted work done, along with correlating evidence of the work verified.

In order for payments to be paid to the Contractor and/or Consultant (Project Supervisor) the following supporting documents **MUST** be submitted:

- Contractor's Claim
- Consultant's assessments and recommendations (for payment)
- Test Results (where applicable)
- Weekly, monthly and other reports
- Details of claims duly stamped and certified
- Consultant **MUST** submit report along with contractor's claim within **7 days** of receiving same, notwithstanding what is stated in **section 40 of the Contractor's Contract**.

**Penultimate Payment (10%)** - Shall be made upon submission by the Consultant and acceptance by JSIF of the certification of works done by the Contractor reflecting Practical Completion. This must be accompanied by the properly executed original Practical Completion certificate and the Consultant Supervisor's Report.

**Final Payment (10%)** - Professional fees shall be paid at the end of the defects liability period and on submission and acceptance of all deliverables specified inclusive of; Final Accounts; Final Report, as built drawings and the original properly executed Final Completion Certificate.

## 13. ANNEXES

Annex *I – Extension of Time Request*

*Annex II – Consultant / Supervisor's Reports*

*Annex III – Site Meeting Reports*

*Annex IV – Variation Format*

*Annex V – Interim Payment Certificate*

*Annex VI – Final Payment Certificate*

*Annex VII – Final Accounts*

*Annex VIII – Practical Completion Certificate*

*Annex IX – Final Completion Certificate*

*Annex X – Design Guidelines for Formulation deliverables*

*Annex XI – Guidelines for Supervision deliverables*

*Annex XII – Environmental Requirements*

# *INSERT ANNEXES I - IX*

***Annex X (Design Guidelines for Formulation of Deliverables)***

## 10 DESIGN REQUIREMENTS

All designs shall comply with all applicable codes and ordinances, including the approving **[Municipal Corporation's Ordinance]**. The services shall be performed in accordance with generally accepted professional standards, and all advice and consultation provided shall be within the architect's authority and capacity as a professional. Compliance with all applicable codes, ordinances and regulations is required.

### 10. 1 (For Design Reviews)

Review drawings and other documents from the Ministry of Local Government & Community Development and other Ministries and/or Regulatory Authority with an aim to identify potential gaps and provide design solutions. Below is a listing of the typical schematic design drawings that will be provided at the time for request for proposal. This schedule of drawings serves as a template, which may vary for specific projects.

### FINAL SCHEMATIC DESIGN DRAWINGS

| SHEET # | SHEET TITLE |
|---|---|
| A-00 | Cover Page & Location Plan |
| A-01 | Site Plane Scale 1:200 |
| A-02 | Ground Floor Plan Scale 1:50 |
| A-03 | First Floor Plan Scale 1:50 |
| A-04 | Second Floor Plan Scale 1:50 |
| A-05 | Third Floor Plan Scale 1:50 |
| A-09 | Elevations Scale 1:100 |
| A-06 | Roof Plan (*) |
| A-07 | Sections A-A, B-B & C-C (*) |
| A-08 | Section D-D, Elevations (*) |
| A-09 | Elevations (*) |
| A-10 | Ground & 1st Floor Electrical (*) |
| A-11 | 2nd & 3rd Floor Electrical (*) |
| A-12 | Site Drainage Layout (*) |
| A-13 | Ground Floor Drainage & Details (*) |
| A-14 | 1st Floor Drainage & Details (*) |
| A-15 | 2nd Floor Drainage & Details (*) |
| A-16 | 3rd Floor Drainage & Details (*) |
| | |

## 10. 2 LIST OF EXTERNAL ELEMENTS

For the site works, the required components are to be considered where applicable:

**IN-SITU REQUIREMENTS**

| GROUP ELEMENTS | EXTERNAL COMPONENTS |
|---|---|
| Site preparation | Site Clearing<br>Site Demolition<br>Site Earthwork<br>Hazardous Waste Remediation |
| Site improvements | Pedestrian Paving walkways<br>Site development: Fences & Gates/ Signs, Miscellaneous Structures<br>Landscaping |
| Site Mechanical Utilities | Potable Water Distribution and Storage<br>Sanitary Sewer/ Septic Disposal System<br>Storm Sewer<br>Non-Potable Water Treatment, Distribution and Storage<br>Other Site Mechanical Systems |
| Site Electrical Utilities | Electrical Distribution<br>Site Lighting<br>Site Communication & Security<br>Site Emergency Power Generation |

## 10. 3 Documents Required for Design Review (based on Project Type and Scope)

### Architectural Documents

The Architect shall be responsible for the preparation and submission of a complete set of architectural drawings consisting of the following:

- Foundation Plan – showing the layout and dimensions of slab-on-grade, basement or crawlspace walls of the site plan which indicates how the underpinning structure of the building is supported by the Earth below it.
- Floor plan -Showing layouts with scale and dimensions of room sizes and wall lengths, including details of fixtures and finishes.
- Framing plan – depicting the frame and structures of walls, joists, trusses and beams which would reveal the structural strength and capacity of the building.
- Roof Plan –presenting the top view of the entire roof system, including the ridges, hips, valleys, rakes, and eaves, including the location of the gutters and downspouts
- Elevation – Showing the front, side, and rear exteriors of the building, providing a flat straight-on-view of the siding, windows, doors and the entire exterior of the building from the ground floor to the roof ridge.

- Cross-sections – Showing all the hidden details of the building through a cross section (imaginary line) through the middle of the structure so that the interior of the walls, floors, ceilings and roof can be examined.
- Construction Site Plan and Building Design– Showing the detailed construction plan of all buildings, as well as the location and general design of each building.
- Other Details – Highlighting specific areas of construction such as: foundation connections, door assemblies, and window installations, which require greater details.

**Civil Engineering Documents**

The Structural/Civil Engineer shall be responsible for the preparation of the following:

- Topographic surveys as required *(and as completed by a Commissioned Land Surveyor not sure if it can be included in the Structural/ Civil Engineer's scope)*
- Develop an engineered site grading plan
- Develop a storm water management plan in compliance with the relevant Municipal Corporation Ordinances and NWA (if necessary)
- Plumbing and Drainage lead plans
- Soil Erosion and Sediment Control Plan
- With the site located so close to the coast designs should take into consideration the corrosive element from the salt air which can cause metal to corrode quickly. Therefore, any exposed metal included in the design must be of aluminium or specially coated, etc.
- The infrastructure must be designed to withstand up to a category five hurricane winds
- The infrastructure must be able to withstand 8.0 earthquake on the Richter scale
- The infrastructure is designed using and meeting the requirements of the Metric Handbook Planning and Design Data and the International Building Code 2009 (IBC) Standards

The above plans shall comply with the applicable Parish Council's ordinance setting forth the requirements for the specific documents to be prepared by

**Mechanical Engineering Documents**

The Mechanical Engineer shall be responsible for the preparation of the following:

- Design Drawings for system to be implemented as required by Project Manager- to include location drawings for all mechanical elements, plumbing, process piping and equipment, HVAC etc.
- Identify mechanical design criteria, prepare preliminary calculations and establish base load requirements for HVAC, plumbing and fire protection systems, etc.
- Consider materials and systems suitable to the project requirements. Consider the requirements of the other design professionals and provide the information they require
- Check applicable codes, regulations and restrictions, insurance requirements and other factors affecting the design of the project
- Establish, where appropriate, comparative information to be used in selection of mechanical systems for the project
- Prepare mechanical calculations to support all mechanical designs. The mechanical calculations should be prepared legibly and presentably and filed by the Mechanical

Engineer for record purposes. Hard copy of input and output of any computer analysis should be included as well as description of the software used. All calculations should state assumptions made and relevant codes used.

- Prepare and submit all parts manual, and relevant documentation for equipment.
- Provide certification documents for all pressure relief valves, instrumentation, lifting equipment etc. (depending on nature of project).
- Provide basic training on use and maintenance of equipment.

The above plans shall comply with the applicable Parish Council's ordinance setting forth the requirements for the specific documents to be prepared by

**Electrical/ Instrumentation Engineering Documents**

The Electrical Engineer shall be responsible for the preparation of the following:

- Electrical Analyses, Studies and/or Reports
- Other special systems as necessary
- Floor plan layouts for all electrical systems should be provided. Complete electrical feeder sizing together with sizes, types, locations and capacities of all panel boards should be shown on these documents
- Schedules should be included to provide type and capacities of lighting fixtures, panel boards, motor equipment, devices, and electrical heating equipment
- Floor plan layouts for all electrical systems should be provided. Complete electrical feeder sizing together with sizes, types, locations and capacities of all panel boards should be shown

The above plans shall comply with the applicable ordinances by the relevant Municipal Corporation, setting forth the requirements for the specific documents to be prepared by the Consultant.

**Exterior**

- Pedestrian-scaled architectural details in the design.
- Parking area inclusive of disabled person's space.
- Context sensitive building and site lighting and landscaping.
- Storm water treatment/detention facilities.
- Mechanical room (Generator room) for backup utility
- Battery Room/ Solar Inverter Room for PV Panels
- Lightening Arrestors and proper grounding of the building
- Rainwater harvesting tanks and treatment zones
- Solid waste management area (drums)

## Other Requirements

1. Through his/her familiarisation with the location and condition of the site, confirm the technical and environmental specifications that will inform design criteria.

2. Following this first phase of 'User Input', the Consultant shall prepare technical drawings taking in to account the specific needs of the beneficiaries.

3. **Return to the beneficiaries to share the technical drawings; to include 3D computer generated perspectives or 3D drawings shall be shared for easier understanding. Make adjustments to the drawings as needed in consultation with the relevant stakeholders.**

4. Leave a copy of the final preliminary design with the beneficiary for public display for a minimum of 2 weeks so that the community can be informed of plans for the site.

5. Prepare a detailed Bills of Quantities using the formats supplied on CD by JSIF. The preferred community contribution must be factored into and identified within the body of the Bills of Quantities.

6. Liaise with all relevant line ministries and agencies for input in final design. These line ministries and agencies should indicate their approval in writing of the **FINAL DESIGN**. In the case of approving agencies (Municipal Corporation, NEPA (as required)), drawings must be submitted for approval.

7. Investigate vehicular access to the site during construction and make recommendations for minimum (impact on traffic) works if required, supported by design and costing documents.

   If the design affects private land, for example for the discharge of "concentrated" water from road drainage structures, agreement with the landowners must be secured to lead the water on or through the land's natural water course. If no such agreement can be reached, an alternative discharge should be designed. Additional costs resulting from this alternative shall be calculated and reported in the design report.

   The Consultant shall submit a statement that private land is not negatively affected or the agreement documents (if applicable) together with his Project documentation.

## Specific Requirements

In undertaking the Terms of this contract, for Design and Supervision, the Consultant must consider fully the JSIF's Environmental Management Policy, Environmental Management Framework, and Environmental Screening and recommended Mitigations. These outline the requirements to ensure compliance with JSIF's environmental commitments, policies, Jamaican law and with the JSIF's international certification to the ISO 14001:2015 standard.

In undertaking the Terms of this contract, the Consultant is to ensure that all relevant social and resettlement issues are considered, and appropriate mitigative measures included. *Specifically, screening to assess and identify the need for any potential land acquisition, resettlement, and resettlement impact, and if necessary preliminary resettlement plans, otherwise provide photographic evidence that land is clear at the time of walkthrough. Resettlement (for the purposes of this TOR) means the relocation of displaced persons into new residential locations and can arise in the event that there is encroachment within the alignment for the infrastructure investment.*

## 10.4 INFORMATION TO THE DESIGN CONSULTANTS

As part of JSIF's approach to the design and implementation of community development projects, infrastructure must meet best practices and the highest applicable standards (as agreed with JSIF). In providing his/her designs the Consultant shall exercise due care, skill, professional and diligence according to the state of the art of their profession at the time that the professional services were rendered. In this regard the Design Consultant would be responsible for the design and the suitability for the intended purpose.

The JSIF wishes to highlight areas of particular interest and as such the following considerations must form part of the design process:

- All drawings must be accompanied by a site plan, indicating the existing layout of the site as well as the layout on completion of works. The plans must capture the external works to be carried out.
- External Works must be detailed in Bills of Quantities and form part of Site Drawings (and should capture site items related to paving, locations for run off, drainage, green spaces, walkways, planting of trees, water harvesting systems for watering green areas, outdoor lighting fixtures, boundary wall and gates designs and building display signs etc.)
  All external doors (and framing) for buildings must be metal with necessary finishes to protect corrosion by salt are and possible sea spray, wooden doors (and frames) are **NOT** acceptable for external use.
- Provision of Alternative Energy Solutions i.e., use of LED lighting throughout new building, solar system to compliment power from utility company (where possible solar powered external lights within parking area), use of solar lights with photo sensors must be explored for external security lighting. Provisions for use of Solar panels or wind turbines or any other possible renewable energy solution or a combination of each as would be ideal for the location
- Mechanical room for backup commercial generator.
- On site water storage.
- Use of energy saving (ratings to be agreed upon with JSIF) active cooling devices where necessary such as inverter A/C units for multi-split systems or Variable Refrigerant Flow (VRF) (refrigerant as acceptable by JSIF and regulatory requirements) for Central air conditions systems

**PHASE I / Preliminary Design**

**BUILDINGS:**

PHASE I will consist of but not be limited to the preparation and presentation of:

A full report compiled by the Design Consultant shall be provided using the format provided by JSIF. This shall comprise: -

i. **Engage Line Ministries – Municipal Corporation, NWA, NWC and private utility companies – JPS, Cable Operators, Phone Company for location of utilities that may impact site area**
ii. An inception report will be presented within fifteen days of signing of contract, and it will include:
    a. Initial findings
    b. Scope of the project and the rationale for the design proposed,
    c. Recommended construction timeline
iii. Photographs of existing condition
iv. A report on the first meeting with the beneficiary
v. Photograph of the user input in design session with the community
vi. Brief report on second meeting with the community to discuss draft final design
vii. Photograph of the discussion on the draft final design with the community
viii. Drawings are to be on 11"x17" sheets and all details should be legible/clear.
ix. Environmental risk mitigation plan, where required.

*Proposed Solutions*

- Floor Plans
- Elevations (minimum four)
- Cross Sections as required (Minimum two)
- A schedule of materials to be used for all components of the building
- All designs must conform to standards from the relevant Authorities/Ministries and have clear reference to such standards and specifications.

**NOTE:**
The Design Consultant shall make a presentation of the design to the JSIF technical review team at the end of Phase I.

**PHASE II / Final Design**

**BUILDINGS:**

PHASE II will consist of but not be limited to the preparation and presentation of:

The final Preliminary technical drawings signed off by the beneficiary.

**ACCESS ROADS:**

Undertake the following activities, but not limited to:

- Engage with line Ministries – Municipal Corporation, NWA, NWC and private companies – JPS, Cable Operators, Phone Company for location of utilities that may impact the site area
- Design review of Architectural drawings and provision of Engineering design providing to incl. all finished levels and showing all road parameters (i.e., access road, parking area).
- Collection and Review of Existing Data and Documents
- Topographic Survey
- Structural/ Facilities/ Utilities Survey
- Access Survey
- Geo-Technical Survey with Report to be included
- Hydraulic Assessment for Drainage (Where applicable)
- Construction Materials Investigation/Survey
- Detailed Civil Engineering Design
    - Road Pavement Design
    - Drainage Design
- Environmental Impact Assessment (Where applicable)

**ARCHITECTURAL DRAWINGS / DESIGNS INCLUDING:**

List of drawing sheets appropriately labelled.

- Two (2) sets Final Drawings printed on 2' x 3' Velum and two sets (2) blue print (consider up to a minimum of 20 sheets per drawing), signed and sealed by Architect, along with electronic (.dwg and .pdf) copies of drawings to be provided to client.
- Site plan; illustrating boundaries, magnetic north, contour lines (or spot levels), position/location of buildings, trees or obstructions on the site, location of main services, plumbing and/or drainage layout (where appropriate)
- Floor plans Layout
- A minimum of four cross sections clearly showing levels, vertical heights, door and window heights
- Elevations as required
- Roof framing plan, details, (ridge, eave, sheet overlap/connection details, details where necessary to facilitate clarity of designs and design interpretation)
- Plumbing and electrical layouts
- Connection details between existing and new structures (if applicable)
- Door and window schedule, cross sections, carpentry details, cabinet details
- Plans of bathrooms and wall elevations to scale 1:20
- Finish schedule for floors, walls, ceilings and roofs
- Locks Schedule
- Access and boundary facilities, fence/ boundary wall and gates details (as required)
- Security Post/s design as needed

- Reflective Ceiling Plan
- **Two sets (2) approved drawings blueprints, two sets (2) negatives and an Electronic copy (mandatory)**
- **Planning and Building Permission, where required.**
- As Built Drawings

**LANDSCAPE ARCHITECT INCLUDING:**

- Drawings showing irrigation layout to vegetation
- Drawings showing external lighting fixtures and furniture layout
- Drawings showing the layout and specifications of plants and other external finishes to utilize
- Plants schedule
- Plants maintenance and care schedule

**STRUCTURAL ENGINEERING DRAWINGS TO INCLUDE:**

All structural plans and details including:

- Foundation plan, Floor plan and details
- Structural details for foundation, columns, beams, floor and roof slabs or footing details
- Stair Details
- Structured connection details between new and existing structures
- Plumbing layout, including details
- Ceiling plan showing lighting layout
- Bar bending schedule
- As Built Drawings

**ELECTRICAL/INSTRUMENTATION ENGINEERING DRAWINGS TO INCLUDE:**

- Complete electrical design to be submitted and approved by Government Electrical Inspectorate.
- Consider Lightning Arrestors and earthing details to Buildings according to the guidelines set out in the Jamaica Standard Specification for Electrical Installations (JS21).
- Electrical layout, including wiring diagrams, with circuit breakers and heights of fixtures.
- Service entry location; showing point of entry and distance from JPSCo. Service mains.
- Specification on the design and type of Stanchion to support the main cable and pothead.
- Reflective C
- Location of Invertor for PV Panels Power Supply
- Battery Room & Connection between JPS and Alternate Power Supply
- Ceiling plan showing lighting layout
- Location and size of the generator and generator room
- As Built Drawings
- Instrumentation Earthing (grounding) distribution schematic drawing
- Sizing and location of PV panels system or wind turbine or any other renewable energy system that is more suitable to the location

- Location and size of power supply rooms and battery rooms
- Sizing and location of audio-visual equipment and rooms for media and data coverage
- Sizing and location of Information technology rooms and equipment such as servers
- Two sets of final design drawings and an Electronic copy (mandatory)

**MECHANICAL DRAWINGS TO INCLUDE:**

- Generator room for commercial sized generator
- Sizing and location of tanks and treatment facilities for rainwater harvesting system and grey water system to be treated and reused as irrigation for landscaping purposes. Sizing and location of Irrigation Pipes for landscape use. (must be done in collaboration with the landscape architect)
- Design and location of HVAC systems
- Design, sizing and specifying the appropriate components/ materials for sterile zones such as the EMS room and Decontamination Room
- Design and location of pumps and accessories
- Sizing and location of pipes and all fixtures
- Designs should provide specifications for equipment, to include guarding of moving parts and other specifications to meet OSHA and other regulatory standards.
- Site layout and the location of the works to be constructed, plan views
- Dimensions and units gradients
- Detailed designs and cross-sectional profiles of the works
- Titles and scales that meet the required standards and units
- Adequate labelling
- Elevations that are referenced to meters
- Be dated and signed by the designer
- Two sets of final design drawings and an Electronic copy (mandatory)

Final Drawing sheet sizes (24”x36”) or as required for Agency approvals and internal archiving.

Provide Technical Specifications that shall comply with Industry Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods, methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items.

A schedule of rehabilitation/construction works:

- Include for Termite/Pest Eradication treatment with a minimum 5 years guarantee.

**Rate Building**

***Where the JSIF supplied Bill of Quantities format does not include all the items of work that have been formulated by the Consultant, the Consultant will be required to develop these new***

***items in accordance with the Jamaican Standard Method of Measurement (JSMM) for building works.***

***Additionally, the Consultant will be required to provide the labor, material and equipment inputs for the new items of work(s), as required to build the rate for the smallest unit of said item of work(s).***

**Standards:**

- All measurements in metric units
- All drawings to have legend explaining symbols
- All drawings to be dated, signed and sealed by Design Consultant
- All designs must conform to all applicable standards
- Summary sheet with legend to all drawings
- A legend to indicate changes to the drawings with date of these changes
- Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities
- Design based on soil report that assesses pre-requisite foundation type required.
- A percolation test done according to Ministry of health standards for all sanitation and drainage requirement
- Bills of Quantity shall not include Prime Cost Sums and can only include provisional sums where absolutely necessary. The appendices shall carry a 'List of Drawings' from which the Bill of Quantities was prepared. Each page of the BQ shall carry a footer indicating the total prices on that particular page and read' carried to collection'. The BQ shall carry a general summary
- Plans to meet the IBC Fire Code, Jamaica Fire Brigade Design Standards, and other agency specific criteria and operational standards

**A Bills of Quantities covering all works: -**

- The Bills of Quantities is to follow JSIF standard.
- Bills of Quantities on JSIF supplied format, using Jamaican Standard Method of Measurement (JSMM) for works. The BQ must reflect the preferred community contribution.
- All quantities are to be measured in metric units and rounded off to two decimal places.
- The Bills of Quantities shall not include Prime Cost Sums, and can only include Provisional Sums where absolutely necessary (i.e., only for works or for costs which cannot be entirely foreseen, quantified or detailed at the time tendering documents are prepared). The justification for **ALL** Provisional Sums must be outlined in a separate document, accompanying the Bills of Quantities.
- Engineering Services and external works shall be priced and not billed as a lump sum.
- Preliminaries should be properly priced.
- All provisional sums must be justified on a separate document.
- The Appendices shall carry a ‘List of Drawings’ from which the Bills of Quantities was prepared.

- Each page shall carry a footer indicating the total of prices on that particular page. This footer shall read 'Carried to Collection".
- The Bills of Quantities shall carry a General Summary.
- A printed copy of the priced Bills of Quantities, based on approved **FINAL** designs, should be submitted in electronic format within a time period specified by JSIF.
- Maintenance Plan comprising an inventory of the number and types of fixtures, surface areas and other amenities with a schedule of frequency and cycle of maintenance of the inventory listing.

**Engineering Specifications covering all aspects of the works.**

- The design Consultant to provide Engineering specification covering all aspects of the proposed works.

**NOTE:**
The Design Consultant shall make a presentation of the design to the JSIF technical review team at the end of Phase II, where the Quantity Surveyor shall be present.

**Rate Building**

Where the JSIF supplied Bill of Quantities format does not include all the items of work that have been formulated by the Consultant, the Consultant will be required to develop these new items in accordance with the Jamaican Standard Method of Measurement (JSMM) for building works.

Additionally, the Consultant will be required to provide the labour, material and equipment inputs for the new items of work(s), as required to build the rate for the smallest unit of said item of work(s).

## 10.5 DESIGNS CHECK LIST

| DESIGN SPECIALITY | REMARKS |
|---|---|
| **ARCHITECTURE** | **1. Architectural review**:<br>□ Design Code: The building is designed using and meeting the requirements of the Metric Handbook Planning and Design Data and the International Building Code 2009 (IBC) Standards<br>Consider all other Jamaica applicable regulations and have clear reference to such standards and specifications<br>□ Needs Validation Assessment<br>□ Space program<br>□ Critical dimensions to be checked<br>□ Interior design<br>□ Exterior facility design<br>□ Means of evacuation<br>**2. Recommendations for**<br>□ Provided architectural layout,<br>□ Schematic designs and development drawings<br>**3. Design Philosophy**:<br>□ Reduction in environmental impacts is a priority, consider practical and affordable environmentally sustainable initiatives and measures<br>□ Air movement to be consider by means on bioclimatic design considerations<br>□ Water protection: rain, ground water<br>□ Thermal resistance<br>□ Daylighting and Artificial Lighting<br>□ Exterior finishes should be durable and low maintenance<br>□ Acoustics<br>□ Conventional reinforced concrete and block wall construction is desired, other low maintenance and cost effective, aesthetically pleasing construction systems and materials may be considered to lower costs<br>□ Finishes: Durability and simplicity are desirable qualities<br>□ Proper traffic management in the movement of emergency vehicles versus private and public vehicles must be considered and prioritized<br>□ Consider salt corrosion prevention when specifying the use of metals.<br>□ All external doors (and framing) for buildings must be metal with necessary finishes to protect corrosion by salt are and possible sea spray, wooden doors (and frames) are NOT acceptable for external use. |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | **4. Exterior:**<br>□ Pedestrian-scaled architectural details in the design.<br>□ Exit/enter apron must be at least 4.57 metres (15') longer than the longest apparatus to allow for safe turning radius.<br>□ Parking area (per standard) provided for at least 5 (5) private vehicles and two (2) disabled persons only space.<br>□ Context sensitive building and site lighting and landscaping.<br>□ Storm water treatment/detention facilities.<br>□ Battery Room/ Solar Inverter Room for PV Panels<br>□ Lightening Arrestors and proper grounding of the building<br>□ Solid waste management area (drums)<br>**5. Interior Elements:**<br>□ Walkway<br>□ Classroom<br>□ Janitorial closet/ Storeroom<br>□ Laundry room<br>□ Small information technology room/closet<br>□ Bathrooms to accommodate separate males and females<br>**6. Construction documents**:<br>□ Architectural plans preparation,<br>□ Details,<br>□ Schedule of materials to be used for all components of the building,<br>□ Building and room identification.<br>□ Specifications.<br>□ All drawings must be accompanied by a site plan, indicating the existing layout of the site as well as the layout on completion of works. The plans must capture the external works to be carried out.<br>**7. External Works**: form part of Site Drawings and should capture site items related to<br>□ Paving,<br>□ Locations for run off,<br>□ Drainage,<br>□ Green spaces,<br>□ Walkways,<br>□ Planting of trees,<br>□ Outdoor lighting fixtures,<br>**8. Landscape design plans**<br>□ Drawings showing irrigation layout to vegetation<br>□ Drawings showing external lighting fixtures and furniture layout |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | □ Drawings showing the layout and specifications of plants and other external finishes to utilize<br>□ Plants schedule<br>□ Plants maintenance and care schedule<br>**9. Services needs review and layouts for**:<br>□ Plumbing,<br>□ Electrical,<br>□ Lighting,<br>□ Mechanical,<br>□ Communications,<br>□ Data,<br>□ etc.<br>**10. Drawings minimum requirements**:<br>□ List of drawing sheets appropriately labelled.<br>□ Two (2) set Final Drawings printed on 2' x 3' Velum and Two (2) set blue print (consider up to a minimum of 20 sheets per drawing), signed and sealed by Architect, along with electronic (.dwg and .pdf) copies of drawings to be provided to client.<br>□ Site plan; illustrating boundaries, magnetic north, contour lines (or spot levels), position/location of buildings, trees or obstructions on the site, location of main services, plumbing and/or drainage layout (where appropriate)<br>□ Floor plans Layout<br>□ A minimum of four cross sections clearly showing levels, vertical heights, door and window heights<br>□ Elevations as required<br>□ Roof framing plan, details, (ridge, eave, sheet overlap/connection details, details where necessary to facilitate clarity of designs and design interpretation)<br>□ Plumbing and electrical layouts<br>□ Connection details between existing and new structures (if applicable)<br>□ Door and window schedule, cross sections, carpentry details, cabinet details<br>□ Plans of bathrooms and wall elevations to scale 1:20<br>□ Finish schedule for floors, walls, ceilings and roofs<br>□ Locks Schedule<br>□ Access and boundary facilities, fence/ boundary wall and gates details (as required)<br>□ Security Post/s design as needed<br>□ Reflective Ceiling Plan<br>□ Two (2) set approved drawings blue prints, Two (2) set negatives, Electronic copy (mandatory) |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | □ Plans to meet the Ministry of Education Design Standards and Criteria<br>□ All measurements in metric units<br>□ All drawings to have legend explaining symbols<br>□ All drawings to be dated, signed and sealed by Design Contractor<br>□ All designs must conform to all applicable standards<br>□ Summary sheet with legend to all drawings<br>□ A legend to indicate changes to the drawings with date of these changes<br>□ Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities<br>**11. Project coordination**: the Design-Build Contractor shall coordinate all disciplines necessary to complete the project; structural, mechanical, plumbing, fire protection, electrical, or site considerations, which are particularly affected by, or affect architectural design.<br>**12. Technical Specifications Document**: shall comply with Industry Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods, methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items.<br>**13. Planning and Building Permission**<br>**14. Constructability review and bid packaging**<br>**15. As built drawings** |
| **TOPOGRAPHICAL SURVEY** | **1. Topographic Survey** done by a Commissioned Land Surveyor<br>**2. Complete site inventory including**: utilities, adjacent buildings, septic tanks, absorption pits, manholes, NWC connections, entrances pathways, access survey, or any other information required to assess status and condition of the site.<br>**3. Drawing Requirements**<br>□ All measurements in metric units<br>□ All drawings to have legend explaining symbols<br>□ All drawings to be dated, signed and sealed by Design-Build Contractor<br>□ All designs must conform to all applicable standards<br>□ Summary sheet with legend to all drawings<br>□ A legend to indicate changes to the drawings with date of these changes |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | □ Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities<br>**4.** Indication of what interventions are required |
| **CIVIL ENGINEERING** | **1. Grading**: Develop an engineered site grading plan<br>**2. Storm water management plan**:<br>□ Develop a storm water management plan in compliance with the relevant municipal corporation ordinances and NWA (if necessary)<br>**3. Environmental Impact Assessment:** Where applicable<br>**4. Drawing requirements**:<br>□ All measurements in metric units<br>□ All drawings to have legend explaining symbols<br>□ All drawings to be dated, signed and sealed by Design Contractor<br>□ All designs must conform to all applicable standards<br>□ Summary sheet with legend to all drawings<br>□ A legend to indicate changes to the drawings with date of these changes<br>□ Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities<br>**5. Technical Specifications Document**: shall comply with Industry Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods, methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items. |
| **GEOTECHNICAL SURVEY AND REPORT** | **1. Code**: The building and external facilities are designed using and meeting the requirements of the Metric Handbook Planning and Design Data and the International Building Code 2009 (IBC) Standards<br>Consider all other Jamaica applicable regulations and have clear reference to such standards and specifications<br>**2. Geotechnical survey and report minimum contents:**<br>□ Soil exploration program<br>□ Bores profile<br>□ Water level<br>□ Sample collection, laboratory tests<br>□ Soil classification<br>□ Seismic Zone Classification<br>□ Bearing Capacity for buildings, tanks<br>□ Excavation and construction recommendations<br>□ Parameters for Foundation designs |

| DESIGN SPECIALITY | REMARKS |
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| | □ Settlement Analysis<br>□ Pavement design parameters<br>**3. Foundation structural designs review and approval**<br>**4. Site Visits and assistance during construction-** |
| **STRUCTURAL DESIGN** | **1. Special requirements**:<br>□ The building must be designed to withstand up to a category five hurricane winds<br>□ The building must be able to withstand 8.0 earthquake on the rector scale<br>□ Where sites are located close to the coast designs should take into consideration the corrosive element from the salt air which can cause metal to corrode quickly. Therefore, any exposed metal included in the design must be of aluminium or specially coated, etc.<br>**2. Design Code**: the building is designed using and meeting the requirements of the Metric Handbook Planning and Design Data and the International Building Code 2009 (IBC) Standards; Local seismic zones, risks and parameters to be considered<br>**3. Structural engineering drawings to include**<br>□ Foundation plan,<br>□ Floor plan and details<br>□ Structural details for foundation, columns, beams, floor and roof slabs or footing details, tanks, civil works structures<br>□ Stair Details<br>□ Structured connection details between new and existing structures<br>□ Non-structural component seismic design<br>□ Bar bending schedule<br>**4. Drawing requirements**:<br>□ All measurements in metric units<br>□ All drawings to have legend explaining symbols<br>□ All drawings to be dated, signed and sealed by Design Contractor<br>□ All designs must conform to all applicable standards<br>□ Summary sheet with legend to all drawings<br>□ A legend to indicate changes to the drawings with date of these changes<br>□ Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities<br>**5. Technical Specifications Document**: shall comply with Industry Design Standards and shall include the descriptions of the work items, material requirements, |

| DESIGN SPECIALITY | REMARKS |
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| | construction requirements and methods, methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items.<br>**6. As Built Drawings** |
| **PLUMBING DESIGN** | **1. Design Code**: the building is designed using and meeting the requirements of the Metric Handbook Planning and Design Data and the International Building Code 2009 (IBC) Standards<br>**2. Design Requirements:**<br>□ All Plumbing Engineering Drawings are to be coordinated with all disciplines; domestic water, sanitary and storm drainage, and other liquid conveyance systems shall be designed to avoid inappropriate juxtaposition with other utilities.<br>**3. Plumbing Systems design components**<br>□ Domestic Cold-Water Service<br>□ Domestic Water Service Pressure<br>□ Domestic Water Booster Pumping System<br>□ Domestic Hot Water Service<br>□ Domestic Water Supply Equipment<br>□ Plumbing Fixtures water supply<br>□ Special Purpose Area Plumbing Systems<br>□ Sanitary and Storm Drainage Systems<br>□ Sanitary (Soil and Waste) Vent System<br>□ Sanitary Floor Drains<br>□ Grease Interceptors<br>□ Rainwater System<br>□ Roof Drainage<br>□ Water storage tanks<br>□ Automatic Sump Pumps<br>□ Foundation and Subsoil Drainage<br>□ Sand oil separators<br>□ Automatic Sewage ejectors<br>**4. Plumbing drawings to include:**<br>□ Plumbing layouts and line diagrams for each system<br>□ Vertical Chases and Shafts<br>□ Plumbing Details<br>□ Pipe supports<br>□ Sizing and location of Irrigation Pipes for landscape use. (must be done in collaboration with the landscape architect)<br>**5. Drawing requirements**: |

| DESIGN SPECIALITY | REMARKS |
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| | □ All measurements in metric units<br>□ All drawings to have legend explaining symbols<br>□ All drawings to be dated, signed and sealed by Design Contractor<br>□ All designs must conform to all applicable standards<br>□ Summary sheet with legend to all drawings<br>□ A legend to indicate changes to the drawings with date of these changes<br>□ Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities<br>**6. Technical Specifications Document**: shall comply with Industry Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods, methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items.<br>**7. As Built Drawings** |
| **ELECTRICAL DESIGN** | □ **Design Code**: the building is designed using and meeting the requirements of the Metric Handbook Planning and Design Data and the International Building Code 2009 (IBC) Standards<br>□ **Special requirements (Where Applicable)**:<br>□ Mechanical room (Generator room) for backup utility<br>□ Context sensitive building and site lighting and landscaping<br>□ Battery Room/ Solar Inverter Room for PV Panels<br>□ Lightening Arrestors and proper grounding of the building<br>□ Provision of Alternative Energy Solutions<br>□ Use of LED lighting throughout new building,<br>□ Solar system to compliment power from utility company (where possible solar powered external lights within parking area),<br>□ Use of solar lights with photo sensors must be explored for external security lighting.<br>□ Provisions for use of Solar panels or wind turbines or any other possible renewable energy solution or a combination of each as would be ideal for the location<br>□ **Other Special Purpose Systems**<br>□ Audio/Visual (A/V) presentation system in conference rooms and designated areas<br>□ Video teleconferencing facilities in designated areas<br>□ Empty conduit for roof mounted satellite antenna |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | □ Entry doorbell system<br>□ Entry door intercom system<br>□ **Design Requirements:**<br>□ Energy conservation is a requirement of all electrical systems.<br>□ All Electrical Engineering Drawings are to be coordinated with all disciplines; electrical systems shall be designed to avoid inappropriate juxtaposition with other utilities<br>□ Complete electrical design to be submitted and approved by Government Electrical Inspectorate.<br>□ Consider Lightning Arrestors and earthing details to Buildings according to the guidelines set out in the Jamaica Standard Specification for Electrical Installations (JS21).<br>□ **Electrical systems components to be designed (Where Applicable):**<br>□ Electrical Services<br>□ Power Distribution Systems<br>□ Emergency Power<br>□ Lighting Fixtures<br>□ Telephone Service<br>□ Auxiliary Systems: fire alarm, communications (voice and data) and security systems<br>□ Electric Service Metering<br>□ Power Distribution<br>□ Panel boards<br>□ Computer Panel boards<br>□ Panel schedules<br>□ Feeders and Branch Circuits<br>□ Conduit and wiring<br>□ Transformers<br>□ Power for motors and controls<br>□ Motor Control Centres<br>□ Electrical Closets<br>□ Requirements for Computer Technology and Other<br>□ Uninterruptible Power Supply (UPS)<br>□ Maintenance Bypass Switch<br>□ Harmonic Filters and Surge Suppressers<br>□ Kitchen Electrical Requirements<br>□ Interior Lighting and Lighting Controls<br>□ Exit signs<br>□ Emergency generator |

| DESIGN SPECIALITY | REMARKS |
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| | □ Telecommunications, Local Area Network (LAN) and Cable Television<br>□ Grounding System<br>□ Lightning Protection System<br>□ **Electrical drawings to include**:<br>□ Line diagrams for each system<br>□ Vertical Chases and Shafts<br>□ Receptacle Outlets<br>□ Fixture Outlets<br>□ Show on the Drawings short circuit calculations for all significant points.<br>i. Fuses and circuit breakers shall be coordinated for selective tripping and selected for the interrupting capacity required.<br>ii. The voltage drop shall not exceed the limits of Code.<br>□ Electrical layout, including wiring diagrams, with circuit breakers and heights of fixtures.<br>□ Service entry location; showing point of entry and distance from JPS Co. Service mains.<br>□ Specification on the design and type of Stanchion to support the main cable and pothead.<br>□ Reflective Ceiling Plan<br>□ Location of Invertor for PV Panels Power Supply<br>□ Battery Room & Connection between JPS and Alternate Power Supply<br>□ Ceiling plan showing lighting layout<br>□ Location and size of the generator and generator room<br>□ Sizing and location of audio-visual equipment and rooms for media and data coverage<br>□ Sizing and location of Information technology rooms and equipment such as servers<br>□ Location and size of power supply rooms and battery rooms<br>□ Sizing and location of PV panels system or wind turbine or any other renewable energy system that is more suitable to the location<br><br>□ **Drawing requirements**:<br>□ All measurements in metric units<br>□ All drawings to have legend explaining symbols<br>□ All drawings to be dated, signed and sealed by Design Consultant<br>□ All designs must conform to all applicable standards<br>□ Summary sheet with legend to all drawings |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | □ A legend to indicate changes to the drawings with date of these changes<br>□ Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities<br>□ **Technical Specifications Document**: shall comply with Industry Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods, methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items.<br>□ **As Built Drawings** |
| **MECHANICAL DESIGN** | **1. Design Code**: the building is designed using and meeting the requirements of the Metric Handbook Planning and Design Data and the International Building Code 2009 (IBC) Standards<br>**2. Special requirements (Where Applicable):** Use of energy saving active cooling devices where necessary such as:<br>□ Inverter A/C units for multi-split systems or,<br>□ Variable Refrigerant Flow (VRF) for Central air conditions systems<br>□ PV panels system or wind turbine or any other renewable energy system that is more suitable to the location<br>**3. Mechanical drawings to include:**<br>□ Line diagrams for each system<br>□ Vertical Chases and Shafts<br>□ Generator room for commercial sized generator<br>□ Sizing and location of tanks and treatment facilities for rainwater harvesting system and grey water system to be treated and reused as irrigation for landscaping purposes.<br>□ Design and location of HVAC systems<br>□ Design, sizing and specifying the appropriate components/ materials for sterile zones such as the EMS room and Decontamination Room<br>□ Design, sizing and specifying pumps and appropriate components/materials etc.<br>□ Design and specifications for hydraulic and pneumatic systems<br>□ Welding and non-destructive examination specifications (ISO and ASME Standards as needed based on project)<br>**4. Drawing requirements**:<br>□ All measurements in metric units |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | □ All drawings to have legend explaining symbols<br>□ All drawings to be dated, signed and sealed by Design Consultant<br>□ All designs must conform to all applicable standards<br>□ Summary sheet with legend to all drawings<br>□ A legend to indicate changes to the drawings with date of these changes<br>□ Design to be based on full topographic survey or spot levels as the site requires, to determine exact quantities<br>**5. Technical Specifications Document**: shall comply with Industry Design Standards and shall include the descriptions of the work items, material requirements, construction requirements and methods, methods of measurements. The sampling, testing and inspection requirements, and production and delivery requirements, shall be included in the specifications of applicable work items.<br>**6. As Built Drawings** |
| **COST ESTIMATION** | **1. Rate Building**: Where the JSIF supplied Bill of Quantities format does not include all the items of work that have been formulated by the Design-Build Contractor, the Design-Build Contractor will be required to develop these new items in accordance with the Jamaican Standard Method of Measurement (JSMM) for building works. Additionally, the Design-Build Contractor will be required to provide the labor, material and equipment inputs for the new items of work(s), as required to build the rate for the smallest unit of said item of work(s).<br>**2. Standards**:<br>□ Bills of Quantity shall not include Prime Cost Sums and can only include provisional sums where absolutely necessary.<br>□ The appendices shall carry a 'List of Drawings' from which the Bill of Quantities was prepared.<br>□ Each page of the Bill of Quantities shall carry a footer indicating the total prices on that particular page and read "carried to collection".<br>□ The Bills of Quantities shall carry a general summary<br>**3. A Bills of Quantities covering all works**:<br>□ The Bills of Quantities is to follow JSIF standard.<br>□ Bills of Quantities on JSIF supplied format, using Jamaican Standard Method of Measurement (JSMM) for works. The BQ must reflect the preferred community contribution. |

| DESIGN SPECIALITY | REMARKS |
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| | □ All quantities are to be measured in metric units and rounded off to two decimal places.<br>□ The Bills of Quantities shall not include Prime Cost Sums, and can only include Provisional Sums where absolutely necessary (i.e., only for works or for costs which cannot be entirely foreseen, quantified or detailed at the time tendering documents are prepared). The justification for **ALL** Provisional Sums must be outlined in a separate document, accompanying the Bills of Quantities.<br>□ Engineering Services and external works shall be priced and not billed as a lump sum.<br>□ Preliminaries should be properly priced.<br>□ All provisional sums must be justified on a separate document.<br>□ The Appendices shall carry a 'List of Drawings' from which the Bills of Quantities was prepared.<br>□ Each page shall carry a footer indicating the total of prices on that particular page. This footer shall read 'Carried to Collection".<br>□ The Bills of Quantities shall carry a General Summary.<br>□ A printed copy of the priced Bills of Quantities should be submitted in electronic format.<br>□ Maintenance Plan comprising an inventory of the number and types of fixtures, surface areas and other amenities with a schedule of frequency and cycle of maintenance of the inventory listing.<br>□ External Works must be detailed in Bills of Quantities.<br>**4. Cost Estimate**<br>□ Prepare Work Breakdown Structure<br>□ Develop a cost database for materials, equipment & tools, labor, transportation supported on reference prices and quotations<br>□ Define productivity rates<br>□ Prepare Unit Price Analysis<br>□ Determine Risks and Set Contingency<br>□ Determine Overhead and Administrative Costs<br>□ Develop the cost estimation<br>□ Validate contents and assumptions<br>□ Reconcile estimate with<br>□ Consider Value Engineering Review<br>□ Lists of possible reductions and cost optimization<br>□ Document and present results |
| **SCHEDULE** | □ Choice of Technology and Construction Method |

| DESIGN SPECIALITY | REMARKS |
|---|---|
| | □ Defining Work Tasks<br>□ Defining Precedence Relationships Among Activities<br>□ Estimating Activity Durations<br>□ Estimating Resource Requirements for Work Activities<br>□ Review constrictions<br>□ Develop the schedule in Gantt chart<br>□ Review critical path<br>□ Optimize of schedule |

# ***Annex XI (Guidelines for Deliverables under Supervision)***

## 11.1 PRE-CONSTRUCTION ACTIVITIES

11.1.1 Review contract documentation (including designs, drawings, and Bills of Quantities) develop query lists, seek clarification from appropriate sources and make the necessary notation/adjustments in relation to ambiguities, discrepancies, errors and omissions, and bring them immediately to the attention of the Employer, *in the form of a report on* any cost and or time implications.

11.1.2 Attend Project Information Meeting held in the community. This meeting is intended to ensure that all parties involved in the implementation of the project understand the scope of the project, their roles and the intended project schedule.

11.1.3 Attend the **Contract Signing Ceremony** usually held in the community.

11.1.4 Establish formal contact with the Employer, Contractor, and Line Ministries, Agencies, and Community Representatives to ensure proper co-ordination during project implementation.

11.1.5 Inform the Contractor of local employment arrangements agreed in the project design to maximize the local employment opportunities, both for local skilled persons and rotation schemes for unskilled labor.

11.1.6 Inform the Contractor of the requirements of Jamaican law and JSIF's contract guidelines as it relates to Health & Safety on site.

11.1.7 Assess the adequacy and sufficiency of the detail designs and initiate measures to address suspected cases of inadequacy/insufficiency, excessiveness.

11.1.8 Assess any changes in the physical, environmental or other conditions that may have occurred since the time of the project preparation/design and advice on the effect of these on project costs and/or time and put in place adequate measures to deal with these circumstances**.** If required, propose revisions to the Construction Contract documents, which shall be sanctioned by the Employer prior to revisions becoming effective. Thereafter, the Project Supervisor shall take full responsibility for all the Construction Contract Documents.

11.1.9 Based on guidelines from the Employer, workout with the Community, a plan for their contribution to the implementation of the project and inform the Employer of the agreed plan.

## 11.2 SUPERVISION OF THE CONTRACTOR

### 11.2.1 Project Standards

#### *11.2.1.1 Labour, Materials, Vehicles & Equipment*

The Consultant shall furnish their personnel, with the necessary tools and equipment to effectively carry out their tasks as outlined in the contract, regulations and applicable standards.

The Consultant's work shall be under the direction of, and shall be reviewed by, a Professional Engineer, registered in Jamaica or as appropriate by a Licensed Professional (Surveyor, Architect etc.) The Consultant shall assign personnel for the duration of the Contract, unless otherwise approved by JSIF.

#### *11.2.1.2 Project Staffing Authority*

The Consultant and/or his representative are in direct charge of the work and is responsible for administration of the project contract as defined in the TOR and contract documents. The Consultant's Engineer shall work and report directly to his/her manager as well as the Project Engineer/Project Manager (JSIF's representative) on matters relating to the executing of deliverables. This includes approving and setting work hours for project construction and the materials sampling, testing, and inspection, as outlined in the Project Specifications. Consultant personnel shall be on the project site when the Contractor is working.

#### *11.2.1.3 Submittal of Final Documentation*

Final documentation shall be submitted to the Project Engineer/Officer/Manager within (20) working days after project acceptance. All required project completion/acceptance forms are to be completed and shall be submitted along with the final documentation. Failure to submit final documentation as required may result in withholding Consultant payments received subsequent to project acceptance until this material is received.

#### *11.2.1.4 Engineer's Certification*

The Consultant Engineer, as specified in the Project Contract, shall certify in writing that all inspection, sampling, and testing activities conform to the plans, specifications, and purpose of the design.

The Consultant Engineer shall be available to review work, resolve problems, and make decisions in a timely manner as requested by the Project Manager/Officer/Engineer. The JSIF shall be the final authority regarding acceptance of work not conforming to the plans and specifications.

### 11.2.2 General Guidelines

11.2.2.1 During the implementation period, representation on site shall be in the form of a qualified Clerk of Works to provide adequate supervision and enforce quality control, environmental management, ***health & safety,*** among other things.

11.2.2.2 Ensure that the contractor has a site diary and that it is kept up to date and is accessible to all visitors.

11.2 2.3 Issue specific instructions to the Contractor, and record these in the Site Record Book/ Site Diary.

11.2.2.4 Supply the Contractor with working drawings, schedules, specifications, bills of quantities and other Contract /Construction Documents to allow him/her to prepare a construction schedule and to review and/or revise such schedule upon receipt as well as periodically during the execution of the Works.

11.2.2.5 Ensure that benchmarks and other survey information are used to properly set out works.

11.2.2.6 During the implementation of the project the Supervisor shall ensure that issues arising on site which impact the progress of the works (to include but not be limited to the certification of payments, adjustments to design and issuing of site instructions etc. the Consultant must ensure that where these issues arise, they are addressed / response given within seven (7) days.

11.2.2.7 Prepare and supply to the Contractor variation orders with revisions to contract drawings, additional specifications or details that may be required for the proper execution of the Works, after having received approval from the Employer for those variations. The Supervisor must present to the Employer any variations including estimate of cost identified within twenty-four (24) hours of identification. The details of the variation must then be provided to the Employer within two (2) weeks of identifying the need for a variation (s) on site.

11.2.2.8 Where the Contractor has ceased to perform works as required by the terms of the Construction agreement, the Supervisor must advise the Employer and make relevant recommendations (including termination).

11.2.2.9 Where a Contractor is terminated the Consultant must provide the Employer with a detailed report comprising i) complete inventory of material on site (for civil work projects) ii) an estimated value of the reported inventory iii) photographs of the inventory and state of the incomplete works iv) statement on the state of the incomplete works and v) details of the work done to the date of termination and vi) details of what is required to complete the works.

11.2.2.10 Review and approve shop drawings, samples and other submissions of the Contractor only for specific conformity with the design concept of the Project and for compliance with the information given in the Contract Documents.

11.2.2.11 Review and approve request for Extension of Time after approval from the Employer to grant extension of time. See item 7 (b) and use format noted as Annex 2. Format available on request. The Supervisor must present to the Employer, the details of an Extension of Time request within two (2) weeks of receiving a request for Extension of Time.

11.2.2.12 Notify employer if timely community contribution is not being performed.

### 11. 3 ENVIRONMENTAL MITIGATION MEASURES

11.3.1 Review the environmental mitigation measures specified in the Contract and ensure that the Contractor is aware of the said measures.

11.3.2 The Consultant will audit and evaluate environmental management project's performance based on JSIF's Environmental Guidelines.

11.3.3 Enforce compliance with environmental guidelines within the limits of the Contract Documents.

11.3.4 Include on the monthly reports the positive and negative findings of the environmental management supervision activities by filling out the provided EMS forms.

11.3.5 Inform JSIF of any concurrent violation that might merit the suspension of works until the corrective/mitigation actions have taken place.

### 11.4 TIME AND QUALITY CONTROL

11.4.1 Visit the site regularly to familiarize himself/herself generally with the progress and quality of the Works and to determine in general if work is proceeding in accordance with the Contract Documents, and time scale required.

11.4.2 Provide the Employer with weekly reports and photographs, from the Clerk of Works on the progress/status, material inputs, quality of works and timing of the Works and in particular, if the contract is likely to be varied. The Project Supervisor shall use the Employer's supervisor's reporting format, a copy of which is attached as Annex 3.1, Annex 3.2, and Annex 3.3.

11.4.3 Verify the quantity and quality of materials being delivered to site. This to be recorded by the Clerk of works, to be recorded in the site diary.

11.4.4 Organize and attend periodic site meetings (meetings of the Steering Committee) and prepare minutes of these meetings. Copies of all site-meeting minutes to be submitted to the Employer not later than four (4) days after the meeting. The Consultant shall use the Employer's format for reporting meetings, a copy of which is attached as Annex 4. Ensure that the agreed actions from these meetings are implemented.

11.4.5 Arrange to witness or conduct initial testing of materials to be incorporated in the Works, and all in-situ tests and in-situ concreting as the Contractor proceeds with the Works

11.4.6 Ensure that quality control is maintained on materials and labor output according to specifications.

11.4.7 Ensure proper and safe storage of materials to be used for the works.

11.4.8 Community contribution shall be included in the monthly reports.

11.4.9 Ensure that construction is in accordance with the conditions outlined in the Building Permit by the relevant Municipal Corporation and to adequately notify Building Officers of inspection dates.

### 11.5 CONTRACT MANAGEMENT

11.5.1 Check and verify the Contractor's claims, in particular, applications for mobilization and interim payments. (This is currently done by the Project Supervisors and should be continued).

11.5.2 Issue Variation Orders on behalf of the Employer, having regard for the project budget, or on the Employer's instructions. Variation orders are to be accompanied by detailed reasons with justification for the recommended variation and shall be reported in writing three (3) days in advance of execution of works to the employer. The Employer is to then sanction the Variation. See item 7(a). Format noted, as Annex 5 shall be used for variation orders and is available on request.

11.5.3 Prepare Interim Payment Certificates based on measured works and using the Employer's format provided. Certification of works for payment must be completed within seven (7) days of submission of claims by the Contractor to the Consultant. In recommending payment to the Contractor, and issue same to the Employer on a monthly basis or at intervals as stated in the Contract. (Interim Payment Certificates shall be prepared on a monthly basis or at intervals as stated in the Construction Contract) The format to be used is identified as Annex 6 and is available on request.

11.5.4 Ensure that the Clerk of Works maintains accurate records/details of the Contractor's completed work on site, for submission to the Consultant (Project supervisor) who is expected to prepare interim valuations and reports.

11.5.5 Provide Monthly Cost Reports to the Employer to ensure currency of information regarding the financial status of projects. The format as Annex 7 shall be used and is available on request.

11.5.6 Prepare and certify the Final Account for the Works. The format as Annex 8 shall be used and is available on request.

### 11.5.1 Project Support

**Task 1.0 Construction Management Support**

Provide Project Manager (or other JSIF approved personnel) with the following construction inspection support as applicable:

1.1 Traffic Control: Monitor the Contractor's implementation of traffic signing, barriers, and other traffic control measures.
1.2 Daily Quality Control Inspection & Quantity Control: Perform daily quality control inspections of construction activities to document activities performed and assessment of conformance with the contract documents in accordance with this Scope. Inspection items will include, but may not be limited to, rebar and concrete placement, paving, and traffic control installations.
Quantities of work elements constructed will be measured and recorded to support the preparation and processing of progress pay estimates to the Contractor. Quantities will be documented in an interim quantity book for tracking of quantities constructed as compared to the original design quantities on the project. Consultant Project Engineer and Inspector shall assist Project Manager in resolving disputes in quantities with the Contractor prior to the preparation of the pay estimate.
1.3 Project Documentation: Prepare and review contractor's progress reports and complete appropriate JSIF paperwork and forms.
1.4 Materials Testing: Document and complete the necessary testing per regulatory and contractual requirements and specifications.
1.5 Contaminated Material Notification: Monitor construction operations and notify the Project Manager immediately when contaminated material or otherwise unacceptable material is encountered or developed on the project.

**Task 2.0 Post Construction Support**

2.1 As-Constructed/Built Drawings: Complete 11"x 17" as-constructed drawings of work completed by the Contractor, including final pay quantities.
2.2 Preparation of Final Pay Estimate: Submit relevant supporting documents (invoices, reports etc.) to assist JSIF in determining final pay quantities as per work contract.
2.3 Preparation of Materials Final: Prepare the final materials documentation for closing the project.
2.4 Submit all relevant technical documents, logs, certificates, warranties and manuals.

**Task 3.0 Project Management**

3.1 Progress Reports: Prepare weekly progress reports for the Project Manager documenting project progress in accordance with the Basic Contract.
3.2 Certified Payroll: Review certified payroll documentation provided by the Contractor and conduct random interviews of Contractor employees to determine if the Contractor is in conformance with JSIF's and GOJ's Labor Compliance policies.

Deliverables generated during the project will include the following and will be submitted throughout the duration of the project, or at specific dates commensurate with the deliverable's intent:

• Weekly or the agreed specified Progress Reports.

### 11.6 PRACTICAL COMPLETION

11.6.1 Prepare Check List of defects and incomplete work with an expected date of completion and endeavour that Contractor attends to all the items within the time specified.

11.6.2 Carry out inspections including practical completion 'walk through' with the Employer, the Contractor, the community and all other relevant Agencies to determine the dates of Practical Completion and of Making Good Defects. The Consultant shall ensure that the client, (Jamaica Fire Brigade and the Ministry of Local Government & Community Development) and all relevant agencies representatives of the steering committee are present at the practical completion 'walk through' to sign off on defects. The Consultant shall use the Employer's supervisor's reporting format to report on the practical completion 'walk through' The Project Supervisor shall use the Employer's format, Certificate of Practical Completion to report on this Inspection. A copy of the format is as Annex 9 and available on request.

11.6.3 Issue a Certificate of Practical Completion, a Certificate of Making Good Defect and a Final Certificate of Payment as required under the Construction Contract but only after adhering to Item 12 (Mandatory Approval) of this TOR. The coordination and timing of walkthroughs must be in accordance with the state of works. Practical walkthroughs must be coordinated and timed within two weeks of the works achieving 90% completion. Preparation of the certificate must be completed no later than two (2) weeks after the walkthroughs.

11.6.4 Prepare a list of defects with an indication of how to correct and the date of expected completion, to be signed by the clients and the Employer.

11.6.5 Prepare "as built" drawings.

11.6.6 Check the community contribution logbook to ensure that the community contribution is fully recorded and given a monetary value also verify and keep track at regular intervals and submit signed Community Contribution Certificate. (This book is submitted by JSIF and is to be given/turn over to the community at the Project Information Meeting (PIM). The Project Supervisors will now track the community contribution as per the signed Community Sponsor Agreement).

11.6.7 Compile and deliver to the Employer, at least two (2) copies of signed and stamped 'as built drawings', operational and maintenance manuals and records incorporating information prepared by suppliers as are reasonably necessary to enable the Users to

operate and maintain the Works and Equipment. These must be submitted no later than one month prior to the end of Final Completion.

### 11.7 FINAL COMPLETION

11.7.1 Arrange and attend the Final Completion Meeting (approximately 3 weeks before the end of the Defects Liability Period) in the community and record all outstanding issues pertaining to the completion of the project. Carry out final site inspection and verify that all defects have been attended as required by the specifications/contract, and are approved of by the clients/community, the Employer and all other relevant Agencies. Ensure that all other matters identified in the Final Completion Meeting have been adequately addressed e.g., payment of labor, suppliers, clearing ***of the site etc. Issue a Certificate of Final Completion, the format is as Annex 10*** and available on request.

11.7.2 Prepare a statement of "Draft Final Accounts", to be done two (2) weeks after Practical Completion (for final payment after six-month maintenance period and all defects have been rectified) to be signed by the contractor**.**

11.7.3 Participate in the official Handing-Over Ceremony. Hand over 'as built' drawings and any guarantees/warranties for materials/fixtures etc. to the Client.

### 11.8 DELIVERABLES

11.8.1 Report on pre-construction activities Schedule/cost of materials for project (where applicable)
11.8.2 Verification of work schedule for CBC related works as provided by the Community (where applicable)
11.8.3 Monitor and report on community contribution (where applicable)
11.8.4 Variation orders, if any, with revisions of drawings etc.
11.8.5 Weekly Progress Reports indicating, but not limited to, the updates and accomplishments of the activities the Consultant undertook for a particular month, progress photographs, community contribution and test results, if any. The monthly reports will also include the problems encountered by the Design Consultant in conducting its activities, its recommendations and solutions provided, coordination meetings attended and their outcomes, and a log of correspondences.
11.8.6 Project implementation schedule for the construction management and supervision of the project
11.8.7 All plans and documents enumerated in Item 5.5 and all other reports that may be required for this consulting service and as may be required by JSIF
11.8.8 "As built" drawings (In Collaboration with Architect) deliverable:
I. Hard copy in 24"x36" format with "as-built" stamped to each sheet
II. Soft copy of as-built to be provided in CAD Format
11.8.9 All plans and documents related to this detailed engineering design services shall become the property of JSIF and the clients (the Jamaica Fire Brigade and the Ministry of Local Government & Community Development.
11.8.10 Minutes (Summary Style) of regular site meetings (Monthly basis)

11.8.11 Records of quantity and quality of material delivered
11.8.12 Monthly cost reports
11.8.13 Report on compliance of environmental management guidelines
11.8.14 Final Account for the works
11.8.15 Certificate of Practical Completion
11.8.16 Certificate of making Good Defects
11.8.17 Certificate of Final Completion
11.8.18 Final Certificate of Payment
11.8.19 Community contribution certificate
11.8.20 Draft Final Account
11.8.21 Report on any fault committed by the Contractor during project Construction
11.8.22 All installed equipment manuals and maintenance documents to be compiled by Consultant and provided to client for hand over to beneficiary. Consultant to ensure that the contractor through there sub-contracts tasked with installing specialty equipment, provides the necessary training to the beneficiary for the equipment's use and maintenance.

***Schedule of Major Document Submissions***

***Submission must conform to that of Government of Jamaica Procurement Guidelines, particularly pages 35-36.***

## ***Annex XII Environmental Guidelines***